

# **The Application of Health Psychology to Public Health**

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Journal article pp. 209-220

## **Acknowledgements**

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I would like to dedicate this work to my son Austin, as I was busily working on the systematic review the morning I was admitted into hospital, the day before he was born. I am now looking forward to spending my weekends and evenings with my loved ones once again, at long last!

**Declaration**

I grant powers of discretion to the University Librarian to allow the thesis to be copied in whole or in part without further reference to the author. This permission covers only single copies made for study purposes, subject to the normal conditions of acknowledgement.

# SECTION A – PREFACE

The Role of Health Psychology in Public Health

## **Preface**

The competencies for this professional doctorate in health psychology were completed whilst working as a Public Health Strategist for the London Borough of Hackney and the City of London and subsequently a Behavioural Insights Research Analyst for Public Health England. Both of these roles have provided an opportunity to demonstrate the applicability and indeed necessity of health psychology in public health.

At a time where the majority of deaths worldwide are due to preventable diseases, behaviour change is key in turning this tide. The need to find opportunities to enable people to make health-enhancing choices and behave in a way that has a long-term positive impact on their health and well-being is paramount. This includes intervention with individuals, communities and populations, working with the public, private, commercial and voluntary sector understanding how the key determinants of health influence our thinking, beliefs and behaviour.

This portfolio covers a range of public health topic areas including health protection (immunisation), improvement (weight management) and prevention (NHS Health Checks). Demonstrating the development of skills in conducting research and robust evaluation; dissemination and implementation of best practice, policy and guidance; teaching and training; consultancy; behaviour change; leadership and influencing policy. It also demonstrates the ability to work with different populations and audiences from students, health professionals, to academics, policy makers, the public and patients.

## **Section B – Research**

The research study was developed due to having an interest in the challenges of achieving and sustaining a healthy weight in relation to the current obesity epidemic. The aim of the study was to explore the factors associated with weight loss and weight loss maintenance in over-

weight and obese young women actively seeking support to lose weight. Understanding the motivational factors and behavioural drivers for achieving a healthier weight in young overweight and obese women, in combination with the perceived and experienced barriers and facilitators to weight loss and weight loss maintenance will help to inform how to design and target support appropriately.

Participants actively seeking support to lose weight, were recruited using purposive sampling from individuals who had been invited to attend a screening session to participate in an NIHR funded randomised controlled trial led by Queen Mary University of London 'A peer support weight action programme to supplement brief advice in general practice' (SWAP study). Recruitment took place in two GP practices in two inner London Boroughs. Semi-structured interviews were conducted with the participants before they commenced the weight management programme and after they completed the programme. The study used grounded theory to generate a new theoretical framework to better understand this social, psychological, economic, environmental and biological phenomena.

A new grounded theory model 'Emotion and Mindset' is presented to explain the challenge of achieving and maintaining a healthy weight for overweight and obese young women. This is theoretically framed around the concept of *Finding the Health Enhancing Equilibrium; maintaining a valued sense of self while generating action to achieve and maintain a healthy weight*. It shows how the overarching categories of *sense of self, emotion and mindset, self-efficacy* and *stress & conflicting priorities*, that emerged from the data, interact to explain the challenge of *achieving and maintain a healthy weight whilst maintaining a valued sense of self*. It describes finding the optimum balance between these elements to achieve and sustain positive health behaviours that contribute to a establishing a healthy weight.

Only by improving our understanding of this complex phenomena taking into consideration the individual, sociological and environmental influences will improvements be made to halt and

ultimately reverse the current obesity epidemic, improve the health and wellbeing of the population as a whole and contribute to the reduction of health inequalities.

Four published papers are presented in this portfolio. The first was an article published in *Nursing in Practice* on the development of the Target Patient Leaflet (Bunten, Hawking & McNulty, 2015). The second was a careers piece published in the *Psychologist* on the Journey of a Psychologist in Public Health (Bunten, 2015). The third is an academic paper published in a peer reviewed journal, *BMC Public Health*, on the effectiveness of an enhanced invitation letter on uptake of NHS Health Checks (Sallis, Bunten, Bonus, James, Chadborn et al, 2016). Finally, a critical review paper on the UCL Partners Behaviour Change course for health submitted to the *Health Psychology Update* for publication professionals (Bunten, 2014).

## **Section C – Professional Practice**

### ***Generic Professional***

This case study is a reflection of the two years of supervised practice working as a trainee health psychologist and the development of competencies for this portfolio.

### ***Teaching and Training***

The first case study is of a series of training sessions delivered to midwives on the seasonal flu vaccination. The aim of the training was to increase midwives' knowledge of the risks associated with flu in pregnancy, the benefits of the vaccine, and their confidence in being able to raise this with their patients whilst utilising effective language to promote behaviour change.

The main components of the training were providing information on the importance of increasing uptake of the seasonal flu vaccine in pregnant women and front line health care workers, the role of the midwife in promoting the vaccine to pregnant women, the barriers

and motivators associated with vaccine acceptance and the role of language in communication between midwife and client.

There were four training sessions delivered of which 26 midwives attended. All midwives reported that the training session met the objectives set, that as a result of the training they felt sufficiently knowledgeable about seasonal flu and the vaccine, they would routinely recommend and offer the vaccine to all their pregnant clients and 80% reported they would have the vaccine this year.

The second case study is of a series of lectures delivered to Health Psychology MSc students at City University. Four lectures were delivered on the Health Promotion Course over two years to two cohorts of students. These were on Applied Health Promotion, Social Marketing and Community Level Interventions, and Evaluation. Approximately 20 students attended each lecture. The results of the evaluation questionnaires showed that for all the areas the majority of students rated the lectures as good or excellent. The organisation of the session, the speaker's communication skills and the relevance of the session to the MSc Health Psychology training were all rated very highly.

### ***Consultancy***

The consultancy was conducted whilst working as a public health strategist for NHS City and Hackney. It consisted of implementing and evaluating the Weight Action Programme (Hajek, Humphrey, & McRobbie, 2010) for staff in a work place. The programme consisted of 8 weekly sessions followed by optional monthly weigh-ins, and follow up sessions at 3 months, 6 months and 1 year. 16 participants started the programme, 14 participants attended week five of the programme where 12 of these participants had lost weight with an average weight loss of 1.9Kilos. Six participants attended the 1 month follow up all of which had lost weight since their previous weigh-in. The average weight loss across the six participants was 4.6 kilos. Four

participants attended the six-month follow up and all had continued with their weight loss with an average weight loss of 2.6 kilos.

Unfortunately the programme started during the NHS transition as a result of the Health and Social Care Act (2012). All staff were required to apply for appropriate positions across the organisation which affected those enrolled on the weight management programme. This had a direct impact on the retention of participants to the programme as many staff were required to relocate and attending the sessions became a challenge.

### ***Behaviour Change Intervention***

The behaviour change intervention targeted physical activity in the workplace. It replicated an intervention designed by Lee, Perry, Wolf, Agarwal, Rosenblum, et al (2012) to encourage stair climbing. The intervention was based on the directive statement 'Burn Calories Not Electricity' and was aimed at increasing physical activity by encouraging people to use the stairs rather than the lift. It utilised bright green motivational prompts placed at points of choice encouraging people to choose to take the stairs rather than the lift.

It was implemented in 3 different office buildings and evaluated using a pre and post intervention observational survey in addition to self-reported pre and post surveys. In the Local Authority Office Building 1 there was a 13% increase in stair usage, which was sustained at 6 months and consistent among men and women. There was a 14% increase in stair climbing in NHS Office Building 2, and an increase of 3% in NHS Office Building 1, however this final finding was not statistically significant.

### **Section D – Systematic Review**

In 2014, Public Health England introduced a new national priority to drive uptake of NHS Health Checks from 48% (2013/14) to 66% by the end of 2015 (Waterall, Greaves, Kearney & Fenton, 2015). Ensuring a high percentage of those offered a NHS Health Check actually

receive one, is key to optimising the clinical and cost effectiveness of the programme. This highlighted the need to identify existing interventions to increase uptake.

The initial intention had been to conduct a review on effective interventions to increase uptake in hard to reach groups including men to address health inequalities. However, due to the limited published work in this area, the review was widened to include all those eligible to attend an NHS Health Check.

A total of 846 studies were identified after searching the specified databases and performing electronic de-duplication within and between each database. After initial screening, 225 titles and abstracts were identified as potentially relevant. Of these, 62 full papers were retrieved and assessed for eligibility. A total of seven papers were included in the final review.

This review finds that individual patient and practice characteristics play a large role in influencing uptake of NHS Health Checks. Attendance is higher in older age groups, females, and those at lower risk. Practices may need to consider additional targeted approaches to encourage the younger cohort, men and those more at risk to attend. They should also review their invitation processes and health check pathway to identify barriers that may prevent attendance.

### **Concluding remarks**

This work demonstrates my journey understanding, integrating, and championing the synergy of health psychology and public health. As many of the key determinants of health are behaviourally driven, there is a natural synergy between health psychology and public health and the need for health psychologists working in public health.

I hope to be able to continue to have a balance in my role as a health psychologist in providing advice and leadership at a local and national level; to work with providers, commissioners of services and policy makers; and directly with members of the public.

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## **Overall Reflections on my Journey Becoming a Health Psychologist**

After completing my Master's degree in Health Psychology I was quite disillusioned with becoming a Health Psychologist. I felt passionate about what psychology can bring to the physical health field from prevention and treatment, to adapting to living with and managing chronic physical health conditions, however, there were no jobs being advertised for health psychologists. This was a worrying reality of committing to a career in a field with no guaranteed employment. I was however, determined to work in a profession that I was passionate about and could bring my desire for learning and helping people. I had already dedicated four years of my life to studying psychology and I wanted to continue to build on this.

Whilst trawling the NHS jobs website for anything that could be of relevance, I came across an advert working in a public health team in a deprived inner London Borough. Despite, embarrassingly, never knowingly having heard of the discipline 'public health', I was intrigued as I felt my skills matched the job specification. I was employed as a public health strategist and was exposed to work around preventing ill health, health promotion, and treatment from the bio-medical model. I could see immediately how health psychology could benefit public health and was keen to continue my training in this field. My Director of Public Health at the time was very supportive of professional development and I was incredibly lucky that she was keen to support my application for the stage II training.

Being awarded a place on the Stage II training programme at City University was extremely exciting and I felt invigorated that the health psychologists who shortlisted and interviewed me, saw my potential to become a health psychologist. At first I found trying to identify opportunities at work to dove-tail my competency development difficult as I was trying to find the perfect project to work on for a case study. This was hard with a challenging full time work load and it seemed everything I was doing for my doctorate was in addition to my public health role. Over time I realised that there were opportunities to utilise my health psychology skills in almost everything I was doing in public health. From utilising health psychological theory in developing training, in the skills I used to deliver the training to designing health promotional materials for campaigns on sexual health and vaccination uptake, intervention development and evaluation. This became quite exciting as I saw the deep rooted connection between health psychology and public health. Although I did then struggled to select particular areas to focus my case studies on!

A good piece of advice had been to stop striving for the perfect case study. The whole point of the portfolio is to demonstrate your development as a reflective scientific practitioner showing your competence as an evidence-based practitioner health psychologist with an ability to justify your decisions. You have to be very proactive to find opportunities to fulfil your competency development, getting out and talking to people working in the field. Finding gaps and demonstrating the benefit health psychology can bring. These are all valuable consultancy skills demonstrating the value of health psychology and the skills health psychologists bring.

For a time I wondered how I was learning anything new, as I wasn't being directly 'taught' any new skills on the doctorate. However, reflecting back on the last five years I have developed so much as a health psychologist in my thinking, approach and application. It is clear that I have been on a journey of self-directed learning with over-sight from my supervisor. It is down to you to identify where your gaps in your knowledge are, where your interests lie and what further skills you require support to develop. It is then down to you to access the support, training and opportunities to cement the learning. At times it has felt quite daunting, but having the support of my supervisor, programme director, and other trainees has been invaluable.

Completing the doctorate has taken a huge amount of dedication and self-driven motivation. I am continually amazed at how people manage to pursue a career, complete professional qualifications and have a family at the same time. It must be possible as I have now achieved this too but it was certainly not easy! To be honest I have found juggling working full time and starting a family whilst working on my doctorate a real challenge. These have all been competing priorities and trying to find a balance for all three has resulted in tears of frustration and panic as deadlines loom with guilt for not spending time with my son and husband confounding in a negative spiral of emotions at times. Without the strength and support of my husband and family I'm not sure how I would have found the time or motivation in which to progress the writing up of my thesis. It has taught me to use the time that I have efficiently, that nothing is ever perfect, it is always a work in progress, and taking care of your own wellbeing is a prerequisite to achievement.

I was desperate to finish and submit before my son came along as I really wanted to be able to focus all my attention on him and not have the worry of still having to finish my doctorate write up at the back of my mind. My son was born just as I was trying to finish off my systematic review and I even asked my husband to bring my laptop to the hospital so I could continue working on it as I assumed the labour could take days. I clearly had a very optimistic

view of what I could get done whilst being in labour! I did take time out to focus on him in the early months and then found I was able to over-come the 'baby brain' and complete the final tweaks in order to submit.

I have found the process of becoming a reflective practitioner an interesting one. To start with I thought this was just a 'tick-box' exercise nonetheless I found it difficult to know what to write. I was noting down what I did and why, and what I would do differently next time. I have learnt over my training that it is more about a process of reflecting on why I chose a particular course of action and whether there were any other options and how the outcomes may have been different. This is something I now try to apply to my work consistently. It can be hard to carve out the time to do this, so I now set aside some time in my diary at the end of each week to reflect back. This not only helps me take stock of all that I have achieved in that week but helps me plan for the coming week. It pushes me to really consider why I made the decisions I did, why certain outcomes were achieved and whether there was anything I could do differently to achieve more favourable outcomes. It helps me consider whether there is anything I need or want to change as I progress with projects or manage my work load. It requires me to consider things that drive and influence my own behaviour and thinking that 'in the moment' I may not fully appreciate. This is useful in further understanding what creates stress in my life and how I can better manage this. I am now prioritising better, setting clear achievable goals, with written plans of when and where along with 'if then' plans for when barriers arise. This is not only helpful for my work but also for my personal life. I feel I have come a long way in my life and my role as a health psychologist since starting the stage II professional doctorate training.

Looking through my portfolio of research and competency development along with the generic professional competency folder I feel incredibly proud of what I have achieved. I am so pleased I followed the career path that I have and am really enjoying my role integrating health psychology in public health. I am now the principle advisor at Public Health England on Behavioural Insights, the policy officer for the Division of Health Psychology and the policy and liaison officer for the Health Psychology in Public Health Network, as well as being a full time mum. I am very much looking forward to continuing my professional development through attending CPD events and further training courses that will consolidate and challenge my thinking and complement my skills. With this initial, significant stage complete, I'm looking forward to having more time in the evenings and weekends with my family and friends. We may even book our first family holiday!

## SECTION B – Research

Achieving and Maintaining a Healthy Weight:

Exploring the Challenge for Overweight and Obese Young Women using a Grounded Theory Approach

## Abstract

**Background:** There is strong evidence linking obesity to health issues and long term conditions such as high blood pressure, type II diabetes, heart disease and some cancers (NICE, 2006). Despite this growing evidence base, the prevalence of obesity continues to rise and rates have more than doubled in England in the last 25 years (Public Health England, 2014). Currently 26% of adults are obese (Health Survey for England, 2014), and the proportion of women that are classified as overweight and obese has risen to 57% (Health Survey for England, 2014). Weight loss can reduce the risk of an individual developing these conditions and can increase their healthy life expectancy. It is estimated that approximately one in every two adults in England are actively trying to lose weight, the majority of which are over-weight or obese women (Piernas, Aveyard and Jebb, 2016). This indicates that over-weight and obese women are motivated to lose weight but are struggling to achieve or maintain a healthy weight.

To-date potentially effective weight management interventions have been identified as long term multi-component interventions including diet and exercise components along with behavioural strategies. However, weight changes have been small and weight regain has been found to be very common (Loveman, Frampton, Shepherd, Picot, Cooper et al, 2011; Dombrowski, Knittle, Avenell, Araújo-Soare & Sniehotta, 2014). Despite the primary focus on weight loss being to improve health, research suggest that people's prime motivation to lose weight is unrelated to health (Piernas, Aveyard and Jebb, 2016).

**Aim:** This study aims to improve the understanding of the challenge of achieving and maintaining a healthy weight in overweight and obese young women. In particular, it aims to i) better understand the barriers and facilitators to achieving and maintaining a healthy weight as experienced by these young women, ii) further understand the relationships and influences

of these factors, to iii) inform and develop a new theoretical framework in which to capture this social phenomena and societal challenge.

**Recruitment:** This study recruited 14 female participants aged 18- 35 years, with a BMI over 30 (or 28 with co-morbidity), actively seeking support to lose weight. Participants were recruited through purposive sampling in two primary care practices in East London as part of the 'Peer Support Weight Action Programme' (SWAP). This was a Randomised Controlled Trial run by Barts Health NHS Trust and Queen Mary's School of Medicine and Dentistry, funded by the National Institute for Health Research, Health Technology Assessment fund.

**Design:** The research is qualitative in design utilising in-depth semi-structured interviews. Interviews took place with women recruited to take part in a weight loss programme before commencing the intervention, and follow up interviews took place approximately six months after completion of the weight management programme. Grounded Theory Analysis was used to analyse the data.

**Results and Findings:** An overarching theoretical framework is presented from the findings of the data analysis of the pre and post weight loss attempt interviews. A new 'Emotion and Mindset' model is presented to explain the challenge of achieving and maintaining a healthier weight in young women. It includes the core categories of *sense of self, emotion and mindset, self-efficacy, and stress and conflicting priorities* and has been theoretically framed around the concept of *Finding the Health Enhancing Equilibrium - maintaining a positive sense of self whilst generating action to achieve and maintain a healthy weight*. It describes the balancing act required between these key contributing elements to engage in positive health behaviour which contributes to achieving and maintaining a healthy weight.

**Recommendations:** Based on the findings from this study, and supported by previous findings (Cochrane, 2008), weight management interventions targeting young women need to build in

coping strategies to support individuals cognitively, behaviourally and emotionally. These should include building self-efficacy (NOO, 2011; Ashford, Edmunds, French, 2010), sense of self and re-aligning identity (West & Brown, 2013). Individuals need to be taught how to identify, address and re-orient dysfunctional thoughts, to identify potential stressors such as triggers and environmental cues to prevent relapse. Consideration needs to be given to weight loss maintenance and ongoing tailored support. Further research is needed to identify what type and method of support is most effective and for whom.

## **1. INTRODUCTION**

### **1.1. Context**

Obesity is the greatest cause of preventable morbidity and mortality in the developed world. In England alone, 1 in 4 adults are currently obese, with two-thirds of the adult population classified as overweight or obese (Health and Social Care Information Centre, 2013). In 2007, the Government-commissioned Foresight report predicted that if no action was taken, 60% of men, 50% of women and 25% of children would be obese by 2050 (Government Office for Science, 2007). The impact to the individual and on health-care resources can be considerable as overweight and obesity are associated with a range of co-morbidities.

Weight management schemes consisting of diet, exercise and behaviour therapy have been developed to help people lose weight however, after initial weight loss, many people regain weight in the long term (Loveman, Frampton, Shepherd, Picot, Cooper, et al, 2011). Despite the wide variety of individual and population based interventions that have been developed to address obesity, the rise in obesity rates continues (Garip & Yardley, 2011).

According to the Health Survey for England, the prevalence of weight loss attempts has increased from 39% in 1997 to 47% in 2013 (HSE 1997; HSE 2013). This means that approximately one in every two people are attempting to lose weight in England. Piernas, Aveyard and Jebb (2016), examined these trends and found the majority of people making these weight loss attempts were overweight or obese females. They found that having a health condition that would improve with weight loss was only very modestly associated with an increase in reported weight loss attempts which they suggest contributes to the idea that the motivation to lose weight is unrelated to health.

## **1.2. Defining Obesity**

Overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health. The most commonly used, and widely accepted method to measure body weight and to define overweight and obesity is the Body Mass Index (BMI), which is calculated as a person's weight in kilograms divided by the square of their height in metres. A person with a BMI equal to or more than 25 is considered overweight, and a BMI of 30 or more is generally considered to be obese (WHO, 2012).

National Institute for Health and Care Excellence (NICE) guidance states that within the management of overweight and obesity in adults, BMI should be used to classify the degree of obesity and to determine the health risks. However it is important to note that BMI is not a direct measure of obesity. Therefore BMI should be used in conjunction with waist circumference in adults (NICE, 2014). There is a debate about the validity of using these current definitions for non-white ethnic groups for both adults and children (National Obesity Observatory, 2011). Different ethnic groups are associated with a range of different body shapes, and physiological responses to fat storage.

## **1.3. National Prevalence Estimates of Obesity in Women**

The prevalence of obesity in England has more than doubled in the last twenty five years. According to data from the Health Survey for England (HSE, 2014), 24% of adults in England are now obese and a further 36% are overweight. This means an estimated two-thirds of the adult population in England (60% of adults aged 16 years and over) are classified as overweight or obese, with approximately a quarter (24%) of adults being classified as obese and approximately 2% as severely obese (Health Survey for England, 2014). It is now more common to be overweight or obese in England than it is to be a healthy weight.

Obesity rates remain higher for women than men, and they are twice as likely to be severely obese than men (HSE, 2014). Despite this, evidence shows 30% of overweight women think they are “about the right weight”, along with 6% of obese women (Health and Social Care Information Centre, 2013).

#### **1.4. Health Risks Associated with Obesity in Women**

Ill-health resulting from obesity is responsible for about 10% of morbidity and mortality in the UK and costs the NHS about 7 billion pounds annually (McCormick & Stone, 2007). Overweight and obesity are major risk factors for a number of chronic diseases, including; cardiovascular diseases (CVD), type 2 diabetes, osteoarthritis and some cancers (NICE, 2006; Lim, Vos, Flaxman, Danaei, Shibuya, et al, 2012). Being obese or overweight increases significant health risks at a range of different points through the life course (Health and Social Care Information Centre, 2014).

Adult obesity causes a reduced life expectancy of approximately 8-10 years and can also impair a person’s well-being and quality of life (Department of Health, 2011). Weight loss has been shown to improve many of these illnesses (Avenell, Broom, Brown, Poobalan, Aucott et al 2004), and reduce all-cause mortality (Poobalan, Aucott, Smith, Avenell, Jung et al, 2007).

##### **1.4.1. Infertility**

Obesity affects fertility. Obese women are at greater risk of menstrual abnormalities, polycystic ovarian syndrome (PCOS) and infertility (NOO, 2011; Caleyachetty, Cnattingius, Corvalan, Uauy, et al 2016). Obesity is known to lower the chance of successful conception, as well as increasing the risk of miscarriage. Studies have shown that weight loss can improve the fertility of obese women (Norman, Noakes, Wu, Davies, Moran et al 2004; Sim, Partridge & Sainsbury, 2014).

### **1.4.2. Cardiovascular Disease**

Cardiovascular disease (CVD) is the leading cause of death in the UK, causing almost 170,000 deaths (approximately one third of all deaths) in England and Wales every year (Scarborough, Bhatnager, Kaur, Wickramasinghe, & Rayner, 2010). Self-reported data from the Health Survey for England (2004) indicate that women have the highest prevalence of any CVD condition (13%), but this is lower for all minority ethnic groups.

### **1.4.3. Diabetes**

Being overweight or obese is the main modifiable risk factor for type 2 diabetes (PHE, 2014d). Women are at higher risk of developing type 2 diabetes if they have a waist circumference of 80-88cm and are at very high risk if it is more than 88cm (over three times more) (NICE, 2011).

Weight loss can delay or prevent progression from impaired glucose tolerance to type II diabetes. Research has shown that effective lifestyle interventions can be effective along with evidence of long term cost savings (Tuomilehto, Lindstrom, Eriksson, Valle, Hamalaninen et al, 2001; Li, Zhang, Wang, Gregg, Yang, et al, 2008).

### **1.4.4. Cancer**

There is increasing evidence that obesity is a risk factor for some cancers in women, including endometrial, breast, cervical, ovarian and colon cancers. There is evidence that obesity is associated with a two to three fold risk in developing endometrial cancer, and research has found that at least 40% of the incidence of endometrial cancer is associated with obesity (Purdie & Green, 2001).

Breast cancer is the most common type of cancer in the UK, even though it predominantly affects women. Morris, Hulme, Clarke, Edwards and Cade (2014) found a clear association

between BMI and breast cancer incidence, especially in postmenopausal women from a cohort study of 35,000 women.

There is also some evidence to suggest that the longer duration of overweight and obesity in adulthood increases the risk of obesity-related cancers (Arnold, Jiang, Stefanick, Johnson, Lane, et al, 2016). Arnold, Jiang, Stefanick et al (2016) found for every 10 years of being overweight, women had a 7% higher chance of being diagnosed with cancer. This risk was increased for colon and postmenopausal breast cancers and highest in endometrial cancer and kidney cancer. The risk for endometrial cancer increased to 37% with each additional 10 years spent with a BMI of 35 or over.

#### **1.4.5. Maternal Obesity**

Maternal Obesity (defined as obesity during pregnancy) increases health risks for both the mother and child during and after pregnancy (Marchi, Berg, Dencker, Olander, & Begley, 2015; Poston, Caleyachetty, Cnattingius, Corvalan, Uauy, et al 2016). As a consequence of the obesity epidemic, the proportion of overweight and obese women of childbearing age has increased to approximately 50% in England (Health Survey for England, 2013). Statistics on the prevalence of maternal obesity are not collected routinely in the UK, but trend data from the Health Survey for England (2013) shows that the prevalence of obesity among women of childbearing age (16 – 44 years) has increased from approximately 12% in 1993 to over 19% in 2013.

There is evidence of adverse health outcomes associated with maternal obesity. Women who are obese before or during pregnancy are at an increased risk of a number of health related issues including; gestational diabetes, macrosomia, preeclampsia, and other hypertensive disorders (Centre for Maternal and Child Enquires, 2010; Nohr, Timpson, Andersen, Smith, Olsen, et al, 2009; Heslehurst, Simpson, Ells, et al, 2008; Mission, Marshall, Caughey, 2015). There are also risks of maternal obesity to the child. Published research has shown an

association between obesity during pregnancy and increased risk of late foetal loss (Lashen, Fear, & Sturdee, 2004), still birth (Cnattingius, & Lambe, 2002), and congenital abnormalities (Stothard, Tennant & Bell, 2009).

Maternal obesity is also associated with a decreased intention to breastfeed, decreased initiation of breast feeding and decreased duration of breastfeeding (Kulie, Slattengren, Redmer, Counts, Eglash et al, 2011; Amir and Donath, 2007).

Furber & McGowan (2011) found obese pregnant women experienced feelings of humiliation and being stigmatized within maternity services and the wider community. Interactions with health professionals and the general public reinforced discomfort about their size. The 'high-risk' status of their pregnancy increased the medicalisation of their pregnancy journey, and the ultrasound scan was seen as a significant source of distress particularly when difficulties imaging the foetus were not clearly explained.

A qualitative study by Christenson, Johansson, Reynisdottir, Torgerson, and Hemmingsson (2016) explored women's perceptions of their excessive weight gain during pregnancy and their inability to lose weight post-partum. They report lack of knowledge, misconceptions, the use of eating for relief, lack of support and barriers to physical activity as contributing to their weight gain and inability to lose weight.

A further qualitative study with postnatal women on their experience of maternal obesity care pathways found women were not averse to risk management and weight management intervention during and after pregnancy. However, in order to improve reach and effectiveness, such interventions need to be well communicated and offer constructive, tailored advice and support. They argue that the postnatal phase may also offer an opportune moment for intervention (Dinsdale, Branch, Cook & Shucksmith, 2016).

However, until the safety of weight loss in overweight and obese pregnant women can be established, there can be no practice recommendations for women to intentionally lose weight during pregnancy (Furber, McGowan, Bower, Kontopantelis, & Quenby, 2013). Further research is needed to explore the potential benefits, and or harm of weight loss in pregnancy in obese women.

There is a clear indication therefore that women should be supported to maintain a healthy weight before, during and after pregnancy. This is consistent with findings from a recent cohort study by Cooper and Power (2013). To prevent maternal obesity it is therefore important to intervene with women prior to pregnancy to help them maintain a healthy weight and prevent excess weight gain in pregnancy. This will reduce their risk of experiencing adverse health outcomes during any future pregnancies and for future generations.

#### **1.4.6. Mental Health and Wellbeing**

Obesity may have a detrimental effect on mental health in particular depression (Simon, Von Korff, Saunders, Miglioretti, Crane et al (2006). Studies have shown obesity to be associated with high levels of body image dissatisfaction, depression, anxiety, low self-esteem and impaired quality of life (National Obesity Observatory, 2011b). Research has found levels of body image dissatisfaction to be higher in obese women than obese men (Grilo, Wilfley, Brownell, & Rodin, 1994), with particular dissatisfaction with the waist or abdomen (Wardle, Waller, & Fox, 2002). People who are overweight or obese may also experience mental health problems as a result of stigma, bullying or discrimination in the workplace (Puhl, & Heuer, 2009).

There are mixed findings on the association between obesity and depression as many behavioural, cognitive, physiological and social factors may contribute to the development of depression (Markowitz, Friedman, Arent, 2008). However, in a recent systematic review and

meta-analysis, Luppino, de Wit, Bouvy, Stijnen, Cuijpers et al (2010) found that obesity not only increased the risk of depression (by 55%), but that depression was predictive of developing obesity (by 58%).

There is evidence to suggest that stigma associated with being overweight and obese may lead to low self-esteem in women with a desire to fit the perceived social norm contributing to depression. In communities where a higher weight, larger body shape is deemed as acceptable, or indeed desirable, it appears there is less of a psychological impact (Kulie, Slattengren, Redmer, Counts, Eglash, & Schragger, 2011).

### **1.5. Cost of Obesity**

Given the impact on individual health, obese and overweight individuals also place a significant burden on the NHS. Direct costs are estimated to be £4.2 billion and Foresight (2007) have forecast that this will more than double by 2050 if we continue as we are.

There are also costs to society and the economy more broadly for example, sickness absence and reduced productivity. Foresight (2007), estimated that weight problems already cost the wider economy in the region of £16 billion, and that this will rise to £50 billion per year by 2050 if action is not taken. These factors combine to make the prevention of obesity a major public health challenge.

### **1.6. Causes of Obesity**

Individuals generally become overweight or obese as their energy intake exceeds their energy expenditure over a period of time (Hill, Wyatt & Peters, 2012). The notion that 'eating less and exercising more' is the solution to weight loss and maintenance is widely accepted. Therefore it seems a logical step that it is simply a matter of executing these behavioural tasks. Indeed, people regularly indicate that this is what they intend to do, however we encounter the intention to behaviour paradigm where people often fail to enact their intentions or they only

last for a short period of time (Sheeran & Webb, 2016). It appears, therefore that there is a much more complex interaction of contributory mechanisms influencing this, including biopsychosocial and environmental factors.

### **1.7. Risk factors Associated with Obesity**

There is evidence of increased risk factors associated with obesity from research in medicine, the life sciences, the social sciences and economics. The 2007, UK government Foresight report describes the complex interaction between the social, economic and physical environments, and individual factors that underlie the development of obesity (Foresight, 2007). The causes of obesity range from individual biology, behavioural drivers, the physical and social environment, and the economy. Tackling obesity requires input from a prevention perspective taking a life course approach to behaviour change, and the food environment, and policy.

#### **1.7.1. Socioeconomic Status**

There are stark health inequalities in patterns of excess body weight across England. Obesity tends to be most prevalent in deprived populations (Marmot, 2010). This association is stronger for women than for men (Information Centre for health and social care , 2010), a pattern that has been observed in many other developed countries (McLaren, 2007). For women there is an almost linear relationship between obesity levels rising as household income falls, whereas women in the highest socioeconomic group have significantly lower obesity prevalence than the other income groups. Women living in more deprived areas are also more likely to be obese with obesity prevalence rising from 21.5% in the least deprived quintile to 31.5% in the most deprived quintile (Health and Social Care Information Centre, 2011). Deprivation is therefore closely associated with obesity; those who are already disadvantaged are more likely to suffer obesity and the associated health problems and are less likely to engage in recommended levels of physical activity (Foresight report, 2007).

### **1.7.2. Ethnicity**

There is no straightforward relationship between obesity and ethnicity, with a complex interplay of factors affecting health in minority ethnic communities in the UK. Apart from the Health Survey for England (HSE) data in 2004 which included a 'boosted sample' from minority ethnic groups, there is little nationally representative data on the obesity prevalence in adults from minority ethnic groups in the UK (Health and Social Care Information Centre, 2006).

Obesity is most prevalent among Black African women (38%). (Health and Social Care Information, 2006). Women appear to have a higher prevalence in almost every minority ethnic group with Pakistani, Bangladeshi and Black African women being significantly more likely to be obese than men (NOO, 2011a). This makes obesity an issue of health inequalities.

### **1.7.3. Lifestyle Habits**

Lifestyle and behavioural choices are important factors in influencing weight status. The Health Survey for England Report (2007) showed that for both men and women, being most 'at risk' of obesity was positively associated with; age, being an ex-cigarette smoker, self-perceptions of not eating healthily, not being physically active and hypertension. Income was also associated with being 'most at risk' with a positive association for men and a negative association for women

### **1.7.4. Diet**

Evidence indicates that diet plays a pivotal role in the obesity epidemic, in addition to physical inactivity (Hall, Sacks, Chandramohan, Chow, Wang, et al, 2011). Only a very small excess in calorie intake over time leads to weight gain, and obese individuals have a tendency to under-report food consumption more than healthy weight individuals (Lichtman, Pisarska, Berman, Pestone, Dowling, et al, 1992). It has been estimated that the average female in England consumes approximately 200 calories a day more than they need and that this 'modest' calorie

intake contributes to excess weight gain over time (PHE, 2014b). A recent report has indicated that as a population we are consuming 30% to 50% more calories than the levels reported in official statistics (Harper & Hallsworth, 2016).

According to the National Diet and Nutrition Survey (2012/13 and 2013/14) the UK population is consuming more sugar and saturated fat than is recommended by the Scientific Advisory Committee on Nutrition and not enough fruit, vegetables and fibre (PHE, 2016a). The consumption of high fat, high sugar foods and drinks can contribute to excess energy intake, which increases the risk of weight gain and obesity (Swinburn, Caterson, Seidell & James, 2004). Epidemiological studies have suggested that energy dense dietary patterns, characterised by consumption of foods and beverages that are high in fat and sugar, and low in nutrients and fibre, are associated with obesity (Jebb, 2007).

The Family Food Report (2012) showed through household food and drink purchases, families were not achieving a balanced diet irrespective of household income. However, there is a clear decline in purchase and consumption of fruit and vegetables as household income declines. The perceived cost of healthy food and difficulty changing dietary patterns are reported as barriers to healthy eating (NOO, 2011c).

Despite this, according to the Health Survey for England (2007), the majority of women (72%) believe their diet to be 'quite healthy' with only 29% of women consuming five or more portions of fruit and vegetables a day (Health and Social Care Information Centre, 2008). This shows there is a clear discrepancy between women's beliefs about their diet and the actual nutritional content of the food they are purchasing and consuming.

#### **1.7.5. Physical Inactivity**

Minimum physical activity recommendations for adults are 150 minutes of moderate intensity physical activity a week or alternatively 75 minutes of vigorous intensity activity. In addition all

adults should aim to improve muscle strength on at least two days a week and minimise sedentary activity (British Heart Foundation National Centre for Physical Activity (BHFNC) and Health, 2010). However, to prevent obesity, people may need to do 45-60 minutes of moderate intensity activity a day, particularly if they do not reduce their energy intake. Those who have been obese and have lost weight may need to do 60-90 minutes of activity a day to avoid regaining weight (NICE, 2006).

Self-reported physical activity levels collected nationally indicate that only 55% of women aged over 16 met these current guidelines, with 26% of women being classified as inactive. The proportion of individuals meeting the guidelines increased as the household income increased, with under only 47% of women in the lowest quintile meeting these, showing a strong association between income and physical activity. It also showed that women who were overweight or obese were less likely to meet the recommendations (Health and Social Care Information Centre, 2012).

Objective measures of physical activity show an even bleaker picture of current population physical activity levels. Based on the results of an accelerometer study (Health Survey for England, 2008), only 4% of women achieved the recommended physical activity levels which means that currently 96% of women are not. Interestingly, women report wanting to be more physically active. When exploring barriers, lack of leisure time was the barrier most cited by women (Health Survey for England, 2007).

Research has indicated that those who report longer durations of sitting time and time spent watching television are more likely to be over-weight or obese (Shields & Tremblay, 2008). Trends in the decline of physical activity may be attributable to changes in the reduction of energy expended at work due to the shift in the labour market and in the advancement of technology. We have also seen an increased reliance on the car over the last fifty years contributing to a significant decline in walking and cycling (Public Health England, 2013). The

benefits of engaging in regular physical activity are well documented for physical and mental health (BHFNC, 2013), and guidance has indicated that a combination of reducing calorie intake and increasing physical activity are both important components of weight loss programmes (NICE, 2014b).

Recent publications have indicated that diet may be a bigger risk factor than physical activity for obesity and that the focus for weight loss should be on dietary intake (Swinburn, Sacks, Hall, McPherson, Finegood, et al, 2011). However, improving cardiovascular fitness through regular moderate to intense physical activity is likely to reduce mortality risk for normal, overweight and obese groups whether this is achieved with or without weight reduction (Public Health England, 2014e).

The fact that the majority of western populations do not meet current minimum recommendations for the amount of physical activity needed for health demonstrates the need for a greater understating of the determinants of involvement in exercise and physical activity (Biddle & Mutrie, 2008).

#### **1.7.6. Environment**

Our society has been described as an 'obesogenic environment' which expresses the influences that the surroundings, opportunities or conditions of life have on promoting obesity in individuals and populations (Egger & Swinburn, 1997). We are now living in an environment where there is an abundance of food and drink, which is available 24 hours a day seven days a week. The fast food industry is a growing market and there are little restrictions placed on the advertising, promotion or purchase of calorie dense products. There is even less restriction on fast food/ take away outlets where people are often unaware of the vast calorie content or levels of saturated fat, sugar or salt. Burgoine, Forouhi, Griffin, Wareham & Monsivais (2014) found that exposure to takeaway food outlets in home, work and commuting environments

combined was positively associated with higher consumption of takeaway food, greater BMI, and greater likelihood of being obese.

The availability and presentation of food and drink items influence our choices and decision-making processes. A recent systematic review by Hollands, Shemilt, Marteau, Jebb, Lewis, et al, (2015), found that people consistently consume more food or drink when offered larger-sized, portions, packages or tableware than when offered smaller sized versions.

Sizing, promotional offers and where items are placed have been shown to influence our food and drink purchases in supermarkets, restaurants and during on-line shopping (Liberato, Bailie, Brimblecombe, 2014; Cameron, Charlton, Ngan & Sacks, 2016). The majority of people report to know what is healthy but research has shown that people find it hard to make healthy choices when presented with a vast array of products, as they are often drawn to attractive promotions, packaging and a range of environmental cues resulting in impulse or unintended purchases (Chandon & Wansink, 2012). Market research has shown that females tend to do most of the food shopping for their families and preparation of family meals which therefore means they have a significant amount of control over what foods the family will consume within the home environment (Lake, Hyland, Mathers, Rugg-Gunn, Wood et al, 2006). They are also therefore most likely to be exposed to the placement, sizing and promotional offers in supermarkets and during online supermarket shopping

Research has shown that we tend to make poorer choices when we are cognitively depleted such as when we are bombarded with information, tired or hungry (Jabs & Devine, 2006). Cognitive load refers to short-term stresses on executive control and working memory (Valcke, 2002). The process of decision making, such as making choices, can increase the cognitive load and exhaust self-control. We tend to make decisions that require the least effort or cognitive load (Hoffman, Friese & Strack, 2009). When applied to the food environment it is easy to see how people make less healthy choices when presented with cheap, unhealthy, convenience

foods. Allan, Johnston and Campbell (2014) found an increase in healthy snack purchasing in a café by reducing the cognitive demands of healthy food choice at the moment of purchase.

Nutrition labelling has been introduced in a number of countries with the aim of giving consumers more readily accessible information in a consistent format to support people to make healthier choices. The British government recently announced an initiative to standardise front of pack nutritional labelling using a traffic light format including information on the amount of salt, sugar, saturate fat and total calories on all pre-packaged products sold through retail outlets (Department of Health, 2013). There is mixed evidence on the effectiveness of nutrition labelling in actually changing consumers purchasing behaviour, however simpler front of pack labelling formats appear more favourable in shopping environments where quick decisions are made (Feunekes, Gortemaker, Willems, Lion, van den Kommer, 2008; van Herpen & van Trijp, 2011).

The physical environment has a clear impact on our ability to engage in sedentary behaviour and provide easy access to energy dense food (Lake & Townshend, 2006). Understanding how the environment influences our behaviour and decision-making provides opportunities to encourage healthier choices through choice architecture and environmental restructuring (Hollands, Shemilt, Marteau, Jebb, Kelly et al. 2013). It is therefore paramount to explore further how women experience their food environment and if they are consciously aware of these potential influences on their behaviour

### **1.7.7. Social Influences**

There is increasing evidence that social and cultural factors influence a person's weight and may increase or decrease their risk of developing obesity (Hammond, 2010). Our social networks made up of our family and friends, and create the sphere in which we normalise and rationalise our behaviour and beliefs.

### **1.7.7.1. Family**

Parental weight has a direct effect on childhood weight (Agras, Lawrence, Hmmer, McNicholas, & Kraemer, 2004). Evidence clearly shows childhood obesity increases the risk of obesity in adulthood, and parental obesity more than doubles the risk of adult obesity among children (Whitaker, Wright, Pepe, Seidel, & Dietz, 1997; Singh, Sacks, Chandramohan, Chow, Wang, Gortmaker, et al, 2011). To what extent this is down to genetics, social or environmental factors is still debated.

The family provides an environment in which patterns of food intake and activity are learned early in life. Observational studies have shown that higher levels of maternal nutritional knowledge are associated with higher fruit and fibre intake, and lower fat intake by children (Gibson, Wardle & Watts, 1998; Variyam, Blaylock, Lin, Ralston, Smallwood, 1999). Restriction of children's eating has most frequently and consistently been associated with child weight gain (Fisher, & Birch, 1999). Furthermore, there is substantial evidence for a causal relationship between parental restriction of food and childhood overweight (Clark, Goyder, Bissell, Blank, & Peters, 2007).

Women have traditionally taken the main carer role in the family and are often portrayed as the custodians of health, not just for themselves but also their families (Miles, 1991). This shows the importance of women developing healthy lifestyle habits, which could potentially be modelled and transferred within their families.

### **1.7.7.2. Friends**

Christakis and Fowler (2007) found that obese individuals tend to be connected to other obese individuals. They found pairs of friends and siblings of the same sex appeared to have more influence on the weight gain of each other than pairs of friends and siblings of the opposite

sex. This finding also provides support for the social influence of obesity, as it seems people are influenced more by those they resemble than by those they do not.

### **1.7.8. Psychological Factors**

How individuals think and feel, influences their behaviour. Therefore it is important to consider the potential influence of psychological factors on the development of obesity and where there may be protective factors to help sustain a healthy weight. Individuals who experience psychological disorders, such as anxiety, depression and eating disorders, may have more difficulty controlling their consumption of food, engaging in regular physical activity and maintaining a healthy weight (Collins & Bentz, 2009).

#### **1.7.8.1. Personality**

In a recently published systematic literature review, Gerlach, Herpertz and Loeber (2015) report that personality traits play an important role in both at risk and protective factors in the development of overweight and obesity. There is a growing consensus that these develop as a result of genetic and social factors. These features involve in particular, the sensitivity towards excessive food availability and the ability to adjust one's behavioural and dietary patterns. 'Neuroticism' (particularly in women), 'impulsivity' and 'sensitivity to reward' appear to be risk factors, whereas 'conscientiousness' and 'self-control' appear to have a protective function in relation to weight gain.

'Neuroticism' is characterised by greater anxiety, depression, impulsivity which can drive individuals to adopt dysfunctional coping strategies such as excessive eating and drinking, and to give up restrained eating habits and physical activity. 'Conscientiousness' is a measure of regulation of internal urges and self-discipline and it has been proposed that this may provide a potential source of self-control over impulsive reward-oriented behaviour.

### **1.7.8.2. Self-Regulation**

Self-regulation refers to deliberate attempts to alter one's behaviour, emotions or cognitions to achieve a desired goal (Herman, & Policy, 2011). For people trying to lose weight the principle behaviours requiring self-regulation have to do with eating and exercise. In a review of effective techniques in healthy eating and physical activity interventions Michie, Abraham, Wittington, McAteer, & Gupta (2009) found interventions that combined self-monitoring with at least one other technique derived from control theory (Carver & Scheier, 1998), were significantly more effective than the other interventions. This includes techniques such as; prompt intention formation, prompt specific goal setting, provide feedback on performance, prompt self-monitoring of behaviour, and prompt review of behavioural goals. This finding has subsequently been replicated by Dombrowski, Sniehotta, Avenell, MacLenoon, & Araujo-Soares (2012).

The apparent lack of self-control appears prevalent in 'mindless eating' behaviour. Mindless eating is the term given to the consumption of food that occurs without being consciously aware of it (Kristeller & Epel, 2014). Mindful eating can occur naturally however, mindless eating often occurs in the food abundant developed world due to habitual patterns, emotional states or distraction (Wansink, 2010). Mindless food choices and overeating is argued to be contributing substantially to the current rise in obesity. (Wansink, 2011).

### **1.7.8.3. Self-Efficacy**

Self-efficacy is the belief that one has the ability to successfully engage in a specific behaviour. Self- efficacy has been identified as a key determinant in increasing physical activity (Bauman, Reis, Sallis, Wells, Loos, & Martin, 2012). Darker, French, Eves & Sniehotta (2010) found that participants who showed the largest changes in walking self-efficacy following a single walking

intervention session were also the ones that showed the largest increases in objectively assessed walking behaviour.

In addition, Armitage, Wright, Parfitt, Pegington Donnelly et al (2014) found that self-efficacy for 'temptations' as opposed to motivation and global self-efficacy, was predictive of subsequent weight loss in a study of dieting overweight and obese women at high risk of breast cancer. This is an individual's confidence in their own ability to overcome situations in which diets are harder to follow such as being tired or feeling hungry.

#### **1.7.8.4. Motivation**

A study by LaRose, Leahey, Hill & Wing, (2013) into the difference in motivations and weight loss behaviours in young adults and older adults in the National Weight Control Registry found that while similar weight loss was achieved across the groups, the duration of maintenance was less in the young adults. Young adults who successfully lost weight were more motivated by appearance and social influences (i.e. improving your appearance, wanting to feel better about yourself, and improved social life), and were less motivated by health. They were less likely to report a medical trigger for weight loss but were more likely to report an emotional trigger. They also found that physical activity played an important role in their weight loss attempt. They conclude that these differences should be considered when developing weight loss programmes for young adults.

In an analysis of the Health Survey for England data, Piernas, Aveyard and Jebb, (2016) found that having a health condition that would improve with weight loss was only very modestly associated with an increase in reported weight loss attempts which they suggest contributes to the idea that the motivation to lose weight is unrelated to health.

## **1.8. Policy Context**

Tackling obesity is a key priority for the UK Government and the national ambition is to achieve a sustained downward trend in the level of excess weight in children, and excess weight averaged across all adults by 2020 (Department of Health, 2011). National guidance states that everyone should try to maintain or achieve a healthy weight to improve their health and reduce the risk of disease associated with being overweight or obese (NICE, 2015).

## **1.9. Prevention**

Establishing and maintaining a healthy diet and increased levels of physical activity remain central to the narrative around obesity prevention (NICE, 2015). Despite the ongoing debate about whether the focus of obesity prevention should be physical activity or diet, physical activity remains a significant part of obesity prevention (NICE, 2006), management and treatment (NICE, 2014b). There are no nationally implemented psychological components to obesity prevention.

## **1.10. Effective and Cost Effective Weight Management Interventions**

To-date potentially effective weight management interventions have been identified as long term multi-component interventions including diet, exercise components along with behavioural strategies. However, weight changes have been small and weight regain has been found to be very common (Loveman, Frampton, Shepherd, Picot, Cooper et al, 2011). There is some evidence on the use of pharmaceutical interventions in conjunction with strategies to change lifestyles (Dombrowski, Knittle, Avenell, Araujo-Soares, & Sniehotta, 2014). Bariatric (weight loss) surgery for obesity is considered when other interventions have failed and appears to result in greater improvements in weight loss outcomes and weight associated co-morbidities compared with non-surgical interventions, regardless of the type of procedures

used, however, the long term effects remain unclear (Colquitt, Pickett, Loveman & Frampton, 2014).

It has been argued that identifying predictors of weight loss could enhance the effectiveness of weight loss programmes. It could help to identify those that are more likely to be successful or highlight those who may need additional support. (Armitage, Wright, Parfitt, Pegington, Donnelly et al, 2014).

### **1.10.1. NICE Guidance**

NICE recommends the provision and referral of overweight and obese adults (aged 18 and over) to effective multi-component lifestyle weight management services (NICE, 2014b). Primary care practitioners are advised to screen all adults for obesity and to signpost those identified as obese to individual and community based programmes to tackle overweight and obesity (NICE, 2014b). They recommend that these programmes should address dietary intake, physical activity levels and behaviour change, with a focus on life-long lifestyle change and the prevention of future weight-gain. In addition, NICE recommend that programmes should be developed by a multi-disciplinary team, including input from a registered dietician, registered practitioner psychologist and a qualified physical activity instructor. To what extent these guidelines are being implemented or adhered to is difficult to measure. As the prevalence of obesity continues to rise it indicates that these multi-component lifestyle weight management services are not reaching those who they are designed to support. This could be down to uptake, availability or provision of the services.

NICE guidance concludes that there is limited evidence on the effectiveness of the programmes beyond 1 year follow-up and that it is difficult to identify why some programmes are more effective than others, or the effect of the specific components (NICE, 2014b). This calls for more research into factors that influence weight loss maintenance.

### **1.10.2. Psychological Interventions**

A report by the British Psychological Society (2011) argues that whilst Cognitive Behavioural Therapy is briefly mentioned in the NICE (2006) obesity guidelines, psychological issues are generally not receiving as much attention as sociological and diet issues as ways of tackling this growing epidemic.

The report states that psychological issues can be linked to the cause or consequence of obesity affecting the ability to manage weight. It is argued that psychological techniques and therapies should be integrated into weight management pathways and utilised to support individuals and populations to maintain a healthy weight. Weight loss and weight maintenance interventions should aim to; i) improve pre-existing obesity related co-morbidities ii) reduce the future risk of obesity related co morbidities iii) improve physical, mental and social well-being (Newson, & Flint, 2011).

Duarte, Matos, Stubbs, Gale, Morris et al (2017) argue there is an emotional dimension to weight management. They examined associations between unfavourable social comparisons (shame, self-criticism), and negative emotions about weight and dietary restraint, disinhibition and perceived hunger, in women attending a community based weight management programme. Their results suggested that negative self-evaluations (inferiority, perceived criticism or devaluation associated with weight status, along with self-criticism), have a significant effect on increased negative affect. This has been identified as an important predictor of difficulties in self-regulation of eating behaviour in overweight people trying to manage their weight.

Holland, Dallos and Olver (2011) also previously found a link between emotion and weight. In a qualitative study exploring young women's experiences of living with excess weight they identified four key themes including emotional regulation, focus on family relationships, lack of

control and sense of self. They found evidence for the concept of emotional eating which is consistent with other research findings (Ganley, 1989).

### **1.11. Understanding Behaviour Change**

Preventing and managing weight and obesity are complex multi-faceted issues. Complex behaviour change requires both sustained effort and typically the adoption of multiple strategies to achieve change. People can indeed choose whether to make changes to their lifestyles, however there are a number of social, environmental and psychological factors, which may affect these choices and ability to sustain change.

Encouraging people to make health enhancing behaviour change is a primary focus for health psychology, public health, and a range of practitioners across community, primary and secondary health-care settings. There have been numerous psychological models and theories developed in an attempt to understand the phenomena of behaviour change. Many of these have traditionally focused on conscious decision-making and predicting behaviour through behavioural intentions. However, to date, no single model or theory has been successful in predicting actual behaviour change. Past behaviour therefore remains the strongest predictor of future behaviour. A brief summary and discussion of key models and theories follow.

#### **1.11.1. Health Belief Model (Becker, 1974)**

The Health Belief Model is an attitudinal model of health decision-making. It hypothesises that a decision to change behaviour is determined by an individual's perception of a threat to personal health and the efficacy of the treatment to reduce the threat. Perception of threat is determined by two underlying beliefs; the perceived susceptibility to the disease, and the perceived severity or seriousness of the disease. It highlights the importance of beliefs, perceived benefits and barriers to action, self-efficacy and stimulus/cues to action. The

limitations of this model for behaviour change are that it is focused on conscious decision-making and ignores the importance of habits and less conscious drivers of behaviour.

### **1.11.2. Social Cognitive Theory (Bandura, 1977)**

Social Cognitive Theory is derived from Social Learning Theory and suggests that an individual's behaviour is determined by the interplay of personal, behavioural and environmental factors and that most behaviour is learned through observing the actions of others. This theory recognises the importance of the social environment, modelling and self-efficacy on behavioural outcomes. To date evidence suggests that self-efficacy is one of the strongest predictors of adherence. It is unclear as to the weight of these factors on behaviour and if one is more influential than another. There is limited consideration of emotion or motivation as influencing factors on behaviour.

### **1.11.3. Theory of planned behaviour (Ajzen, 1985)**

The Theory of planned behaviour (TPB) was a development of the Theory of Reasoned Action (Fishbein & Ajzen, 1975) recognising perceived behaviour control as an important factor (similar to the concept of self-efficacy). However the focus of this model is on planned behaviour and predicting intentions not actual behaviour. An individual's intention to perform a given behaviour (Ajzen, 1985) has been associated with approximately 50% of actual behaviour change (Sheeran, 2002). However, the maintenance of behaviour change is often unknown due to the lack of long-term follow up. This model assumes people behave in a rational way at all times, however further research has demonstrated that not all behaviour is planned (Kahneman, 2011). This model does not address the gap between behavioural intentions and actual behaviour change and it has been argued that the time has come to retire this model in aid of discovering a better explanation of health behaviour change (Sniehotta, Penseau and Araujo-Soares, 2014).

#### **1.11.4. The Transtheoretical Model of Behaviour Change (Prochaska & DiClemente, 1997)**

The Transtheoretical model of behaviour change (also known as the stages of change model) is widely used as an intervention framework in weight management programmes. However, further research is needed to evaluate the effectiveness for sustained weight loss (Tuah, Amiel, Qureshi, Car, Kaur, & Majeed, 2011). The model proposes that individuals progress through five main stages when attempting to change behaviour. Individuals may go through the stages a number of times, may revert to previous stages or remain at a stage for some time.

The five main stages are;

1. Pre-contemplation – no intention to make changes in the foreseeable future
2. Contemplation – considering change
3. Preparation – making plans and expresses a commitment to change
4. Action – actively engaging in the desired behaviour
5. Maintenance – change is sustained over time in an effort to prevent relapse.

There has been much criticism due to the assumption the model makes that behaviour change occurs in a linear fashion, progression through a series of stages. The model has been widely adopted by practitioners, particularly within smoking cessation services, despite reviews suggesting there is little empirical support for its effectiveness in facilitating behaviour change (Bridle, Riemsma, Pattenden, Sowden, Mather, et al, 2005).

In a review of effective behaviour change interventions in 2007, NICE (2007) concluded that there was no comprehensive behaviour change model and that there was a need for more evidence on the links between knowledge, attitudes and behaviour. A meta-analysis of behavioural change interventions by Webb & Sheeran (2006) suggest that intentional control of behaviour is a great deal more limited than previous meta-analyses of correlational studies

have indicated. More recently there has been an emergence and prominence of integrative dual process models of behaviour taking into account both the conscious and less-conscious decision making processes.

#### **1.11.5. Integrative Dual Process Models of Behaviour**

More recently dual process models of behaviour (Michie, Stralen, & West, 2011; Kahneman, 2011) have highlighted the importance of the more automatic/ less conscious thinking processes which have largely been ignored by traditional health psychological theory which has focused more on the reflective/ conscious thinking processes. These more automatic/ less conscious processes include impulses, habits, and emotions, and influence our decision making through our interactions with the environment.

Models vary as to whether these processes are presented as two interacting systems operating in parallel or as a hierarchy (Michie, West, Campbell, Brown, Gainforth, 2014; Kahneman, 2011; Borland, 2014). The more automatic/ less conscious processes are powerful in-built responses to the world that are less 'considered' i.e. people respond without paying conscious attention to. 'Short cuts' occur in our mental processing, which are often referred to as 'heuristics' or 'rules of thumb'. These are used to aide how people respond to the environment, stimulus or cues quickly, with least cognitive effort or when the focus of attention may be elsewhere, such as thinking what to prepare for a meal whilst driving a car.

These concepts have prompted a wealth of research in the world of behavioural economics and social psychology which have identified a number of 'cognitive biases' (Samson, 2016; Kahneman, 2011; Thaler & Sustein, 2008) that appear common across individuals and have implications for the choices we make and ultimately how we behave. This appears to have particular relevance at the population level and has implications for the importance of the environment, and systems with which people interact.

Both the Context, Executive and Operational Systems (CEOS) Model and PRIME Theory propose that reflective, thoughtful analysis and emotional, habitual and instinctive processes combine to generate behaviour. They use the ancient metaphor of the rider and the elephant in which the rider (the self-conscious reflective self) does not have direct control over their behaviour, but has to communicate with, and influence the elephant (the emotional, instinctive and habitual self) in order to do so. At the same time the elephant is influencing the rider (Michie, West, Campbell, Brown, Gainforth, 2014).

#### **1.11.6. The CEOS Model (Borland, 2014)**

The CEOS Model (Context, Executive and Operational Systems) is a general theory of behaviour and behaviour change focused on behaviours that are difficult to maintain. It proposes an executive system that formulates and acts towards goals, an operational system that acts continuously to seek a balance between environmental context and internal needs. The pursuit of a goal requires self-regulatory mechanisms to balance continual changes in the perceived desirability and achievability of the goal, which is modulated by two levels of feedback, one immediate and the other a more reflective and conceptual evaluation. It proposed that for those who find change more difficult, the use of external aides can help.

#### **1.11.7. PRIME Theory (West & Brown 2013)**

The PRIME Theory is a general theory of motivation, with its origins in the theory of addiction. Motivation is defined as the brain processes that energise and direct behaviour. It fits within the broader COM-B model of behaviour in which capability, motivation and opportunity interact as a system to generate behaviour (Michie, van Stalen, & West, 2011).

It proposes that there are five sub systems making up the human motivational system which influence behaviour; response co-ordination, impulses/inhibitions, motives (wants and needs), evaluations (beliefs about what is good or bad), and plans (self-conscious intentions). These

interact with each other and are influenced by the immediate internal (perceptions, drives, emotional states, arousal, ideas, frame of mind) and external environment (stimuli or information). The system is inherently unstable and requires a constant balancing input.

#### **1.11.8. COM-B (Michie et al, 2011)**

This model describes behaviour as a process not a one off event and emphasises that every behaviour is part of a network of different behaviours. Behaviour change is therefore a process that involves changing many subsets of behaviours. It proposes three essential conditions; capability, motivation and opportunity which all need to be present for a behaviour to occur. This model also takes into account the conscious and less conscious processes that occur in relation to behaviour.

Capability is defined as an individual's psychological or physical ability to engage in an activity, which includes having the necessary knowledge and skills to perform the action. Motivation is defined as the conscious (reflective) and less conscious (automatic) brain processes that activate or inhibit behaviour including decision-making. Opportunity is defined as the physical or social environment that enables or prompts behaviour to occur (Michie, van Stalen, & West, 2011).

#### **1.11.9. Importance of Context**

In a recent review of behaviour change theories, the most widely used theories emphasised reflective cognitive processes such as intentions, attitudes and beliefs but took relatively little account of the context or social factors (Davis, Campbell, Hildon, Hobbs & Michie, 2015). It is argued that the effectiveness of interventions may be increased by theories incorporating, social, cultural and economic factors that influence behaviour. It is important to understand the behaviour in its context and from the individual's perspective to inform theoretical frameworks, which will in turn inform interventions designed to change behaviour.

### **1.11.10. Effectiveness of Behaviour Change Interventions**

Findings from the UK House of Lords Science and Technology Committee Inquiry (2007) into Behaviour Change concluded that there is a lack of population level trial data on long term effectiveness of behaviour change interventions. A recent meta-synthesis of health behaviour change of 62 meta-analyses across; eating and physical activity, sexual behaviour, addictive behaviours, stress management, female-specific health behaviours and health service use, found that behaviour change interventions were effective with small to medium effect sizes (0.08 -0.45). However efficacy varied due to participant and intervention characteristics (Johnson, Scott-Sheldon, & Carey, 2010).

There is a growing recognition that attempts to change behaviour should draw on theories of behaviour and behaviour change. This is supported by the UK Medical Research Council recommendations that relevant theories should be identified at the beginning of the development of any complex intervention (Michie, West, Campbell, Brown, & Gainforth, 2014).

### **1.12. Research Findings**

It is argued that current reporting of behaviour change interventions is often insufficient to identify the content of the interventions delivered and the key behaviour change techniques used (Michie, Abraham, Wittington, McAteer, & Gupta, 2009). It has been proposed that there is a need to accurately identify the behaviour change techniques used, and the mode of delivery to understand which techniques contribute to intervention effectiveness. In order to understand the key behaviour change techniques and improve the effectiveness of behaviour change interventions, it is necessary to accumulate evidence across empirical studies by replication in order to identify the theoretical constructs and mechanisms of action to better understand how interventions work. In a response to this, a refined taxonomy of 40 behaviour

change techniques was developed to help people change their physical activity and healthy eating behaviours: The CALOR-RE Taxonomy (Coventry, Aberdeen & London - Refined Taxonomy) (Michie, Ashford, Sniehotta, Dombrowski, Bishop, et al, 2011).

A recent systematic literature review by Booth, Prevost, Wright, & Gulliford (2014) found that behavioural weight loss interventions in primary care resulted in very small reductions in body weight which are unlikely to be clinically significant and suggests that more effective weight management strategies are needed for the treatment of overweight and obesity. However a recent systematic review (Dombrowski, Knittle, Avenell, Araujo-Soares, & Sniehotta, 2014) reported that comprehensive behavioural interventions targeting dietary and physical activity behaviours are moderately effective in slowing regain of weight in obese adults after initial weight loss for follow up periods of up to 24 months (with a reduction of weight regain of 1.56kg). It also reported that Orlistat treatment in addition to behaviour change is effective in reducing weight regain, with clear evidence of a dose response relation. Hartmann-Boyce, Jebb, Fletcher and Aveyard (2015) found a significant effect in favour of self-help weight loss interventions at 6 months but this was not significant at 12 months.

In a weekly group weight loss programme that included structured intentions and action-planning, Benyamini, Geron, Steinberg, Medini, Valinsky, and Endevelt (2013) found that forming implementation intentions promotes weight loss and that its effectiveness depends on setting initial high goals. Within a population that is highly motivated to lose weight, the combination of high weight loss goals and formulating detailed plans for changing dietary behaviours may be most effective in supporting weight loss (Dombrowski, Endevelt, Stenberg & Benyamini, 2016).

In a qualitative study, Chambers & Swanson (2012) found successful weight maintainers adopt a staged approach to weight management, including monitoring of weight fluctuations and having a clear alarm signal for weight gain that triggers immediate action. They utilise several

behavioural strategies for weight control, comprising of relatively small adjustments to diet and/or exercise behaviour and also have clear strategies for coping with lifestyle challenges. In contrast, unsuccessful weight maintainers display negative cognitive factors, including erratic or inconsistent weight monitoring, failure to respond to warning signs of weight gain, and failure to restrict weight unless in a positive mindset.

Whether these techniques, or clusters of techniques work for everyone or whether these need to be tailored for specific groups of people is not clear.

### **1.12.1. Experience of Being Overweight or Obese**

Ogden and Clementi (2010) conducted a study to explore the experience of being obese. They found many obese people experience their weight in a profoundly negative way as a result of existing within a social context which stigmatises their condition. They state that this stigma may create a negative sense of self, thereby undermining any motivation for change. However they conclude for some, in the right conditions, and with appropriate support, stigma may present a sufficient trigger to encourage the changes which are necessary for weight loss.

### **1.12.2. Perceptions of Weight Loss in Women**

In a qualitative study on female patient perceptions of weight loss, Nelson, Ruffalo, Dryer & Nelson (2016) found that individuals often have the knowledge to make positive health behaviors changes, but multiple factors may prohibit this from occurring. They found that relationships can act as either a facilitator or barrier to weight loss. They argue that when a supportive environment exists, healthy behavior changes are more attainable for patients on their weight loss journey.

In a visual perception study conducted by Cornelissen, Gledhill, Cornelissen & Tovee (2016) on female body weight they found as bodies become overweight and obese, it is harder to judge their weight and detect any increase in size. They conclude that these effects may compromise

our ability to accurately recognize weight gain and undertake necessary compensatory weight control behaviours.

### **1.12.3. Expectations of Weight loss in Women**

Siervo, Montagnese, Muscariello, Evans, Stephan et al (2014), found body dissatisfaction and weight loss expectations to be directly associated with BMI in young women attempting to lose weight. Both body dissatisfaction and weight loss expectations were higher in obese women. They found young women perceived the greatest weight loss expectations from mass media, whereas they perceived that family and friends were supportive of a lesser degree of weight loss.

Bennett (1986) found initial efficacy expectations and outcome expectations held by women participating in weight management programmes were partially related to drop-out and the weight loss attained however evidence for the ability of expectations to either predict weight loss or drop out was weak.

It is important to ensure weight loss expectations are aligned with those delivering intervention and support, and to explore any impact of weight loss expectations and body dissatisfaction on weight loss attempts and weight loss maintenance

### **1.12.4. Motivation and Weight Loss in Women**

Holley, Collins, Morgan, & Callister (2016) found the key motivators reported for losing weight in Australian women in an online survey were health (24.4%), to feel better in oneself (22.3%), and improve self-confidence (21.5%). Lack of motivation, time constraints, job commitments and cost were the most commonly reported factors influencing weight management.

Metzgar, Preston, Miller, Nickols-Richardson (2014) found accountability to others, social support, planning ahead, awareness and mindfulness of food choices, basic nutrition

education, portion control, exercise, and self-motivation were perceived as key facilitators for weight loss and weight loss maintenance by women. The identified barriers included life transitions, health status changes, internal factors, environmental pressures, lack of accountability and a lack of social support.

Qualitative research by Young, Gittlesohn, Charleston, Felix-Aaron and Appel (2001) into motivations for exercise and weight loss in African-American women, identified different motivating factors for different distinct groups. Health concerns, weight control, stress reduction, and the influence of others motivated the 'exercisers' to start exercising. Motivators to continue exercising were feeling good and having energy. In contrast, sedentary women reported that social support and enjoyment would be motivating. Both groups reported that physically active women conveyed the image of high energy and self-esteem. The successful weight loss women employed strategies that allowed them to eat a variety of foods and were less likely to 'diet'. The unsuccessful women referred to 'going on a diet' and were more likely to label foods as 'good' or 'bad'. They reported feeling tired and thought that losing weight would give them more energy.

The limited research in this area shows the need to further explore the factors that motivate women to engage in a weight loss attempt, seek support and maintain a weight loss.

#### **1.12.5. Weight Loss Interventions for Women**

Williams, Wood, Collins and Callister (2015) conducted a systematic review to determine whether the effectiveness of weight loss interventions differ between men and women. Ten studies out of the 58 included directly compared weight loss in men and women reported a significant sex difference where men lost more weight than women. However, women also lost a significant amount of weight and analysis of effect sizes found small differences in weight loss favouring men for both diet ( $g = 0.489$ ) and diet plus exercise ( $g = 0.240$ ) interventions.

There is little evidence from this review to indicate that men and women should adopt different weight loss strategies.

#### *Implementation intentions*

Luszczynska, Sobczyk, and Abraham (2007) found among obese or overweight women participating in a commercial weight loss program, those who learn to form implementation intentions can achieve greater weight reduction. They conclude that planning facilitation is a key mechanism explaining enhanced weight loss generated by implementation intention formation.

#### *Daily monitoring*

Recent research has found daily weighing to be an acceptable method of weight monitoring for weight gain prevention in healthy and overweight women (Katterman, Butryn, Hood and Lowe, 2016; Zheng, Terry, Danford, Ewing, Sereika, et al, 2016).

Zheng, Terry, Danford, Ewing, Sereika, et al (2016) found a number of positive aspects of daily self-weighing for those successful in weight loss in a relatively small, homogenous group, of predominantly well-educated, white, female participants. These participants had consistently adhered to daily weighing. They reported benefiting from daily weighing by feeling more in control of their weight, and using the results from the scale to regulate their eating and exercise behaviours. The majority of focus group participants expressed that daily weighing was an acceptable strategy in the context of an active weight loss program.

#### *Community Based Intervention with Young mothers*

A recent community-based lifestyle behavioural intervention that focused on stress management, healthy eating and physical activity was shown not to be effective in helping low-income overweight and obese young mothers prevent further weight gain (Chang, Brown & Nitzke, 2017). They reported a low participation rate in the group intervention suggesting

that group intervention delivered either in person or via phone is not feasible for this population.

#### **1.12.6. Challenges Associated with Weight Loss Maintenance**

To successfully maintain a weight loss long term, conscious efforts to make healthy food choices and engage in increased physical activity must be embedded. Achieving and sustaining a healthy weight requires a targeted multi-dimensional approach based on evidence based theoretical frameworks. Translating intentions into behaviour remains a key challenge despite the use of psychological behavioural change theories addressing attitudes, motivations and perceptions of control and intention. No one construct can explain the complexity of our cognitions and behaviours (Waumsley & Mutrie, 2011).

Although the majority of weight loss attempts are unsuccessful, it is useful to explore the factors that correlate with success in both weight loss and weight loss maintenance.

Ogden (2000) explored the difference between women who had been successful in maintaining a weight loss and those who had regained. They found weight loss maintainers had been lighter, were older, had dieted for longer and reported having tried healthy eating more frequently than the other groups. Weight loss maintainers reported medical causes of obesity less and psychological consequences more, and indicated that they had been motivated to lose weight for psychological reasons.

Sarlio-Lahteenkorva (2000) analysed accounts of nine women who had successfully maintained a weight loss for seven years. They found the accounts all focused on the construct of weight maintenance as an ongoing battle against weight regain. Women had to be reactive and proactive with constant monitoring, flexibility and specific strategies to deal with problematic situations. Despite the rewards of weight loss maintenance (including improved self-esteem,

better functional capacity and professional gains), these women felt they were different from other people and there was a clear tension between the obese past and the present day.

### **1.13. Research Limitations**

Research has shown there is still limited evidence on effective interventions to prevent over weight and obesity, to achieve sustained weight loss and prevent weight regain (Tuah, Amiel, Qureshi, Car, Kaur & et al. 2011). There is a need for evidence-based weight management programs that are effective, cost effective, readily accessible, and attractive for patients from diverse ethnic and socio-economic backgrounds.

There is also limited research identifying the psychological factors that contribute to over-weight or obesity in young women. Understanding what the barriers and facilitators are to achieving and maintaining a healthy weight in this population is of particular concern as many young women go on to have children and families of their own instilling their own beliefs and experiences of a healthy diet and lifestyle.

Maintaining a healthy weight before, during and after pregnancy is important due to the significant adverse health risks of excess weight gain and obesity for mother and child (Marchi, Berg, Dencker, Olander, & Begley, 2015; Poston, Caleyachetty, Cnattingius, Corvalan, Uauy, et al 2016). There is strong evidence that women typically still assume the role of primary care giver and will take the main role in child feeding, weaning and developing the food and eating patterns of their children (Miles, 1991). Women tend to do the majority of the food shopping for their families and preparation of meals (Lake, Hyland, Mathers, Rugg-Gunn, Wood et al, 2006) which therefore means they have a significant amount of control over what foods the family will consume within the home environment and the habits that will develop.

There is, therefore, a real need to further understand the barriers associated with achieving and maintaining a healthy weight in young women, alongside gaining an in depth

understanding of the current patient experience of weight management programmes aimed at sustained changes to physical activity and eating behaviour to prevent weight regain.

As obesity is associated with deprivation and health inequalities (Marmot, 2010) it is paramount that health psychological research is guided to tackle these unacceptable inequalities and understand how to support those with most need to make healthier life choices improving their health and wellbeing.

Qualitative research is increasingly recognized as an important source of evidence for health psychology and public health, and provides a tool for exploring issues that are not well understood. It remains unclear how or why so few women are successful at weight loss and weight loss maintenance and developing effective, long term programmes that are accessible and affordable remains a challenge.

#### **1.14. Purpose of this study**

This present study aims to explore the phenomena of achieving and maintaining a healthy weight in overweight and obese young women actively seeking support to lose weight. Using a qualitative design to gain insight into the lived experience of these women, to identify where the real barriers and challenges lie along with the enablers and opportunities.

It is intended that this study will inform the development of a theoretical framework for understanding the challenges of achieving and maintaining a healthier weight in overweight and obese young women. Which, in turn, will inform the development of appropriate weight management support.

#### **1.15. Study Rationale**

Current theory and empirical research has failed to demonstrate its impact on the obesity epidemic. No country to date has reversed its obesity epidemic (Roberto, Swinburn, Hawkes,

Huang, Costa et al, 2015). Poston, Caleyachetty, Cnattingius, Corvalan, Uauy, et al (2016) argue that prevention of obesity among young women of reproductive age should be viewed as a global public health priority due to the increased risk of adverse health outcomes for both mother and child.

According to the Health Survey for England, 2013, approximately one in every two people are attempting to lose weight, the majority of which are overweight or obese females (Piernas, Aveyard and Jebb, 2016). This appears to indicate that overweight and obese women are motivated to lose weight but are struggling to achieve or maintain a healthy weight. Understanding the motivational factors and behavioural drivers for achieving a healthier weight in young overweight and obese women, in combination with the perceived and experienced barriers and facilitators to weight loss and weight loss maintenance will help to inform how to design and target support appropriately.

Qualitative research methods can be used to explore the experiences of overweight and obese young women attempting to lose weight. Developing an in-depth understanding of the challenges associated with weight loss and weight loss maintenance in overweight and obese young women, may provide insight to why so few are successful at achieving a healthy weight and sustaining this. This research is needed to identify these influences and drivers of behaviour, along with the opportunities and enablers that can be exploited to support the desired behaviour change, shifting the focus to protective enabling factors, to better inform health policy focused on obesity prevention in women and current practice.

This study aims to generate a new theoretical framework to better understand this social, psychological, economic, environmental and biological phenomena using Grounded Theory. It will explore the lived experience of overweight and obese young women actively seeking support to lose weight and investigate the factors associated with achieving and maintaining a healthier weight.

## **2. METHOD**

### **2.1. Aims of the Study**

The aim of the study is to explore the lived experiences of overweight and obese young women actively seeking support to lose weight to i) better understand the barriers and facilitators to achieving and maintaining a healthy weight as experienced by these young women, ii) further understand the relationships and influences of these factors, to iii) inform and develop a new theoretical framework in which to capture this social phenomena and societal challenge.

### **2.2. Research Questions**

1. To investigate the factors associated with achieving and maintaining a healthy weight in overweight and obese young women (aged 18-35 years).
2. To explore the experiences of overweight and obese young women engaging with a weight management programme
  - Explore participants previous experiences of weight loss including; previous weight management attempts, experience of exercise and or calorie controlled diets, levels of support, and engagement with Primary Care.
  - Explore impact on quality of life, motivation and empowerment.
  - Explore the importance of social support in achieving and maintaining a healthy weight.
  - Explore the development of habitual behaviours not compatible with maintaining a healthy weight including eating behaviour as a means of emotional regulation.

### **2.3. Design**

This research study was designed to be exploratory in nature utilising a qualitative methodology, Grounded Theory (Glaser & Strauss, 1967; Charmaz, 2014). Semi-structured

interviews were conducted with participants actively seeking support to lose weight before they commenced a weight management programme and again after they completed the programme. The interviews were video recorded, transcribed and then analysed using Ground Theory analysis. (Please see Appendix 1 & 2 for the interview schedules).

The study forms the qualitative element of an NIHR funded randomised controlled research trial run by the Wolfson Institute of Preventative Medicine, Queen Mary's University of London 'A peer-support weight action programme to supplement brief advice in general practice' (SWAP). This was designed to compare the effectiveness of one to one individual weight management support with the practice nurse (as per the current best practice in primary care) to an intensive 8 week group based intervention using cognitive behavioural techniques (CBT).

#### **2.4. Rationale**

A qualitative approach was taken as it allows in depth, detailed analysis of a given phenomena. This study is interested in the meanings attributed to events by individuals and how they construct their experiences of reality. Therefore a Grounded Theory approach was taken whereby these instances of phenomena can be interpreted rather than simply labelled. (Fisher, 2004). In order to investigate the aims of the research, an exploratory design guided by the principles of a social constructivist version of Grounded Theory was employed (Charmaz, 1990).

Grounded theory is designed to facilitate the process of 'discovery' through theory generation. Grounded theory methodology was first presented by Glaser and Strauss (1967) in an attempt to return research to the generation of theory. They criticised both qualitative and quantitative research methods for failing to reduce the 'embarrassing' gap between theory and empirical research (Glaser & Strauss, 1967). Their goal was to systematically collect, code and analyse data for the purpose of generating theory. Within this methodological approach, emerging

theory is grounded in the data. This work resulted in the development of two techniques central to grounded theory; theoretical sampling and constant comparison (Cooney, 2010).

However, their disagreement over how prescriptive the data analysis process should be, led Glaser and Strauss to part company in the 1990s and propose differing ways in which Grounded Theory should be practiced and applied. The approach of Grounded Theory has since been further developed by Glaser (1992; 1998; 2001; 2003; 2005), Strauss and Corbin (1990; 1998), Charmaz (1990; 2014), Clarke (2003) and many others. The essence of grounded theory, to derive theory from data systematically gathered and analysed in the research process (Strauss and Corbin, 1998), remains common to all approaches.

## **2.5. Ethical Considerations**

NHS Ethical Approval was sought for this qualitative study through the NHS Health Research Committee as part of the NIHR funded 'SWAP' randomised controlled trial led by the Wolfson Institute of Preventative Medicine. This was necessary as the SWAP trial recruited NHS patients through primary care practices and was testing a peer support weight action programme (intervention arm) to current best practice of brief advice from a practice nurse in general practice (control arm). Approval for the research was received on 28<sup>th</sup> January 2012. (REC reference number 12/LO/0122). After some changes to the protocol, the ethics was resubmitted as these were deemed to be substantial amendments and approval was received on 29<sup>th</sup> June 2012. This documentation along with an application to the City University of London senate research committee was submitted and approval was received to proceed with this study 19<sup>th</sup> September 2012. (Appendix 3)

An honorary contract was arranged with BARTS Health to be part of the research team working in collaboration with Wolfson Institute of Preventative Medicine. As part of this arrangement

the researcher attended a Good Clinical Practice Course to comply with BARTS research policy (9<sup>th</sup> August 2012).

In considering any potential negative impacts on the participants it was important to acknowledge the sensitive nature of this topic. Participants may have been struggling with their weight for many years or their weight may have changed as a result of key life event and as such they may find discussing this arouses an emotional response. There may be issues that participants disclose that they find personally challenging, embarrassing or uncomfortable to talk about. Clear safeguarding protocols were established and procedures were in place for immediate and or appropriate referral of any participant who disclosed an emotional, psychological, or health issue.

Detailed trial information along with a participant information sheet was provided to all eligible participants to allow sufficient time (at least 24 hours) for consideration as to whether they would like to participate. All participants were required to provide written informed consent at the screening session. (Appendix 4). Participants had the opportunity to withdraw at any stage and still remain part of the 'SWAP' research study should they wish.

## **2.6. Participants and Recruitment**

Female participants aged 18-35 years, with a BMI over 30 kg/m<sup>2</sup> or 28 kg/m<sup>2</sup> or over with co-morbidities, actively seeking support to lose weight, were selected using purposive sampling from individuals who had been invited to attend a screening session to participate in the 'SWAP' research study. The initial recruitment started in October 2012 and the final participants were recruited in May 2013. Recruitment took place in two GP practices in two inner London Boroughs (Tower Hamlets and Hackney).

Participants were recruited to the NIHR RCT funded 'SWAP' trial, via referral from their GP practice. Adults, aged 18 years and older, with a BMI of 30 kg/m<sup>2</sup> or over, or BMI of 28 kg/m<sup>2</sup>

or over with co-morbidities were invited to take part in a weight management research programme. They were sent an information sheet and a consent form in the post and were invited to attend a screening session. If participants were eligible to take part and had provide written consent they were provided with an appointment to attend a randomisation session where they would be allocated to either the control or intervention arm.

Intervention arm: Participants receive the Weight Action Programme (see table 1 for outline of treatment) in groups of 10-20 participants weekly for eight weeks and then once a month.

Control arm: Participants receive an initial 20-30 minute weight management intervention from a trained nurse including advice on healthy eating and physical activity. This is then followed by three further sessions over eight weeks. Participants are provided with written materials to support the advice given, and referrals to local exercise programmes.

During the screening session, potentially eligible female participants (aged 18-35 years) were provided with an additional information sheet and consent form outlining the aims of this current study and that it would involve taking part in two semi-structured interviews lasting approximately 30 minutes each. The first taking place before initiation of the weight management programme and the second to take place approximately six months after the planned weight loss attempt.

Participants were recruited in this way as the study was designed to better understand the experience of over-weight and obese women, of child-bearing age, seeking support in their attempt to achieve and maintain a healthier weight. To explore the influential factors that drive over weight and obese females to actively seek support to lose weight, the factors that influence over weight and obese female's perception of their weight and the factors that influence the maintenance of weight loss. This recruitment method provided a sample of women within the inclusion criteria of this study, actively seeking support to lose weight by

signing up to a weight management research programme.

The rolling recruitment process of the weight management research programme, also enabled the potential recruitment of additional participants seeking support to achieve and maintain a healthier weight. This was important due to the use of Grounded Theory, as it provided the opportunity to further explore the emerging categories, refine and clarify relationships between them as part of the theory development.

Figure 1. Flowchart of Participant Journey

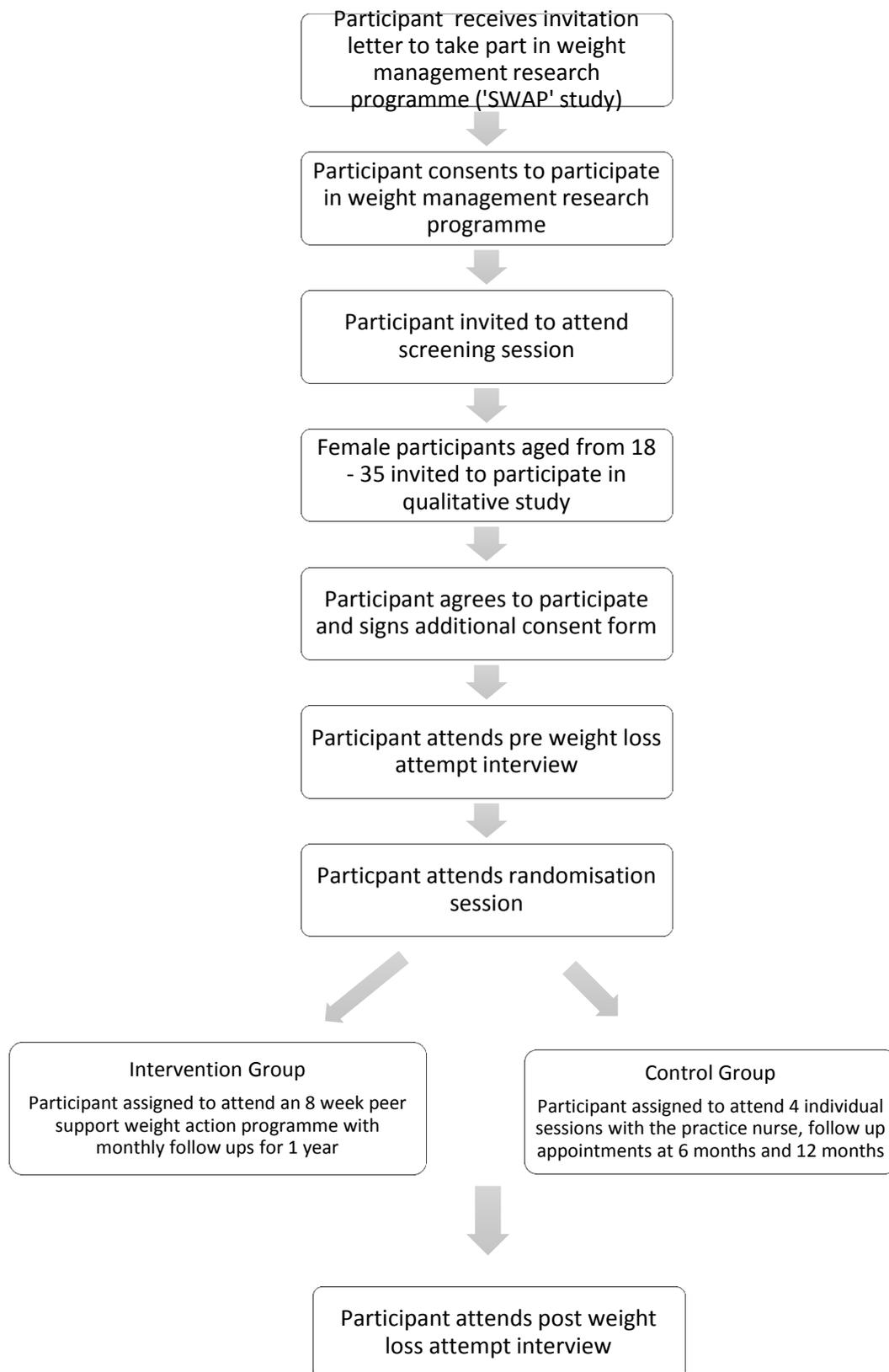
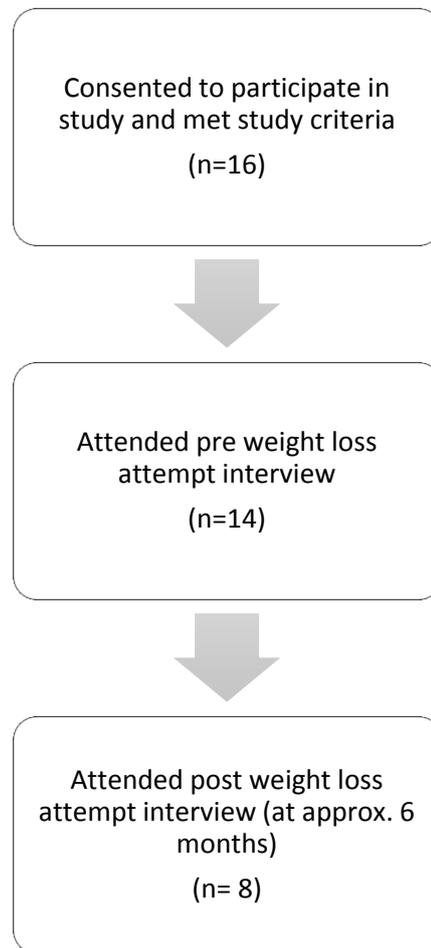


Figure 2. Flowchart of Participant Recruitment



A total of fourteen participants took part in the study from a range of socio-economic backgrounds. Participants' ages ranged from 20 – 35 years with a mean age of 29 years. BMI at screening ranged from 28.9 – 41.8 with a mean BMI 36.7.

Table 1. Details of participants

Participant Number	Ethnicity	Entitlement to free prescriptions	Highest Qualification	Employment status	BMI at screening
1	Black	Yes	Degree or equivalent	In paid employment	38.1
2	Black	Yes	GCSE or equivalent	Full time student	37.1
3	Other – English	Yes	GCSE or equivalent	Looking after the home	43
4	Other – Black British African	No	Degree or equivalent	In paid employment	35
5	White British	No	Degree or equivalent	Other	35.2
6	White British	Yes	GCSE or equivalent	In paid employment	39
7	Black	No	Degree or equivalent	Full time student	34.3
8	Asian	Yes	Degree or equivalent	Looking after the home	31.1
9	White Other	No	Other – PhD	In paid employment	30.7
10	White British	Yes	None	Other	41.8
11	Black	Don't know	GCSE or equivalent	Full time student	38.4
12	Mixed	Yes	Degree or equivalent	Looking after the home	28.9
13	Black	Yes	Degree or equivalent	In paid employment	40.8
14	Black	No	Degree or equivalent	In paid employment	40.8

Table 2. Descriptive statistics of the participants

Participants: n= 14

Ethnicity	Highest Qualification	Employment Status	Entitlement to free prescriptions	BMI
Black – 6 (42.8%)	None – 1 (7.1%)	Looking after the home - 3 (21.4%)	Yes – 8 (57.1%)	25 – 30 = 1 (7.1%)
White British – 3 (21.4%)	GCSE or equiv – 3 (21.4%)	Full time student - 3 (21.4%)	No – 5 (35.7%)	30 – 40 = 9 (64.3%)
Asian – 1 (7.1%)	Degree or Equiv – 8 (57.1%)	In paid Employment - 6 (42.8%)	Don't know – 1 (7.1%)	40+ = 4 (28.6%)
Mixed– 1 (7.1%)	Other – PhD – 1 (7.1%)	Other – 2 (14.2%)		
White – Other - 1 (7.1%)	Other – 1 (7.1%)			
Other – English 1 (7.1%)				
Other – Black British African 1 (7.1%)				

The sample was ethnically diverse with half of the participants reporting their ethnicity as Black, 21.4% White British, 14.3% White other, 7.1% Asian, and 7.1% Mixed.

Both referring practices were located within socioeconomically disadvantaged inner London Boroughs. 57.1% of the sample were entitled to free prescriptions and only 42.8% of the sample were in paid employment.

## 2.7. Inclusion/ Exclusion Criteria

### 2.7.1. Inclusion Criteria

- Female aged 18 - 35 years

- Actively seeking support to lose weight through signing up to a weight management programme
- Have a BMI of 30 kg/m<sup>2</sup> or over, or BMI of 28 kg/m<sup>2</sup> or over with co-morbidities

### **2.7.2. Exclusion criteria**

- BMI over 45
- Lost more than 5% of their body weight in the previous 6 months
- Women who are pregnant
- Clients taking psychiatric medications (these medications can have a significant effect on weight and psychiatric illness also makes follow-up and adherence to long-term programs difficult)
- Clients who are not registered with a GP
- Currently involved in another research project
- Clients who cannot speak or understand English

No further co-morbidities were excluded to ensure the study addressed NHS need and the results are generalisable.

### **2.8. Interviews**

The study used in-depth semi-structured interviews to explore the experiences of achieving and maintaining a healthier weight in young women who were actively seeking support to lose weight by signing up to a weight management programme.

Interviews were conducted in advance of commencing the weight management programme to explore attitudes, beliefs and perceptions about weight and health, previous attempts to lose and regulate weight, along with expectations of engaging with the weight management research programme .

Interviews took place at approximately six months after the completion of the weight management programme. Again, in-depth semi-structured interviews were used to explore the barriers and enablers of participants who successfully maintained a weight loss and participants who regained their weight loss.

The interviews were all conducted by the primary researcher and video recorded for transcribing purposes.

### **3. METHODS II: ANALYSIS**

#### **3.1. Analytic Approach**

A grounded theory approach was chosen for this study which informed both the data collection and analysis. By starting from the data, which represents the lived experience of the research participants, the researcher can, from the beginning, attend to how they construct their worlds. This lived experience shapes the researcher's approach to data collection and analysis.

Charmaz (1990) introduces a social constructivist version of Grounded Theory, which argues that categories and theories do not emerge from the data, but are constructed by the researcher through an interaction with the data. According to this version, the research 'creates an explication, organisation and presentation of the data' rather than discovering order within the data as originally proposed by Glaser and Strauss (1967).

The discovery process consists of discovering the ideas the researcher has about the data after interacting with it (Charmaz, 1990). It is acknowledged that that the researcher's decisions, the questions that are posed of the data, the way the method is approached, as well as the researcher's background (personal, philosophical, theoretical, methodological), will inevitably shape the research process and ultimately the findings. As a result the theory produced constitutes one particular interpretation of the data rather than the only truth. The term theory 'generation' has been substituted for 'discovery' to capture this constructivist element on the process of theory development (Pidgeon & Henwood, 1997).

Throughout the analysis I have acknowledged my influence on the development of the concepts and categories and as such follow Charmaz (1990) in the social constructivist approach. The key assumptions, objectives and implications for data analysis ascribed to are outlined in table 3 below.

Figure 3. Constructivist Grounded Theory, adapted from Charmaz (2007).

<b>Constructivist Grounded Theory</b>
<p><b>Foundational Assumptions</b></p> <ul style="list-style-type: none"> <li>- Assumes multiple realities</li> <li>- Assumes mutual construction of data through interaction</li> <li>- Assumes researcher constructs categories</li> <li>- Views representation of data as problematic, relativistic, situational and partial</li> <li>- Assumes the observer's values, priorities, positions and actions affect views</li> </ul>
<p><b>Objectives</b></p> <ul style="list-style-type: none"> <li>- Views generalisations as partial. Conditional, and situated in time, space, positions, action and interactions</li> <li>- Aims for interpretive understanding of historically situated data</li> <li>- Specifies range of variation</li> <li>- Aims to create theory that has credibility, originality, resonance and usefulness.</li> </ul>
<p><b>Implications for Data Analysis</b></p> <ul style="list-style-type: none"> <li>- Acknowledges subjectivities throughout the data analysis</li> <li>- View co-constructed data as beginning the analytic direction</li> <li>- Engages in reflexivity throughout the research process</li> <li>- Seeks and re- represents participants' views and voices as integral to the analysis.</li> </ul>

### 3.2. Rationale

A constructivist grounded theory approach was chosen for this study as it allows for in-depth exploration of the social and contextual influences on the participants experiences and

attempts to remain truly grounded within the data. This study is interested in the social processes as well as the participants lived experience, therefore adopting this approach allows the researcher to capture the lived experience of participants and to explain this within the context of the wider social processes and their consequences to better understand this biopsychosocial phenomena. Grounded theory is designed to facilitate the process of 'discovery' through theory generation. This study seeks to interpret the lived experience of overweight and obese young women to develop a theoretical framework of understanding rather than merely label or describe categories or themes as other qualitative approaches allow (for example Thematic Analysis).

Within this approach the researcher uses the emerging theoretical categories to shape the data collection as well as to structure the analytic process of coding, memo making, integrating and writing the developing theory. The categories are examined for power, purpose and patterns (Charmaz, 2014)

The 'groundedness' comes from the researcher's commitment to analyse what they actually observe from the data. This approach allows the researcher to create theoretical categories from the data and analyse relationships between the key categories with the aim to construct theory.

### **3.3. Application of Grounded Theory**

#### **3.3.1. Constant comparative analysis**

Grounded theory is unlike most other research methods as it merges the processes of data collection and analysis. The researcher moves back and forth between the data collection and analysis in an attempt to 'ground' the analysis in the data. The aim of this is to reach 'theoretical saturation'. (Willig, 2006). There is no formal procedure, which if followed correctly will lead from the formulation of the research question through data collection to

analysis. Therefore the researcher is required to continually review the earlier stages of the research and if necessary make changes to the direction. The research question becomes progressively focused throughout the research process.

Themes addressed through the initial semi-structured interviews included diet, physical activity and previous attempts at weight loss. After gathering and exploring the initial data, the interviews shifted direction slightly to include the role of emotion, sense of self, perceived control, meanings of healthy weight, and ways of incorporating lifestyle changes.

### **3.3.2. Memo writing**

Memo writing is an incredibly important part of the process bringing together the constant comparative nature of data collection and data analysis and is the written record of the theory development. This includes the category definitions and the justification for the labels chosen to reflect them. Then mapping the emergent relationships and keeping a record of the progressive integration of higher and lower level categories. This provides opportunity for reflection and re-consideration of the initial research question posed.

### **3.4. Transcription**

The researcher transcribed the initial interviews verbatim and subsequently sought support from transcription services to transcribe the latter interview transcripts due to time constraints. Participants were numbered P1 – P14 and all transcripts were ascribed accordingly to ensure confidentiality and retain anonymity of the participants.

Transcription took place immediately after the interviews were conducted along with revisiting memos noted during and after the interview process to explore initial ideas and emerging categories.

### **3.5. Data Analysis**

Throughout the analysis the transcripts were repeatedly read and re-read to keep as 'grounded in' the data as possible. Grounded theory uses coding to link the data with the development of an emergent theory to explain the data (Charmaz, 2014a). Coding is used to define what is happening in the data and what it means through developing an integration of generalisable theoretical statements and contextual analyses of actions and events.

Conducting grounded theory coding involves at least two main phases;

1. Initial coding – involving naming each word, line or segment of the data follow by;
2. A focused, selective phase that uses the most significant and frequent initial codes to sort, synthesis, integrate and organise the data.

This analysis followed an iterative process through three main stages;

1. Open coding – line by line - this was to identify the initial codes
2. Focused coding & Axial coding – to interconnect the initial codes identifying relationships and or shared meanings to facilitate higher level analysis and more sub categories to emerge
3. Theoretical Coding/ Selective Coding – identifying the core categories and establishing a theoretical framework.

#### **3.5.1. Identifying Initial codes through Line by line Open Coding**

Line by line coding was conducted initially to identify categories which were labelled descriptively. This method was chosen as the smaller the unit of analysis at this stage the more categories emerge and the researcher is able to stay close to the data rather than move into the realms of interpretation too quickly. Line by line analysis ensures that the

analysis is truly grounded and that higher level categories, and later theoretical formulations, actually 'emerge' from the data, rather than being imposed upon it. By coding larger chunks of text attention is drawn to more salient descriptions and it is possible to miss less obvious, possibly as equally important, instances of categories.

Codes at this stage try to stay as close to the language used by the participants which grounded theorists refer to as 'in vivo' codes. The aim is to uncover their true meaning from the participant and understand and how the participants construct and act upon these meanings (Charmaz, 2014b).

These initial codes ground the work in an analytic direction.

### **3.5.2. Focused Coding**

At this stage codes that appear more frequently among the initial codes or appear to have more significance are identified. Decisions are made about what codes make the most analytic sense to categorise the data appropriately. The aim of focused coding is to advance the theoretical direction of the analysis. These codes are often more conceptual than the initial 'in vivo' codes. It requires constant comparison with the initial codes to seek the 'real' meaning whilst reviewing any relevant memos. These focused codes help to organise the data, manage and frame the emerging analysis.

### **3.5.3. Axial Coding – Emerging Interconnecting Categories**

Axial Coding aims to link categories with subcategories and answer the 'why, where, when and how' questions through the use of a coding paradigm. Strauss and Corbin (1990) established a formal procedure for axial coding, however, an emergent application of this approach was used as part of the focused coding process as endorsed by Charmaz (2014b). This is because the strict process of axial coding can in many ways hinder the progression of the analysis and emergence of key relationships.

### **3.5.4. Selective Coding/ Theoretical Coding – Identifying core categories**

Theoretical codes not only conceptualise how the substantive codes are related (Glaser, 1978) but aim to move the analysis in a theoretical direction. Theoretical codes aim to help specify possible relationships between categories that have emerged from focused coding. The aim is to reach theoretical sensitivity whereby the researcher is able to 'understand and define phenomena in abstract terms and to demonstrate abstract relationships between the studied phenomena' (Charmaz, 2014c).

### **3.5.5. Scrutinizing categories**

Grounded theory prompts making connections within and between categories as an inherent part of the analytic process. Categories are examined for 'power, purpose and patterns' (Charmaz, 2014d). Constantly revisiting the data and initial codes, comparing within and between these codes helps to ensure the categories are accurately representing the meaning and experience of the participant and therefore 'grounded' within the data. The emergent categories explain and conceptualise the data, the common sense understandings of these data and where feasible other theoretical interpretations.

### **3.5.6. Theoretical Sampling and Saturation**

Theoretical sampling refers to seeking and collecting data to elaborate and refine categories in the emerging theory. Theoretical sampling is a systematic process of theoretical elaboration and refinement to develop properties of the categories until no new properties emerge. At this point theoretical saturation is achieved by 'saturating' the categories with data helping to develop the emerging theory. This process distinguishes grounded theory from other types of qualitative methods of research.

Using semi-structured interviews allowed for refinement and refocus of the interview questions as the categories emerged during memo writing and the analysis. Due to the

rolling recruitment process of the weight management research programme, it was possible to recruit additional participants seeking support to achieve and maintain a healthier weight to further explore the emerging categories and clarify relationships between them. Follow up interviews also took place with the participants after completion of the weight management programme.

### **3.6. Reflexivity**

The debate as to whether categories can truly 'emerge' from the data or are 'constructed' by the researcher, require the researcher to demonstrate reflexivity throughout the whole process of applying grounded theory.

Dey (1999) has questioned whether categorisations constructed by the researcher in grounded theory can ever capture the essence of a concept entirely. As it is one constructed interpretation of the data, it is crucial that the researcher is aware of this and is conscious and reflective about their own experiences, beliefs and ideas that may influence the interpretation.

It is therefore necessary for researchers to be transparent and own their perspective (Elliott, Fischer, & Rennie, 1999). In this study, the primary researcher is a 29 year old white British female who developed an interest in this research topic from both a personal and professional capacity. The researcher has personal experience of being obese and struggling with weight loss most of her life. Approximately four years ago the researcher embarked on a weight loss journey and achieved a significant weight loss through significant changes to diet and exercise. The researcher also has professional experience of working in public health delivering and developing components of a group based weight management intervention.

Acknowledging the preconceptions and assumptions we bring as researchers to the design, implementation and analysis is of paramount importance as this can inadvertently guide the interpretation and analysis away from the data.

Whilst this research is interested in the social processes (objectivist approach) it is focused on participant's experiences (subjectivist approach). The research therefore attempts to capture the lived experience of participants and to explain this within the context of the wider social processes, and their consequences, in order to gain an understanding of this bio-psycho-social phenomena. Therefore I believe I have appropriately adopted a social constructivist approach in the version of Grounded Theory I have conducted.

## **4. RESULTS**

### **4.1. Overview**

This chapter is divided into three sections; the first provides a summary of the participants, the second provides the theoretical findings and data analysis from the pre and post weight loss interviews, and the final section presents a new grounded theory model.

### **4.2. Section I**

This section presents an overview of the participants. This includes the weight management intervention they attended (either four one to one sessions with a practice nurse or eight weekly group sessions with monthly follow up sessions), attendance at the intervention, details of the pre and post weight loss attempt interviews and the results of their BMI at baseline, end of the intervention and at 6 and 12 months post-intervention.

#### **4.2.1. Description of the Participants**

14 participants were recruited opportunistically through attendance at a screening session for a peer-support weight action programme to supplement brief advice in general practice (SWAP study), which took place in two GP practices in two inner London Boroughs.

#### **4.2.2. Interviews**

In total 25 in-depth semi-structured interviews were conducted including; 3 pilot interviews, 14 pre weight loss attempt interviews, and 8 post weight loss attempt follow-up interviews, conducted at approximately six months post weight loss attempt.

Three participants took part in pilot interviews to trial the feasibility and acceptability of the questionnaire schedule developed in addition to the practicalities of conducting the interviews. This data was not included in the study as the participants were aged over 35 years of age.

Two additional participants consented to take part, however subsequently did not attend their interview appointment. One was lost to follow up and one did not want the interview to be recorded.

The average pre weight loss interview lasted 26 minutes (range 15 – 50 minutes) and the average post weight loss attempt 6-month follow up interview lasted 32 minutes (range 19 minutes – 44 minutes).

### **4.2.3. Intervention**

Of the 14 participants that attended the pre weight loss interview, 11 completed the weight management programme and three dropped out (one participant subsequently left the programme as she became pregnant - P8). Of those that completed the programme two participants were assigned to the control group which comprised of four one to one sessions with the practice nurse over 8 weeks, and nine were assigned to the SWAP eight-week group based intervention. Of these eleven participants, ten attended their end of intervention weigh-in, eight attended their six month follow up appointment and six subsequently attended their 12-month follow up appointment.

At the end of the intervention eight participants (P1, P2, P4, P5, P9, P10, P11 & P14) had lost weight, with an average weight loss of 1.15kg from baseline (with a range from 0.4kg to 2kg). One participant (P12) had gained weight slightly (0.2kg), and one participant (P13) returned to their baseline weight. Of the eight participants that attended their follow up 6-month appointment, six had a weight loss from baseline (P2, P8, P9, P11, P12 & P14), with an average weight loss of 1.18kg (with a range from 0.1kg to 3.9kg), one had gained weight (P4 – 0.4kg), and one had returned to their baseline weight (P5). Six participants attended the 12-month follow-up and of these, three (P2, P11 & P14) had maintained a weight loss, with an average weight loss from baseline of 1.6kg (with a range from 1kg – 2.1kg), two had

gained weight (P4 & P12) with an average weight gain of 1.3kg from baseline (range 1 – 1.6kg), and one remained at their baseline weight (P5).

Of the eight participants who attended their post-weight loss attempt interview at six months (P1, P2, P4, P5, P8, P11, P13 & P14) six participants (P1, P2, P4, P5, P11 & P14) had lost weight at the end of the intervention, one remained the same weight (P13), and one did not attend (P8). Four of the participants had lost weight at their follow up six-month appointment from baseline (P2, P8, P11 and P14). Of these only two participants had maintained a weight loss at six months (P8 & P11). Four participants (P2, P4, P5 and P14) had lost and regained weight. Five participants (P2, P4, P5, P11, & P14) attended the 12 month follow up of which three had maintained a weight loss (P2, P11 & P14) and two participants (P4 & P5) who had initially lost weight at the end of the intervention regained weight by the six and 12 month follow ups. P8 left the programme due to finding out she was pregnant and P9 relocated to Wales and as such it was not possible to obtain a verified weight measurement.

Table 4. Details of participants BMI at screening, end of intervention, 6 and 12 month follow up.

Participant	Intervention	BMI at screening (Baseline)	BMI end of intervention	BMI at 6 month follow up	BMI at 1 year follow up	Post Intervention Interview at 6 months
1	Group	38.1	36.9 (1.2kg loss)	DNA	DNA	Attended
2	Group	37.1	36.6 (0.5kg loss)	37 (0.1kg loss)	36.1 (1kg loss)	Attended
3	Nurse	43	Dropped out	Dropped out	Dropped out	Lost to follow up
4	Group	35	34 (1kg loss)	35.4 (gained 0.4kg)	36 (gained 1 kg)	Attended
5	Group	35.2	34.8 (0.4kg loss)	35.2 (same as baseline)	35.2 (same as baseline)	Attended
6	Group	39	Dropped out	Dropped out	Dropped out	Lost to follow up
7	Not randomised	34.3	Dropped out	Dropped out	Dropped out	Lost to follow up
8	Group	31.1	DNA	30.8 (0.3kg loss)	Left the programme	Attended
9	Group	30.7	28.7	26.8	Relocated	Relocated

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			(2kg loss)	(3.9kg loss)		
10	Group	41.8	39.8	DNA	DNA	Lost to follow up
			(2kg loss)			
11	Nurse	38.4	37.4	36.4	36.3	Attended
			(1kg loss)	(2kg loss)	(2.1kg loss)	
12	Group	28.9	29.1	28.3	30.5	Lost to follow up
			(0.2kg gain)	(0.6 loss)	(1.6 gain)	
13	Group	40.8	40.8	DNA	DNA	Attended
			(same as baseline)			
14	Nurse	40.8	39.9	40.6	39	Attended
			(0.9kg loss)	(0.2kg loss)	(1.8kg loss)	

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## **RESULTS**

### **4.3. Section II Analysis of the Pre and Post Weight Loss Attempt Interviews**

#### **4.3.1. Overview**

This section presents the overarching findings from the grounded theory analysis of the data collected from the 14 interviews that took place with overweight and obese women before their weight loss attempt and a subsequent eight interviews that took place after the weight loss attempt. The categories that emerged from the data using grounded theory analysis are presented and provide an explanatory framework of young overweight and obese female's perceptions of their attempt to lose weight and maintain weight loss. The findings are framed around the challenge of achieving and maintaining a healthy weight in young overweight and obese women.

The interviews that took place prior to the weight loss attempt focused on female's perceptions of their weight and the factors that influence their decision to seek support for weight loss. The post weight loss attempt interviews focused on their perception of their weight loss attempt and maintenance of weight loss.

The categories are discussed in turn with corresponding sub categories and underlying concepts before the final Grounded Theory Model 'Emotion and Mindset' is presented in Section III. The purpose of the final model is to present the relationships between the processes, actions and beliefs as an interactive system through a graphical representation which helps to further understand this phenomena.

#### **4.3.2. Data Analysis of Interviews**

The findings that emerged from the interview data are presented using a hierarchical index 'tree' showing the core categories and corresponding sub categories (Figure 1). These core categories were derived from semi-structured interviews that took place with participants

actively seeking support to lose weight (after attending eligibility screening to take part in a weight management programme), and after their weight loss attempt (either completion of an 8 week group weight management programme or four one to one sessions with the general practice nurse) and are informed by their respective sub categories and concepts. It includes the factors identified that contribute to the challenge of weight loss and weight maintenance in overweight and obese young women, along with the facilitators and barriers.

As the process of data collection and analysis are entwined within the Grounded Theory approach involving constant comparison, amendments were made to the both the semi-structured interview schedules and the emerging categorisation of the findings as directed by the data. The writing of memos helped to refine and develop the categories always referring back to the data until theoretical saturation was achieved, when the data was no longer adding anything further to the concepts and categories that were emerging.

In line with social constructivism (Charmaz, 2006) the data was analysed in relation to the social and contextual culture of the participant and acknowledged the researchers experience and perspective through the process of constant reflexivity.

All participants were on a continued weight loss journey. They had all attempted to lose weight in the past and were now actively seeking support to lose weight. After completing this most recent weight loss attempt (with either the support of a weekly group intervention or individual sessions with a practice nurse), irrespective of whether they had lost and maintained the weight loss, they were still classified as over-weight or obese and had not achieved a 'healthy weight'. The analysis of the interview data from the pre and post weight loss attempts was drawn together to explain the real challenge of achieving and maintaining a healthy weight. Direct quotes from the interviews have been

incorporated to add further clarity and context to the ascribed categories and to allow for scrutiny of the analysis by the reader.

#### **4.3.3. The Overarching Theoretical Framework**

##### **Finding the Health Enhancing Equilibrium; maintaining a valued sense of self**

The central concept that emerged from the data analysis was *Finding the Health Enhancing Equilibrium; maintaining a valued sense of self while generating action to achieve and maintain a healthy weight*. This describes the balancing act required to maintain a valued sense of self and engage in sustainable positive health behaviour change which contributes to achieving and maintaining a healthy weight.

All participants' narratives generated four conceptually linked categories; **'Sense of Self'**, **'Emotion and Mindset'**, **'Self Efficacy'** and **'Stress and Conflicting Priorities'** which led to the concept of **'Finding the Health Enhancing Equilibrium – Maintaining a positive sense of self while generating action'**. Emotion and mindset are central to the theoretical framework as they influence all the core categories.

The Complete Hierarchical Index System to explain the challenge of achieving and maintaining a healthy weight in overweight and obese young women.

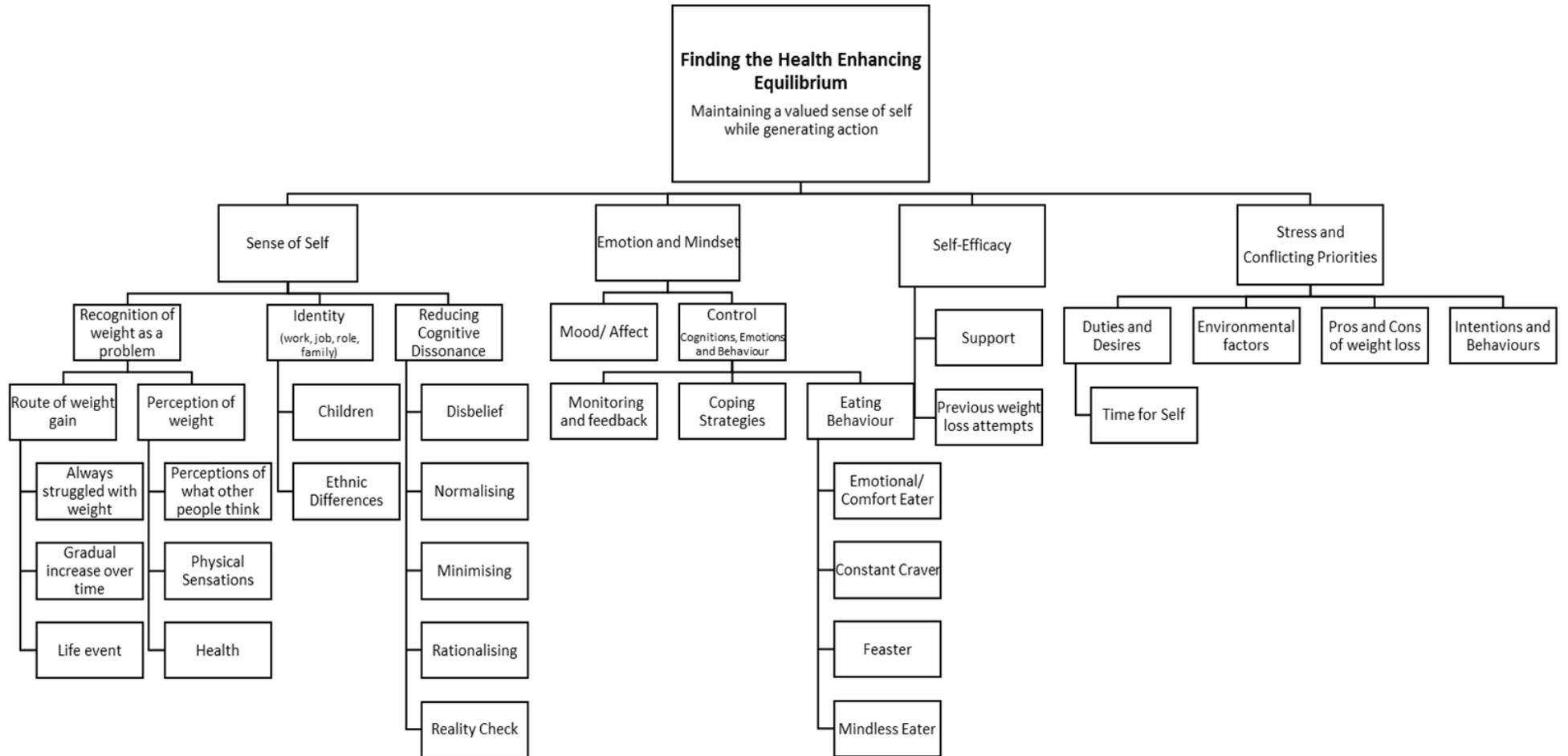


Figure 4 The complete hierarchical index system derived from the Pre and Post Weight Loss Attempt Interviews.

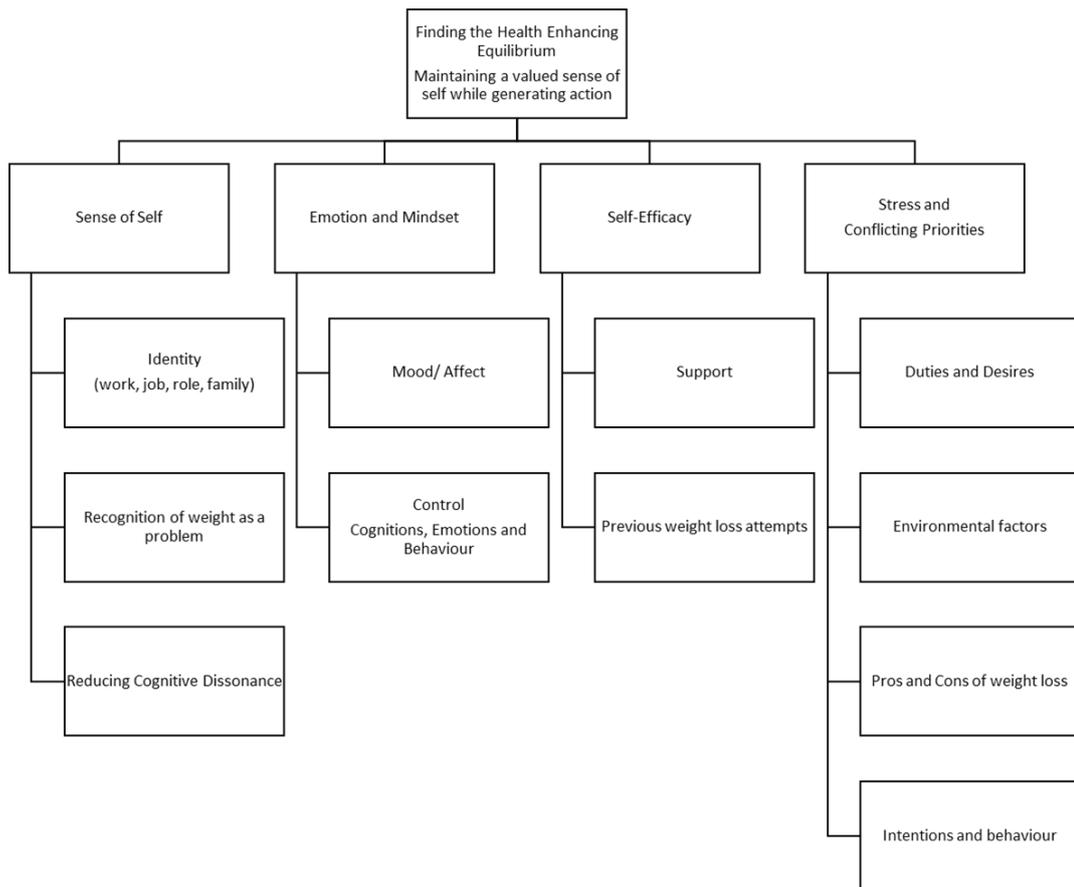


Figure 5. The Overarching Theoretical Framework showing the core and sub categories which help explain the challenge of achieving and maintaining a healthy weight derived from both the pre and post weight loss attempt interviews.

#### 4.3.4. Sense of Self

Maintaining a valued sense of self emerged from both datasets and was informed by *recognition of weight as a problem* and one's *identity*. There were a number of different processes identified as employed to reduce *cognitive dissonance* (inconsistency between attitudes or behaviours) associated with perception of weight and sense of self.

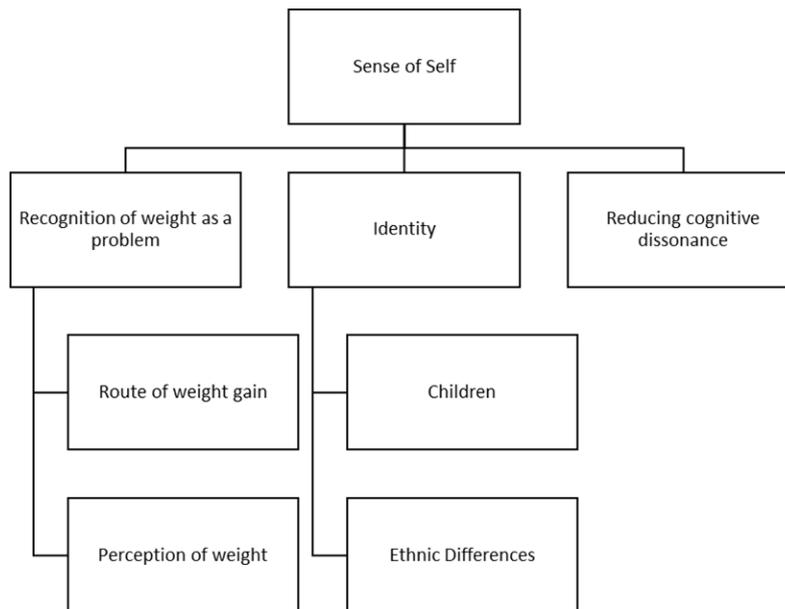


Figure 6. Shows sub categories and concepts that inform the over-arching core category 'sense of self'.

#### 4.3.4.1. Recognition of weight as a problem

Recognising weight as a problem emerged in the pre weight loss interviews and was central to these young women acknowledging they wanted this to change.

Recognising weight as a problem was informed by participants' *route of weight gain*, *perception of their physical appearance*, *physical sensations* and *health*. A process of 'negotiating' the effects of recognising weight as a problem was also identified in an attempt to maintain a positive sense of self.

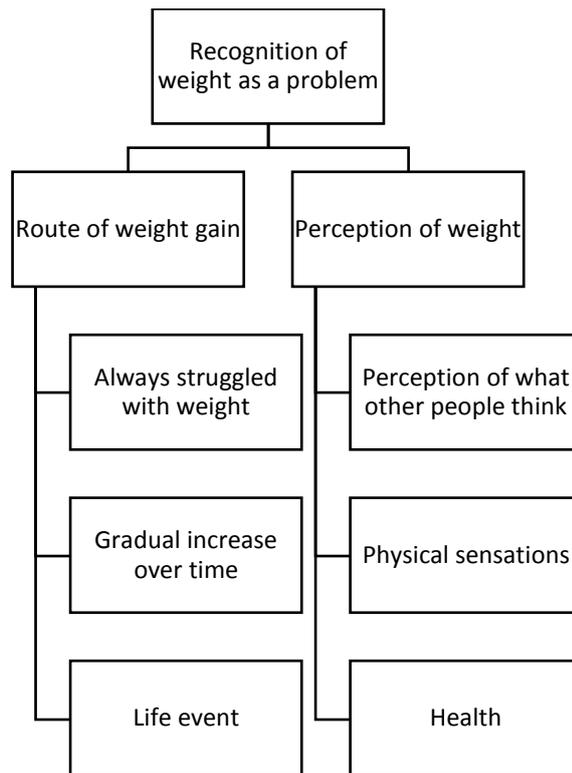


Figure 7. Shows the concepts that inform the sub category ‘recognition of weight as a problem’.

#### 4.3.4.1.1. Route of Weight Gain

Route of weight gain emerged as participants sought to explain why they were seeking support to lose weight now. Participant’s narratives either centred on how they had ***always struggled with weight***, that there had been a ***gradual increase over time*** or for others the weight gain was attributed to a specific ***life event***, which included *health issues* and *pregnancy*.

##### ***Always struggled with weight***

For participants that identified with a life-long struggle with weight, they recall this either started in childhood, as they have struggled with their weight for as long as they can remember, or adolescence when their body went through physiological changes or they stopped being as active as they had been as a child.

P13 *"I've been overweight I think since I started puberty. My weight has been up and down throughout the years".*

### **Gradual increase over time**

Others acknowledged that there had been a cumulative effect of weight gain over time due to regularly over consuming food unintentionally, which resulted in a sudden realisation that they were 'bigger' than they would like to be.

P6: *"I'd just be sitting at home and then my mum would be just buying loads of stuff and the next thing you know the weight's just piling on and you just don't realise it".*

### **Life Event**

Others identified with a specific life event, which resulted in significant weight gain.

For participant 12, an episode of ill health was the trigger point for putting on weight. The illness caused a huge amount of confusion for her due to the symptoms and challenges with diagnosis. She attributed her rapid weight gain to her body not working as it should.

P12 *"...I couldn't afford much food but all of a sudden I just, you know, just inside wasn't working properly or wasn't working regularly at all, and I just ballooned from size 8 to a size 20. I just completely ballooned."*

Many participants identified with their weight becoming problematic after pregnancy and having children.

P2 *"I was fine with my weight before I had children. I could eat anything I want without putting weight on but when I started having children it all changed".*

P6 *"...not long had one [a baby] so umm so I managed to put on quite a bit of weight during pregnancy".*

One participant recalled the moment the anaesthetist made reference to her weight as she was trying to administer an epidural during her labour;

P13 *"I had a horrible experience when I was giving birth to my daughter and the woman was trying to get the needle, the epidural needle in my back... because I'm a bigger person she was like oh I don't know if you know your weight, sometimes it could be difficult to get to the right place".*

From the data there appeared to be an arbitrary point around the time of transition from adolescence to young adulthood where weight gain became more problematic as weight loss became more difficult. However, there was not a clear time point when this happens.

P4 *"I'd lose weight quickly but now those kind of things I used to do when I was younger it's not really working any more so it's a little bit more difficult to lose the weight".*

These explanations of weight formed the underpinning of acknowledging the current weight challenge.

#### **4.3.4.1.2. Perception of Weight**

*Perception of weight* was a concept that was identified as part of the *recognition of weight as a problem* which contributed to the over-arching category of *sense of self*. Being overweight or obese was considered a barrier to leading a 'normal' life.

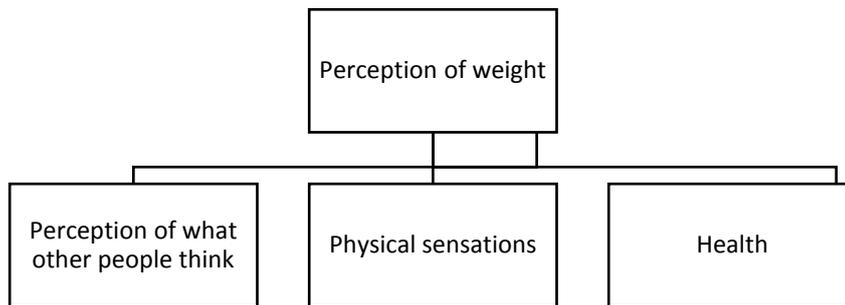


Figure 8. Shows the concepts that inform the participants ‘perception of weight’.

A number of participants discussed their weight as a barrier to developing or sustaining romantic relationships.

P13 pre *“I think back then I kinda felt that no-one really liked me, especially with boyfriends and stuff like that, I kinda felt like my weight was in the way”.*

Participant 8 spoke of her worries about her partner leaving her due to her weight;

P8 *“...and then I kind of think oh I’m fat so maybe my partner will split up with me because I’m fat which is horrible.”*

### ***Perception of what other people think***

The concern about other people’s perception of their weight was common across participant’s narratives. *‘What other people think of me matters to me’* was a common concept.

P5 *“I’ve been very unhappy in the past with my weight and how your weight can affect how you feel about yourself and how you view other things as well, and you become kind of strange like ok that person’s definitely judging me because you’re the fattest person in this room.”*

This included the perceived perception strangers, friends and family had of their weight and a feeling of being 'judged'.

*P7 "...you'll be sat on the tube and someone is staring at you, you don't know why they're staring at you. But in my head I somehow convince myself that it's because I'm big".*

*P13 "...even when you've got friends and family you know they judge".*

*P8 "I really don't feel comfortable with myself and I see all these skinny mums and don't really want to be around them. Even though it will benefit my daughter, I just don't really wanna be viewed as how I would be. As someone who's bigger. I'm not as judgemental as I used to be but I think people are thinking about me how I used to think about them".*

The concern about other's perception of their weight had an impact on how participants engaged in daily life activities, which affected not only the individual concerned but also their children.

*P3 "...at fun fairs I'm always frightened I'm not gonna be able to get on the rides, you're too big to get on you know... On the plane and the seatbelt don't fit. It nearly happened last time but it didn't thank God. I just got it round. ..You know I think I would be mortified it that didn't go around".*

Participant 8 described how 'other's perception of me' as a barrier to engaging in physical activity in front of other people;

*P8 "I hate working out because if there's other people in the gym then I won't go there. It's just a small gym but I don't, literally if I get there and see someone in the gym I won't go in because I don't like working out in front of people because they're all slim people at the gym '...' and I*

*know they probably started somewhere but I just don't want to be the fat person on the treadmill".*

Interestingly, most participants stated that even though they felt self-conscious and were concerned what others thought, they also felt that it should not matter.

*P5 "so when you're down about your weight you feel down about yourself and you don't feel secure and you feel that you haven't got much confidence..."*

Many participants discussed trying to hide or cover up parts of their body with clothes so people wouldn't see what their body really looked like.

*P14 Pre "It's like, ahh, must hide the stomach you know, ahh that's gonna show me arms, no, can my arms even go through...no. So that's how it is. It does, it can bring me down".*

*P1 Post "not having to look at bits and say ok this is sticking out, that is sticking out, how can you hide this and how can you hide that".*

These concerns had a negative impact on how these overweight and obese women viewed themselves and reportedly had a negative impact on their self-confidence and self-esteem.

### ***Physical sensations***

Acknowledging negative physical sensations associated with excess weight influenced the participants' perception of their own weight and acknowledgement of weight as a problem.

*P8 pre "If I didn't shake when I walked I'd be happy. Literally that would be it. If I didn't shake when I walked and if I didn't feel myself with every walk then I'd be happy".*

A further participant talked about noticeable changes to the tightness of her skin following weight loss.

P4 Pre *"...even though I was big it was all sort of tighter but now it's not the same"*.

The desire to lose weight around the abdominal area was commonly reported.

P8 *"If my daughter didn't think my belly was my bum then that would probably be nice"*.

### **Health**

There was a clear understanding of the negative health implications of being overweight and obese. There was a strong indication from participants that they were fearful of developing an associated health condition, specifically diabetes and also dying prematurely. However, health problems were very much seen as future issues.

P14 pre *"I don't want diabetes. I really do not want diabetes. This is my dread"*.

P14 *"...if you don't control your PCOS by the time you're 40 you're more likely to have a serious heart condition, don't want that. I really don't. I don't want diabetes. I don't want anything that's lasting"*.

Some participants believed that losing weight would help with physical health problems they were currently experiencing.

P13 *"following the birth of my daughter I had lots of back pain and stuff like that and the doctor was saying basically that maybe if I did lose weight it might help relieve my back pain.*

*So for me it would be to help my back"*.

There was also a clear concern from the narratives around having to restrict one's lifestyle and on becoming dependent upon others.

P12 pre *"...we were riding our bikes and I saw this man, he was an old man, grey hair grey beard and he was walking. He had this walking gear on and we took our bikes '...' we were tired, '...' we had cycled miles, we turned round and he was there and we were like how? We*

*were on bikes! That is how I want to be and if that's what I want to be I need to look after my health".*

The desire to be able to have children was very important for the majority of participants and acted as a motivator for weight loss.

*P4 pre "I'm just thinking I'm getting older and I would like to have children. Umm I'm not married yet but I would like to have children and I just thinking because it's a bit sort of later for me umm I just want my body to be at its most optimum in terms of... and I just I wanna be healthy you know".*

Participants acknowledged the negative impact of being over-weight or obese on conception, and during pregnancy.

*P7 pre "I do wanna have a family and I don't want any complications because of my weight".*

*P14 pre "I wanna try to conceive in a couple of years... So if I can get my weight under control then I don't have to battle it then. When I'm ready to conceive I can just do it when it's under control. If my periods return back to normal... I'd actually like... this is weird for me I'd actually like to have a normal menstrual cycle. I haven't had one in years".*

There appeared to be a process of negotiating the effects of weight on sense of self as participants spoke of their desire to lose weight recognising their weight as a problem, yet were also attempting to maintain a positive and valued sense of self.

#### **4.3.4.2. Identity**

The results demonstrate that having and maintaining a strong sense of identity was important to overweight and obese young women and that this was regarded as something that might

change once weight loss had been achieved. Identity was linked to the participant's association with their work, job and or family role.

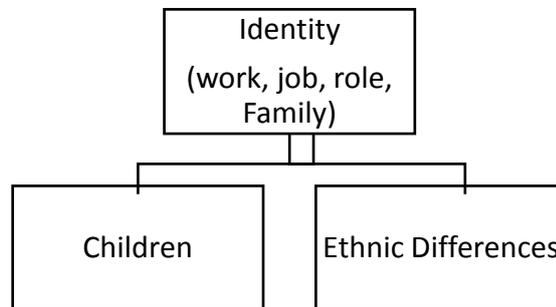


Figure 9. Shows the concepts that inform the participants 'identity'.

It was clear that being classified as overweight or obese was associated with negative connotations and had a negative impact on one's sense of identity. The participants were keen not to remain in that category. There were also concerns that significant weight loss may also have a negative impact on identity as they would be a 'different' person physically.

Despite weight loss many women remained in the obese category.

*P5 post "... for me to know that I'm clinically obese is terrifying. It's horrible. All the massive media reports about obese people I'm like oh my gosh that goes for me as well. I'm a statistic, I'm in that category and it freaks me out. It's really horrible. So getting out of that BMI category would be a massive success".*

The concepts of *children* and *ethnic differences* all emerged as contributing to one's identity.

#### **4.3.4.2.1. Children**

For the majority of the participants children formed a fundamental part of their identity. There was a common narrative among parents that they didn't want their children to be overweight or obese, to develop an 'unhealthy' relationship with food or have the same struggles they

have encountered. Ensuring their children had good diets and did not become obese was very important. The need to be seen as a good role model as a parent for children was highly prevalent across the participants accounts.

P13 *"... the last thing I want is for my daughter to grow up and be overweight like I was when I was, you know. I don't want her to be picked on at school '...' I don't want her to be eating the wrong things and to be overweight as an adult, child or adult".*

Instilling good eating behaviours and patterns in children was seen as a necessity of being a good parent.

P1 *"And it's just being a good role model for the children as well. Like I say to the children you can't eat that and they're like but you eat it. My daughter she's 12 and like oh but you eat it mummy so why can't I eat it."*

P8 Pre *"I'm the opposite from my daughter because she has never had any chocolate. She's 3. She had her first piece of cake last week, a little bit. So I'm completely the opposite with her."*

For those that were not already parents, there was an importance of being able to having children in the future. The need to be a healthier weight to conceive and have a healthy pregnancy but also to be a good role model was prevalent. The notion of one's own mortality was also raised and wanting to be around to see children grown up and not have weight-related health issues.

P14 *"Hopefully if I get down to a certain level where I can have kids, might have two kids... I need to ask him (GP) if I can go on the IVF. It takes about 2 to 3 years so I've just turned 31 on Friday I'll be like 34, 35 before we start after that it drops '...' I have to lose, my BMI has to be a certain, if I go now for IVF there're gonna say your BMI is too high."*

A strong desire to have the opportunity to have children was apparent in participants that had not yet had children.

*P4 "I'm just thinking I'm getting older and I would like to have children. Umm I'm not married yet but I would like to have children and I just thinking because it's a bit sort of later for me umm I just want my body to be at its most optimum in terms of... and I just I wanna be healthy you know".*

Weight was identified as a potential barrier to conception and experiencing potential issues during pregnancy.

*P7 "I do wanna have a family and I don't want any complications because of my weight".*

One participant mentioned irregularities of her menstrual cycle, which she attributed to her weight.

*P14 I wanna try to conceive in a couple of years... So if I can get my weight under control then I don't have to battle it then. When I'm ready to conceive I can just do it when it's under control. If my periods return back to normal... I'd actually like... this is weird for me I'd actually like to have a normal menstrual cycle. I haven't had one in years".*

#### **4.3.4.2.2. Ethnic Differences**

Cultural and ethnic differences in families around eating behaviour, diet and body shape were prevalent. These were identified as issues by some participants in regards to weight loss.

One participant spoke of wanting to lose weight but knowing that her husband liked her the size that she is.

*P7 Pre "He actually likes me the way I am but I don't care I still want to lose weight".*

Participant 14 talks about the abundance of food at social gatherings and that this is the norm in her culture.

*P 14 "...they celebrate for anything really and there's always food"*

Many weight management programmes including elements of reducing calorie intake and reviewing food labels for fat, sugar and salt content. This was raised as an issue for some traditional ethnic foods and cooking practices.

*P14 "when I cook my food I cook my traditional food and it's like... it's different... there's nothing on the packaging if you buy it literally says what it is it says what's in it and there's no calories there's no energy killer watts there's nothing like that. So it's not like I can sit down or zap it on my iphone and say what, there's nothing."*

It was felt that current dietary advice might not be culturally appropriate or relevant to individuals that require support and advice on healthy eating.

*P14 "This is the problem you have more black and ethnic minority people that are overweight and suffering from things, and that's because the material that is being produced is not culturally sensitive to what they need."*

#### **4.3.4.3. Reducing Cognitive Dissonance**

To maintain a positive sense of self and identity, it appeared there were a number of different strategies identified as employed by the participants to reduce cognitive dissonance associated with their perception of their weight and sense of self. These included disbelief, normalising,

minimisation, rationalisation and the limiting of self-monitoring, self-regulation.

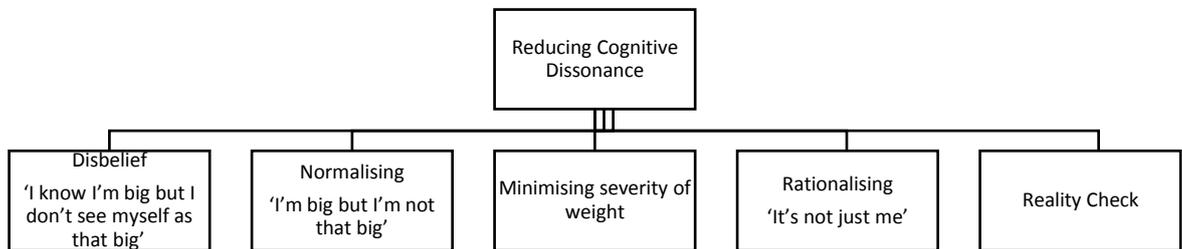


Figure 10. Shows the different processes of reducing cognitive dissonance.

### ***Disbelief***

For many participants, being weighed and informed of their weight classification, was a shocking experience. They did not expect their weight to be so high or to be categorised as obese.

P5 “...it was quite shocking because I was weighed and then had my height taken. ‘...’ I’m quite short and therefore the weight I am, to realise that I was over 30 BMI and I knew that that was considered obese, was really shocking to me”.

This knowledge created a concept of disbelief. One participant spoke about her experience of being informed of her BMI;

P2 “So he just told me that it was 36 something and I ‘...’ couldn’t believe it was that much”.

This concept of disbelief was encountered when information that was provided was different to what the participants believed to be true.

P14 *“so right now I’m 16 stone and 7. I thought I was 15 stone 7 but obviously the calculations were wrong...”*

Being provided with an accurate weight calculation and BMI category appeared to have a negative impact on behaviour rather than stimulating behaviour change as described by one participant (P8).

P8 *“the doctor told me I was clinically obese, only like a year ago, which kind of knocked me but I think that just made me eat”.*

The concept of disbelief, ‘I know I’m big but I don’t see myself as that big’, helped participants to maintain a positive sense of self when acknowledging their weight in relation to themselves.

### **Normalising**

The process of normalising helped to maintain a positive sense of self by comparing one’s own weight with other overweight individuals, friends and family and the use of extreme comparisons. These perceived ‘social norms’ were used as a reference point to help maintain a positive sense of self.

P13 *“I know I’m overweight. I kind of feel that I know it’s unhealthy my weight at the moment. I probably don’t look as big as people that weighed the same amount as myself”.*

P14 *“my best friend is currently over 30 stones at the moment, so she’s massive and I don’t wanna get to that point. You know I’ve always said to myself if I can’t fit into a pair of Primark jeans then that’s when it has to get drastic and I think I’m getting there now and I need to lose like at least five pounds. Not five pounds five stones”.*

### **Minimising**

Minimising the negative effects of existing weight was identified despite also recognising the associated health risks and negative impact on appearance. This may be a form of self-preservation, to avoid too many negative thoughts associated with obesity, and focus on more achievable goals.

P2 *"the weight I am I'm not like in physically any pain or discomfort, just that my appearance is more the problem. Health wise I'm ok I guess".*

P8 *"I'm 15 (stone) now. Apparently I'm supposed to be between 8 and 10 stone but I think 8 is too small for me. Cos I'm quite big boned. But a size I dunno, between 10 and 12 because I'm normally 12 to 14, so between 10 and 12 at least".*

### **Rationalising – 'It's not just me'**

For some participants increased weight was associated with a potential medical condition and for others it was seen to be exacerbated by family and or lifestyle. These contributing factors enabled the individual to feel 'it's not just me', and there are additional challenges being faced which made it harder to lose weight and to maintain weight loss.

P14 *"maybe if they give me drugs for my PCOS the weight will drop off, so the problem's not really me and what I'm eating but rather what, is rather my hormones which I can't control from food... If I had drugs to control my PCOS and my hormones were balanced I don't think I would be as big as I am, '...' I don't eat unhealthy that much compared to other people that I see at work. I think I eat quite well. I eat a lot of stir fry, I eat a lot of salads but I just keep putting more and more weight on, and to me '...' that can only be my PCOS".*

### **Reality check**

Engaging in accurate self-monitoring and honest feedback influenced perceptions of weight. Participants used the techniques in different ways either to aide conscious awareness or to avoid the 'reality check' of self-monitoring and feedback to enable them to continue to maintain a positive 'sense of self'.

The importance of monitoring and feedback was identified as helping keep the weight off but participants disliked the process of self-monitoring.

P1 *"you step on your scale but you don't want to believe the numbers you think hmm no I can't and then 2 pounds this week creeps up 3 pounds next week so it just builds up and builds up and you're back to square one".*

Photographs and mirrors were discussed by participants as another form of feedback on their weight. There was a notion of photos and mirrors providing a 'harsh reality check' on physical appearance, particularly when photos were taken by others and they could not control the angle at which the photo was taken. Avoiding looking in mirrors and unflattering pictures helped to maintain the belief 'I'm big but I'm not that big'.

P14 *"I think I've got this body image thing. I see myself in the mirror and I know I'm big but I probably see myself looking like you but a little bit more so when I see pictures and I see this fat person with like my cheeks trying to swallow my person when I'm smiling I'm like oh am I really that big? And like I just put them in a draw and say no I'm not that big, and only take pictures from the head up, I'm not that big. Don't take them pictures out".*

P2 *"...sometimes I look in the mirror and I don't even wanna look in the mirror any more".*

P8 *“I don’t like taking my clothes off. I don’t like being seen naked ‘...’ the holidays that was the worse seeing the pictures of me in swimsuit because I wasn’t happy with it and I’ve got a super skinny sister so yeah, ...’ I don’t feel comfortable in anything.”.*

#### 4.3.5. Emotion and Mindset

The category ‘*Emotion and Mindset*’ emerged as participants spoke of the interaction of their emotional state and state of mind on their ability to commit and enact diet and physical activity goals.

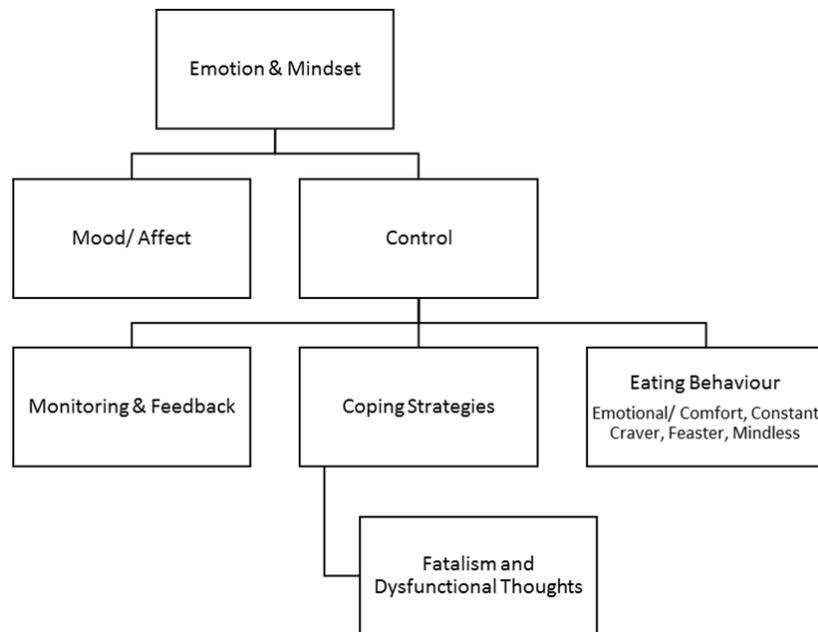


Figure 11. Shows the sub categories and concepts that inform the over-arching core category ‘Emotion and Mindset’.

The notion of being in the ‘right’ mindset, was associated with being able to manage diet and food intake more effectively and having the motivation to engage in physical activity.

P8 *“I have to be in the mindset for it”.*

P5 *"I think it's, umm getting the right mindset as much as eating healthily".*

P7 *"I know I'm the type of person that when I put my mind to something I can do it. I've never not been able to... like when I wanted to lose weight I shifted it. Umm but it did take a long process".*

Being in the 'right' mindset was regarded as key to the success of a weight loss attempt due to its effect on motivation to commit to making behavioural changes.

P1 *"...it's just me getting into that mindset and getting that motivation to say right this is it. I think once I get into that mindset fully I am there but I'm not there 100 percent yet so getting there fully and I think once I get there fully it will be easier for me to lose it afterwards".*

Even though losing weight was regarded as the ultimate goal and would have a positive impact on mindset it was also understood that this would not necessarily result in a continuously positive outlook. The importance of being able to identify when you are in a positive or negative mindset and develop an ability to alter ones mindset through positive self-talk was highlighted.

P5 *"For all my life I've been battling with myself with how I feel about my weight. I want to be at peace with myself, you're ok, love yourself and get on with it. I understand that losing weight's not going to solve problems in my life."*

With some participants having re-gained weight there was a recognition of needing to return to the right *mindset* to continue with the desired weight loss journey.

P1 *"But then having put back nearly half a stone again so it's like hmmm back to square one so I have to get back into that motivation phase and that has been tougher I think. I just have to stick to it".*

#### 4.3.5.1. Affect

The importance of the role of affect on emotional state mindset emerged from the narratives. The more positive affect, the more positive the mindset, and the greater the sense of confidence and belief in their ability to engage in healthy eating behaviours, physical activity and resist temptation of unhealthy habits.

*P1 Pre "I think it depends on the mood I am in. If I'm in a good mood then I can say I can stop myself and say no you're not going to do that, but when I'm in a mood '...' I comfort eat '...' it's my mindset as well that would determine whether I have that fish and chips or the grilled chicken with salad so it depends on '...' coming in from work what mood I'm in."*

One participant described being in the right 'mindset' showing the role of positive affect on self-efficacy;

*P1 Pre 123 "I'm in that mindset at the moment I'm like right this is what I want to do and I'm gonna do it".*

There was an acknowledgment that negative affect can result in negative thoughts, feelings, emotions and ultimately behaviour that contributes to being overweight or obese.

*P5: "Feeling down or having a bad day. Umm that can really affect me. If you feel down then you're just like, well you just say to yourself, I've had such a rubbish day, I just want to scream, that's very detrimental."*

#### 4.3.5.2. Control

Control emerged through the narratives in relation to eating behaviour, thinking patterns and emotions. Participants experienced varying levels of self-control. Negative thoughts and emotions were related to eating behaviour and mindset however, there appeared to be a lack of awareness of how to exert increased self-control over cognitions and emotions.

P8 Pre *“I’m obviously in complete control of what I’m putting in my mouth but I’m choosing all the wrong things”.*

There were mixed views around how much control participants felt they had over their weight, with some feeling that they had complete control, others feeling they had no control but all some feeling their level of control differed depending on their ‘mood’ or emotional state.

There was an acknowledgement that self-control is not a static state and requires continuous conscious effort to remain in control of their eating behaviour.

P4 Pre *“when I’m sort of more consciously thinking about my food and perhaps when I was doing the weight watchers or I was on a diet I did have more control even though I really really wanted to eat something that wasn’t good, I did have management control.”*

Participant 7 described being able to achieve weight loss once she ‘put her mind to it’, taking control of her situation but acknowledging that it is a long processes.

P7 Pre *“I know I’m the type of person that when I put my mind to something I can do it. I’ve never not been able to... like when I wanted to lose weight I shifted it. Umm but it did take a long process”.*

Being more consciously aware of food choices also emerged as a facilitator.

P4 *“when I’m sort of more consciously thinking about my food and perhaps when I was doing the weight watchers or I was on a diet, I did have more control even though I really really wanted to eat something that wasn’t good, umm I did have management control”.*

Having the ability to decline high calorie foods was regarded as something they ‘should’ be able to do but acknowledged the difficulty of doing so. Participants identified challenging situations such as work, celebrations, having friends/ family members eating foods around

them they perceived as restricted that required high levels of self-control to resist temptation. These were high potential relapse trigger situations.

*P14 "Self-discipline. Yep that's just the main thing for me. Discipline to put in an exercise routine, discipline to say no to certain foods, discipline to stop eating when I'm full and not to keep going back into the kitchen '...' where I work there's always doughnuts going round or biscuits and there's always somebody having a leaving do or a party or they celebrate for anything really and there's always food. '...' I'm somebody that never says no. So I suppose it's really about having that discipline to say no".*

*P5 "it is actually quite difficult living with people '...' who always buy those Sainsbury's plastic boxes of the brownies, flapjacks or have those Sainsbury's cookies. They are always eating stuff like that. And that is really difficult for me".*

The environment was identified as contributing to eating unintended food and increased amounts due to availability and social influence.

*P1 "... it's like a sit down job and people offer you something in the office, oh I've got a sweet, I've got a chocolate do you want one? And then you know you end up having one turns to six, six turns to ten and before you know it you're looking at your table with all the wrappers on it and you're like oh no, no".*

#### **4.3.5.3. Monitoring & Feedback**

Engaging in regular monitoring and feedback of diet and physical activity was seen as a necessary part of weight management. This included weighing and measuring of food portions, regular weigh-ins, mood, food and exercise diaries.

Participants found weigh-ins to be motivating if they had lost weight but de-motivating if they had gained weight or not lost any when they had been trying really hard.

*P8 "It's nice to have someone checking on you because I don't have weighing scales at home cos it will depress me... it would just be nice to have someone checking up on what you're doing."*

One participant spoke of her dislike of measuring out food as part of monitoring her food intake. She found it was effective as helping her lose weight but not feasible to maintain long term.

*P4 "I think the thing with me was the weighing and the measuring. I hate the weighing and measuring before I eat. I just wanna eat. So when I stopped weighing and I stopped measuring and I stopped counting points I put the weight back on again".*

Others struggled with becoming obsessed with constant monitoring.

*P7 "I don't like to weigh myself. I do it by how my clothes feel on me. Because when I start weighing myself that becomes addictive as well. '...' the last time '...' I went I'm not going to weigh myself for three weeks because a lot can happen".*

For those that found it motivating there was a competitive element;

*P8 "... that did help when I was with weight watchers knowing I was going to get weighed in front of other people umm I was kind of in competition with my colleagues so that helped."*

The use of more regular self-monitoring and feedback techniques such as food diaries was identified as increasing conscious awareness of one's own eating behaviour. This was also reported to have helped identify situations in which participants were unaware they had been over-eating.

P13 *"And they make you keep diaries as well of what you're actually eating cos I found like I was over-eating, eating quite late as well and having a lot snacks, unhealthy snacks like chocolates and biscuits and stuff like that. I find myself eating them, large quantities, especially if I was like bored or if I was like sitting around in front of the TV."*

P5 *"Can I open a box of chocolates and just have one or two and one and two would kind of be within your allowance let's say, no I can't. I can't. Umm so don't do it".*

P2 *"The calorie counting as well and the food diary. Cos you know you're eating all this stuff but you're not realising how much you're eating during the day and when you're like have the diary you're conscious because you have to put everything in the diary, what you're eating and that did help as well yeah".*

P14 *"I think the diarising of the food that we were eating was really quite helpful actually because it actually made you sort of be aware of what you were eating and when you were going to grab something else you saw what you had eaten already it just made you go oh perhaps I shouldn't have that".*

This led to a longer-term awareness of dietary choices that were being made in the everyday lives of the participants.

P13 *"I was a bit more conscious of what I was actually eating '...' still even now like I'm quite conscious. '...' If I go to Burger King or McDonalds or something I know that I'm eating over 1000 calories, I'm aware, so at least I've got a bit more '...' understanding of how different foods, how the calorie intake is and how some of them can really be high calories '...' I do try and incorporate vegetables and fruit in my diet now, whereas before I wasn't really '...' I liked vegetables but I just never really '...' went out of my way to go and get it '...' now I will try and have at least one '...' I find that I buy a lot more vegetables now than what I did before".*

P14 *"in all honesty if it was last year I think. Thursday, Monday, Tuesday, Wednesday, Thursday, Friday I'd probably have been in the pizza shop, the chicken shop, the kebab shop '...'. I'm not in there any more so '...' it's really bad for you '...' and there's better ways that I can use those calories '....' I've probably swapped it '...' Friday I might have some fish and chips and that would be it once a month I might have a kebab... and I'm trying to go for shish rather than a kebab".*

Self-monitoring and feedback were useful to increase conscious awareness and recognition of the money spent on convenience foods and the level of physical activity participants were engaging in which also resulted in behaviour change to achieve the set goals.

P14 *"It's just looking at the cost the food... It's like I'm making a lot of people rich and they're killing me for the pleasure of my money so it's that kind of thing and it's like I wanna do something else with the money and £20 here £10 there it all adds up in the end".*

P14 *"we were given like little pedometers so we had to sort of like meet a target every day and I would actually walk a little bit more and just try and get my, my steps in".*

In many instances monitoring and feedback were closely related to motivation for participants.

P5 *"When you get on the scales and you see that you've lost that little bit more, it is a real encouragement".*

P1 *"I think looking at the scales ... you see the weight falling off and that will give you motivation to go on and on. Or you know even seeing my wellbeing each time that you know you do lose that, even if it's just one pound, you know you do get euphoria like you know I've done it this week even with all that I'm eating but I've lost it this week so that gives you motivation to go on."*

#### 4.3.5.4. Coping Strategies

Many participants related to using eating as a coping strategy to help manage their emotional states and identified the need for further support to help find alternative coping strategies.

*P1 Post “I know I eat when I’m depressed and ‘...’ when I’m stressed I eat a lot as well, so it’s just trying to find that balance to say ok when I’m stressed what do I do? What other avenues can I take? ‘...’ how can I release that stress without eating, eating, eating because ‘...’, when I’m stressed that’s what I do. I just eat. ‘...’ that’s my coping mechanism. So it’s just ‘...’ finding another route”.*”

Some participants were able to identify strategies they had put into practice such as keeping busy.

*P14 Post “I’m doing the classes in the afternoons and in the evenings because I need to do something rather than just sitting at home and being on my laptop and brooding. I need something to keep my mind off feeling down ‘...’ that’s my coping strategy”.*

The need to have coping strategies in place to avoid temptation and reverting back to unhealthy eating behaviours was identified as a key requirement for weight loss maintenance. Tools that can be used to encourage healthy eating behaviours and engaging in physical activity.

*P1 “But then with the weather, childcare and you know other things that are going on as well in day to day life, ‘...’ the comfort eating started again, so it’s just trying to get that under control. ‘...’ if I’m able now to find different ways of tackling issues then I think that would help me sustain the weight or ‘...’ help me sustain where I want to be”.*

Some participants were able to identify strategies they could put into practice and discussed changes they had started to embed. There was recognition that these tools would not be a 'magic cure' and would require effort, time and practice for them to become useful.

*P2 "...they like give you different method to see which one suits you and what one you can choose so I think they tried their best to help you but it's for you to use what they give you. If you're not putting it into practice then nothing is gonna happen".*

### **Fatalism and Dysfunctional Thoughts**

Being aware of how thoughts can affect emotions and behaviour became apparent as dysfunctional thoughts emerged as having an impact on mindset and subsequent behaviour. These also appeared to have a direct effect on self-efficacy.

There was an 'all or nothing' mentality where if you have a 'slip up' you have 'blown it'.

*P1 "I'm gonna do this I'm gonna do it and then something will always come in the middle and derail the motivation and then it's going back to square one and you think I can't be bothered any more".*

There was an inability for the participants to identify negative and dysfunctional thoughts when their perceived attempts of self-control to avoid temptation failed. This resulted in the 'all or nothing' mindset. Participant 13 described how eating something that didn't fit with her weight loss plan, would mean she had 'lapsed' and would have to start all over again.

*P13 Pre "I probably start one day and then it's not that I give up the next day it's just that I feel like I've kind of lapsed and I'm like no I need to do this properly. Umm I'm quite a perfectionist so if I don't get it right the first time I keep starting over until it's... but then I think that's kind of delaying me".*

There was a sense of needing to start again after a lapse, and the frustration experienced when the scales do not reflect the effort put in to losing weight.

*P3 "I think if you have a knock back with weight, you just think well I can't be bothered. I've put all this weight on, I've been really good and nothing's happened, and all I done is put on more. Frustrating".*

Experiences of addressing existing dysfunctional eating behaviour resulted in dieting attempts, which would include extreme food restriction which subsequently led to over eating.

*P4 "...the thing is with me everybody rolls their eyes when I say I'm going on a diet because it tends to last like half a day or something. I really start craving food and all kind of things that I shouldn't have".*

*P14 "...so I ended up running to Nandos after work one day and I'm not proud of myself but I had to..."*

#### **4.3.5.5. Eating Behaviour**

Different types of eating behaviour were identified which are conceptualised as either 'emotional/ comfort eater', 'constant craver', 'feaster' or 'mindless eater' These all included elements of dysfunctional eating behavioural patterns.

Participants' perception of their relationship with food had a clear association with their route of weight gain. This has been categorised as different eating behaviours.

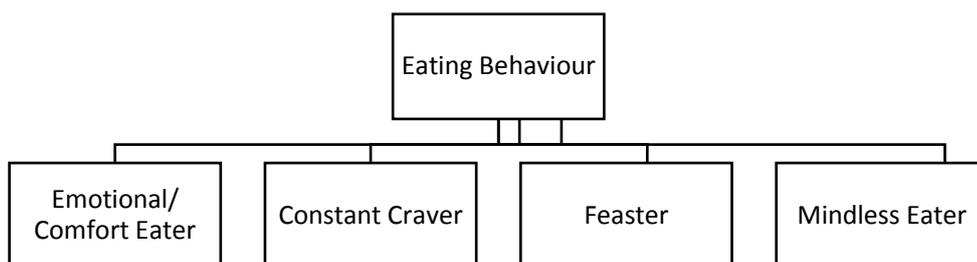


Figure 12. Shows the different types of eating behaviour identified in the participant's narratives.

***Emotional/Comfort eater***

Emotional/comfort eaters described their eating behaviour in relation to their emotional state which was attributed to negative events or states of mind. Participant 1 describes food as her 'comfort' when she is feeling depressed and recognises that where some people over-eat when they experience these changes in mood, others do not.

*P1 16 "sometimes you feel depressed and where some people don't eat I tend to. Food is my comfort and that is why the weight has been creeping on, creeping on, creeping... 2 pounds this week creeps up, 3 pounds next week so it just builds up and builds up and you're back to square one."*

A number of participants used the term 'comfort eating' indicating that this has been term they associate with their eating behaviour.

*P5 "I was unhappy and I think I turned to food umm comfort eating. Comfort eating, misery eating, just eating..."*

P7 *"I think my emotions have a lot to do with my weight loss as well or my weight because I remember in the past when I've kind of been really down in the dumps and a lot of things I used to do was comfort eating.."*

P8 *"I try not to have Nutella in the house but I have had it recently because I've not been feeling great and it's my comfort so I've been having Nutella on toast every morning.... I think I'm an emotional eater. I eat when I'm not feeling great. I will just eat for comfort"*.

Comfort eating was regarded as a self-nurturing behaviour to help improve mood and feeling of well-being. There were particular food types associated with comfort eating such as those high in sugar or high in fat. However this would soon be followed with feelings of guilt or displeasure associated with the perceived 'indulgent' act and then regret and self-criticism.

P1 *"when I comfort eat I tend to go for things that will give me the high straight away like sugar food. So like chocolate ice cream, just eating and you just get that buzz level of euphoria that, phew... like okay I'm well again. But then once that sugar level is going down you wake up in the morning or it's two, three hours later and you think why did I eat that? Because you're feeling so sluggish but it's done it's done"*.

The experiencing of negative emotions drives these individuals to consume foods high in sugar and or high in fat with the anticipation that it will make them feel better. There appears to be a point during consumption of the desired food that mood improves, but shortly after the negative feelings return and may be worse than before.

P8 *"If I've had an argument I'll get a spoonful of Nutella and I'll feel better. But when I've finished the spoonful of Nutella I feel sadder"*.

### **Constant Craver**

Constant cravers described being constantly hungry and 'craving' certain foods.

P12 *"I was always craving for bread and pasta... always craving for you know that type of food.*

*I was always craving them it was like something in my head just it's like you got an on off switch for food someone left it on. Can you switch it off please?"*

Participant's descriptions of these cravings created a discourse of an internal malfunction, something that is currently not working as it should. Cravings are seen as desires for particular items of foods but these are regarded 'not normal' and almost dysfunctional.

P12 *"...a friend of mine came over one day and she was like 'oh I've bought you a couple of food snacks' and it was as if I could have devoured the whole thing without them touching it because I was always that hungry."*

As with emotional eaters, constant cravers seemed to favour foods high in sugar and high in fat. There was also a tendency to crave carbohydrate foods such as pasta and bread.

### **Feaster**

Feasters described their eating as not being able to stop once they have started. They never seem to feel full or satiated.

P12 *"When I start to eat it's, I'm not full, it's a bottomless pit that just doesn't fill up and if someone was to give me 12 roast dinners I'd probably eat them all because it's like it's going nowhere that's what it feels like inside and I don't know why."*

Again participants that identified with feasting behaviour indicated there was something not quite right, 'not working as it should', to help regulate their eating behaviour.

P5 *"Portion control. ... I'm not the type of person that can have just one biscuit unfortunately. I find that very difficult so controlling the binge. ...it's easier for me not to have any biscuits rather than just have one biscuit".*

### **Mindless Eating**

Some participants described their eating as 'mindless'. They described often engaging in eating behaviour that they are not consciously aware of. They have not made an active decision to eat the food, but find themselves eating, and often more than they would have expected to.

P4 *"Sometimes if I don't sort of think about it I'll just be in the kitchen and just eating. Sometimes I don't even realise... I can't go to the kitchen without getting something and other times I'm not thinking about it, I'm just eating it".*

This conceptualised eating behaviour did not appear to have any link to hunger.

P8 *"Cos actually I'm not hungry. Most of the time I'm hardly ever hungry. I'll literally eat for the sake of eating and not feel satisfied with what I've eaten".*

There was a strong association with availability and visibility of food which encouraged mindless eating.

P6 *"I just don't have the will power to stay motivated... it's just temptation really. If I see it there I'll just get it without even thinking".*

Some participants identified with more than one type of negative eating behaviour and described how these can be initiated by different emotional and physiological states.

P13 *"I would say before it's more mainly my emotions but I think it still sometimes probably is, especially if I'm bored. I think I probably do it without realising umm, and even now periods and stuff like that but it kind of really depends".*

### **4.3.6. Self-Efficacy**

The belief that one has the ability to engage in the required actions to achieve the desired weight loss goals appeared to be affected by support and previous weight loss attempts.

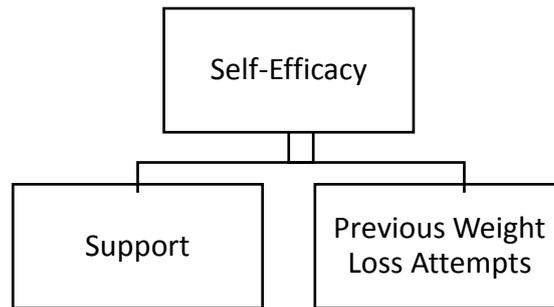


Figure 13. Shows the sub categories that inform the over-arching core category ‘Self-Efficacy’.

The increase in self-efficacy was identified as participants spoke of their ability to achieve their goals, which included weight loss,

*P1 “I can cos I’ve done it before. I’ve done it before.”*

It also included other life changes such as career, family and achieving a more positive mindset overall.

*P11 “... it’s not about the weight. It’s just about here. If you believe in yourself, if you can’t believe in yourself then you’re gonna lose yourself, but I believe in myself that I can lose weight.*

*‘...’ ...when I was fat and put on a lot of weight I didn’t believe in myself. I used to hate myself.*

*But now I love myself”.*

#### **4.3.6.1. Support**

Support was regarded as a strong facilitator to support weight loss which had a positive impact on self-efficacy. There was a consistent desire for tailored, regular and non-judgemental support in which the young women expressed a need to feel listened to and understood.

*P14 “ people that actually know where I’m coming from ....”*

There was a strong recognition of a need for support with a belief that you 'can't do it alone'. The support could come from peers, medical professionals, friends or family as long as they were supportive and helped to keep you motivated.

*P1 "I think if I was in a group, '...' because you're spurring each other on and you have that tight knit support. If you do it by yourself you get that procrastination feeling like '...', tomorrow comes and you never do it but if it was a group thing or if I had more support, someone I could go to the gym with or where we are doing the weight loss together then that would be easier for me..."*

A lack of knowledge about local support groups was identified as a barrier to accessing support.

*P13 "I don't think there's a lot of support groups around, well I don't know of any. Maybe there is but ...I don't really know of any. There's none that I've known, not even through the GP".*

The importance of peer support emerged as an important aspect in generating and maintaining motivation, in addition to helping to achieve the 'right' mindset. This was prevalent across those that had been assigned to the group-based weight management intervention and those that had received the one-to-one intervention with the practice nurse.

*P13 "I think for me it was like being in the group, I didn't want come and know that I'd put on weight and I wanted to meet my goals, because for me, cos everyone's there hearing how much you did walking cos they don't make it private so it's out in the open, which I was fine with cos I found it quite very challenging and .....seeing other people successful was quite motivating as well".*

Participants were keen to identify with other's going through the same challenge.

P13 *"I need to get motivated by other people first before I go out and do it on my own by myself".*

P12 *"... just someone to talk to, someone who's going through the same problem..."*

Having support from others going through the same challenge helped as it reduced feelings of loneliness and isolation.

P13 *"it can be quite isolating if you haven't got any friends or family that live nearby you that experience the same, '...' it's kinda hard to be doing it by yourself without that support network. I think being in a group is quite supportive and everyone supports each other and I think it would be a good idea if they actually incorporated in different GPs and got clients who wanted to partake in something very similar I think it would be really useful, it would be really good".*

The idea that peer support can help build self-efficacy emerged. The thought of other people going through the same challenges could help support you to do the same.

P13 *"I think there should be more groups... having that comfort from other people, knowing that they're going through the same thing and just seeing them. If you did lapse say you didn't lose weight that week and the other person did lose the weight you kind of get sort of like a positive reinforcement like you can do it. It is achievable and just having that support network around you."*

As participants disclosed the support they found useful and what they felt they needed, there was also the notion that such networks helped build resilience and skills to be able to manage the challenges faced alone in the longer term.

P14 *"The support network was useful but I think for me I needed to learn that even though the support in group was good at the end of the day I'm gonna have to be accountable for myself when the group is not working so, I don't mean not working, I mean no longer there... not meeting".*

Despite many participants regarding support from family and friends as valuable, there was an underlying feeling of being judged by friends and family and that having support from people outside of your immediate social network could be beneficial as it is 'unbiased'.

P14 *"sometimes it gets on my nerves, cos they always end up right and I don't like them to be right but other times it's just like, umm, whatever. At least I'm giving it a go and I'm not just sitting down getting bigger and bigger".*

P13 *"even when you've got friends and family you know they judge, '...' it's just that you don't know that other person really and you get to know them and build a relationship and I think the support is different and quite unbiased. I feel more of a free person when I'm around other people that I don't know going through the same sort of thing as myself".*

This informed the concept of the importance of non-judgemental support to encourage weight loss.

The need for intensive tailored support emerged, including immediate contact after relapse. It was also identified that feeling listened to and understood was important. Participants felt that this could be achieved through one-to-one sessions or group based sessions.

For those that were assigned to the group based intervention, participants described how they found the weekly sessions supported them to lose weight. However, for most of the participants, as the weekly sessions ceased weight gain occurred.

P5 *"When I stopped going to the meetings, I stopped losing weight."*

P2 *"What I noticed though was the weekly sessions worked better for me than the month because with a month you're like ok I've four weeks or two weeks and like with the week you're more conscious because you haven't got that much time to get ready to lose the weight."*

The weekly sessions provided support, regular monitoring and feedback and when this reduced to monthly drop in sessions participants felt they started to lose the motivation they had and saw a reduction in their weight loss.

P8 *"So once it started and went onto the, I think it was once a month, then I just got completely demotivated. So that didn't really work. ... it's not that I couldn't go as much, I was kind of doing it on my own and it didn't seem so important to go cos I wasn't getting that boost from there anymore. Whereas I supposed I really relied on the weekly sessions".*

P8 *"I'd rather meet regularly and I think loads of people in the group were saying the exact same thing. They'd rather go regularly. Because all of a sudden there were big slumps, for the people in the group who were losing the most amount of weight there was all of a sudden a slump in their weight loss as well".*

One participant described the on-going support she received when she attended a previous commercial weight loss programme.

P1 Post *"...if she doesn't see you in one week she'll give you a call and say you ok? If you need any help during the week you could always call her up '...' the support is there which is what I need."*

The participants highlighted the need for ongoing support long term but differed in their wants and needs.

#### **4.3.6.2. Previous weight loss attempts**

The perceived success of previous weight loss attempts had an effect on self-efficacy. If participants felt they had been successful at losing weight in the past they felt that they had the skills to do it again.

There was recognition that losing weight was achievable as all participants had lost weight in the past;

P1 Post *"I can cos I've done it before. I've done it before."*

P8 136 *"I know if I make the right choices then its fine. I can noticeably lose weight and I don't have to exactly work out every day".*

However, in all cases they had regained weight and acknowledged that the long term maintenance of a healthier weight was challenging.

P7 Pre *"it's easy to lose it but then to keep it off it's really hard"*

#### **4.3.7. Stress and Conflicting Priorities**

Despite weight loss being expressed as a clear priority, this was intertwined with other competing or '*conflicting priorities*', which were expressed as barriers to eating a healthier diet and engaging in more physical activity, which creates the final core category.

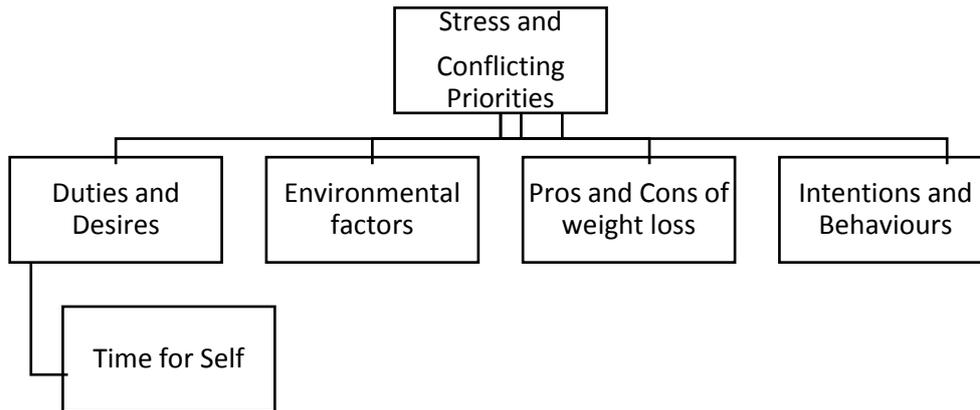


Figure 14. Shows the sub categories and concepts that inform the over-arching core category ‘Conflicting Priorities’.

#### 4.3.7.1. Duties and Desires

Personal weight loss was often seen as a goal that would require the participant to engage in what was regarded as ‘selfish’ behaviour. Engaging in more physical activity was regarded as something that needed to be ‘fitted’ in with existing work, child care or studying commitments.

The balance of being a ‘good Mum’, looking after the children and putting their needs first whilst trying to fit in time to engage in physical activity was seen as a challenge. This was also entwined with the notion of wanting to be a good role model for their children, not being seen to be eating unhealthy food around them and wanting the children to see their parents as active.

P12 *“I love being a mum and everything. I love looking at him, and I love listening to him, you know finding him learning how to do new things... but for me as a person, I like to be organised to enjoy things. I can’t do that and I hate those women that can (laughs). I envy them and I hate them. And I wish I was them”.*

The balance of being a 'good Mum', looking after the children and putting their needs first whilst trying to fit in time to engage in physical activity was seen as a challenge.

This was also entwined with the notion of wanting to be a good role model for their children, not being seen to be eating unhealthy food around them and wanting the children to see their parents as active.

P8 *"I'm the opposite from my daughter because she has never had any chocolate. She's 3. She had her first piece of cake last week, a little bit. So I'm completely the opposite with her. Everything's freshly cooked, well maybe chicken nuggets or something but yeah it's all healthy choice for her and I watch what she eats but for myself I'll hide in the kitchen and eat. I'm sneaky with it as well with her. I hide it. I don't let her see me eat cos I don't want her to want it. So I know it's really shameful."*

### ***Time for self***

Participants reported 'lack of time' as a barrier to preparing and eating healthy meals, and engaging in physical activity due to looking after children, work and studying. Participants expressed that if they were able to have more time for themselves this would help them to work towards achieving their weight loss goals.

P1 Pre *"... it's finding the time for me really. It's from work its straight home, when looking after the children on my days off I have other things I have to do, so it's just finding the time the balance as well to do that".*

P2 *"...but it's my fault really because I'm not following it...Umm I've got too much doing at the moment, you see, and I'm not managing my time properly. '...' I think that's... when I started (the programme) I just didn't have so much things going on. So I had more time then than now."*

For those with children, having child care support was seen as a facilitator for weight loss and maintenance;

*P12 Pre " I find that a challenge only because of the baby because I a lot of women say go and do this at home you can do this at home '...'. And you just you know you try and do the exercise and you just can't because he's just on you."*

P1 *"I'm a single parent so it's just that not having anyone to help you like, that's a hard thing as well. So he's gonna start full time school in September so that's a load of my mind as well and I only work part time so while he's at nursery I've got time to myself to do things as well"*.

The challenge of time was also linked to increased stress levels, poor eating and exercise habits. With time as a barrier, quick, convenience foods would often be consumed.

*P4 "I've been studying and I've been doing two different courses alongside my full time work and for me when I get a little bit stressed and busy I do eat '...' my courses are coming to an end now so hopefully I can '...' get a little bit of time for myself and just try and get back into a routine like, exercise and eating properly and not just grabbing the nearest and easiest thing"*.

The importance of identifying and dedicating time for self was not just seen as important for weight loss but also for one's identity, achieving a positive mindset, and sense of self.

*P13 "I was kind of feeling quite down and I was at home a lot with the baby so I think I really wanted to come out of my, you know, I wanted to be out of the house, I wanted to do something different. I wanted to set myself goals and challenges."*

Participant 13 described how she found it difficult to meet the physical activity goals set by the weight management group as she was at home on maternity leave. However, since going back to work she has found it much easier to incorporate into every day.

*P13 "I don't really know why I feel more positive. I feel like maybe I'm getting my life a little bit more on track. '...' I think being at home, I think that was the main thing why I was really feeling quite down. '...' they kept saying oh you need to be active, you need to try and up your steps, and that bit I was finding quite [hard] because I wasn't working. I wasn't doing anything much and even though I was doing stuff with the baby '...' it was harder to meet the goals. '...'. I felt if I had started the programme whilst I was currently in work it probably would have had a different outcome".*

#### **4.3.7.2. Environmental Factors**

Having limited time due to work, study and child care commitments often led to poor food choices. These were often based on the availability of cheap convenience foods. These were, in most cases, of poor nutritional benefit and often lead to the consumption of higher calorie products. These included products purchased in the supermarket and 'take-aways'.

*P4 "I think it was just food that was convenient and I was constantly on the go. I was doing my Masters and then I was on placement and then I was working so I've never really had time to sort of cook or I wasn't even at my house a lot and I was driving and so it would be to go through the drive through, get a McDonalds or get a Chinese and I've put on so much weight."*

It was acknowledged that there might be actions that can be taken to try to limit the unhealthier purchases but that this would be challenging.

*P6 "I think it's just food shopping would have to be different. Maybe I'll try online shopping so I have to order. So it's not there in front of me, it's kind of getting what I need and seeing how that goes".*

The physical environment in which participants found themselves living, working and studying was acknowledged as providing minimum opportunity to engage in physical activity. This was also identified as contributing to over eating due to 'snacking'.

*P1 "I work part time 3 days a week sitting at a desk all the time and just tend to nibble. You're not having '...' a full balanced lunch, you nibble throughout the day and not be able to get that physical activity, as well like the gym or so it's quite hard."*

#### **4.3.7.3. Pros and Cons of weight loss**

Participants reported a number of positives beliefs associated with losing weight. However, these were also interspersed with negative ones about weight loss.

*P7 Pre "He actually likes me the way I am but I don't care I still want to lose weight".*

A number of participants reported that losing weight would make them feel 'happier' and 'more confident',

*P7 Pre "Making me happier than I am now. Not saying I'm not happy, I just think I could be happier when it comes to my weight".*

*P8 "But this weight, I need to lose it. I need to feel happy about myself. '...' I just want to feel more confident and happy in myself".*

However, it was also noted that happiness should not be weight dependant and that it is important to feel happy irrespective of weight.

*P4 Pre "I know that weight is not everything to do with confidence, there are other factors but I think it would play a good, yeah, good part".*

There was also a concept of trying to determine the 'body ideal'. There were negative associations with being what they considered to be 'fat', but this was also evident with being too skinny. Trying to identify what would be the right weight presented a challenge, as this did not necessarily correspond with healthy BMI categories. There was a struggle to find the right balance; *'I don't want to be so fat but don't want to be skinny'. 'What is the right weight for me?'*

*P1 Post "Just to be healthy. I don't want be a size zero which I know I never will be, but I just want be comfortable in my own skin and you know the clothes that I wear and when I look in the mirror I feel ok with myself."*

Acknowledging that some weight loss was needed but not 'losing oneself' was evident.

*P14 Pre "...reduce my weight so I'm at least about 11, 12 stone. I wouldn't even mind if I was like 13, that would be fine. I don't wanna be too slim. I still wanna bit of me. I don't mind having a bit of fat but this is too much fat."*

Losing weight did not always result in the desired appearance as Participant 2 describes below;

*P2 Pre "I lost 30lbs last year but I did put the weight back on because I lost 30lbs and my body frame was getting smaller but my tummy it wasn't moving. I lost maybe about one and a half inch. And people would start asking me if I'm pregnant because I've got a small body and a big tummy so I just decided oh when I'm fat they don't really notice that you're fat".*

This created a conflict in wanting to lose weight but not wanting potential negative body shape changes to affect appearance which also links to the concept of *'other's perception of me'* under the category *'negotiating the effects of weight on sense of self and identity'*.

#### 4.3.7.4. Intentions and Behaviour

There was a clear discrepancy reported by participants between having the knowledge about how to achieve a healthy weight, through healthy eating and engaging in regular physical activity, and enacting the behaviours necessary to achieve and maintain weight loss.

P4 Pre *“Eat healthily, exercise, substitute things that are high in fat and sugar to things that aren’t, fruit and veg. I mean I know the things to do and I think most people do. It’s just actually going about doing it you know. Yeah exercising, eating right, cutting down on portion sizes, lots of fruit and vegetables, just being more sort of conscious about what you’re putting into your body”.*

There was a clear recognition that maybe just knowing what you should do is not enough.

P7 Pre *“Probably regular exercise and eating the right foods. But then I kind of think I do that already. I don’t know. I can always work on it though. I don’t know. It’s almost like sometimes I think I do know some of this stuff I just, it’s just whether I listen to it and I don’t know whether it’s because it’s me telling me (laugh)”.*

There were discrepancies during interviews where participants identified with eating a healthy diet and engaging in recommended levels of physical activity but then as the narrative continued these initial statements became unfounded.

P14 *“I don’t eat unhealthy that much compared to other people that I see at work. I think I eat quite well. I eat a lot of stir fry, I eat a lot of salads but I just keep putting more and more weight on.”*

P8 Talking about her daily food intake: *“I start off good, so I’ll have cereal or toast umm like I try not to have Nutella in the house but I have had it recently ‘...’ so I’ve been having Nutella on*

*toast every morning. ‘...’ Today I had Nutella on a bagel this morning and then I had like cheese on toast, just one slice for lunch and I haven’t had anything since then. Oh and I had a double decker and a couple of milkshakes cos they were in the house. So as long as they’re not in the house, you know you’ll crave it but I have to make something from scratch or go out which I don’t really like to go out so it tends to be in the house. So obviously when I’m being good that stuff’s not in the house”.*

There was a recognition that changes in behaviour need to be embedded to become habitual and then sustained;

*P4 “I think maybe I just need to think about it, because I know what I should do in terms of, I need to exercise, I need to eat better but what would help me to do that? Because I’ve tried to do the things that I thought would help me and then I’ve just fallen back into... maybe just getting into a habit, just persisting a little bit more, because I know that once I’ve incorporated healthy eating and exercise into my life if I sort of continue with it. It becomes part of me, and habit”.*

Signing up to participate in a weight management research trial intervention was regarded as a positive step from intention to behaviour change by seeking support to achieve desired goals. There was a recognition that there is no magic solution and that it requires sustained effort and commitment.

*P5 “I know that there’s no magical solution. You’ll get results if you put the work in. I think that’s like life. So if I stick to this I do hope to see the results. I wanna try and stick to it”.*

#### **4.3.8. Summary**

The challenge of achieving and maintaining a healthy weight in overweight and obese young women has been theoretically framed around the concept of *‘finding the Health Enhancing*

*Equilibrium*'. The core categories of *sense of self, emotion and mindset, self-efficacy* and *stress and conflicting priorities* interact to explain the challenge of *maintaining a valued sense of self while generating action to achieve and maintain a healthy weight*.

#### 4.4. Section III Proposed Grounded Theory Model

The proposed grounded theory model (Figure 15) ‘Emotion and Mindset’ represents *the challenge of achieving and maintaining a healthy weight for overweight and obese young women*. It depicts how the four overarching core categories of ***sense of self, emotion and mindset, self-efficacy*** and ***stress and conflicting priorities*** interact and impact on the ultimate aim of ***achieving and maintaining a healthy weight***, whilst maintaining a *valued sense of self*. The purpose of this final model is to present the relationships between the processes, actions and beliefs as an interactive system to help further understand the challenge of achieving and maintaining a healthy weight.

##### 4.4.1. The Emotion and Mindset Model

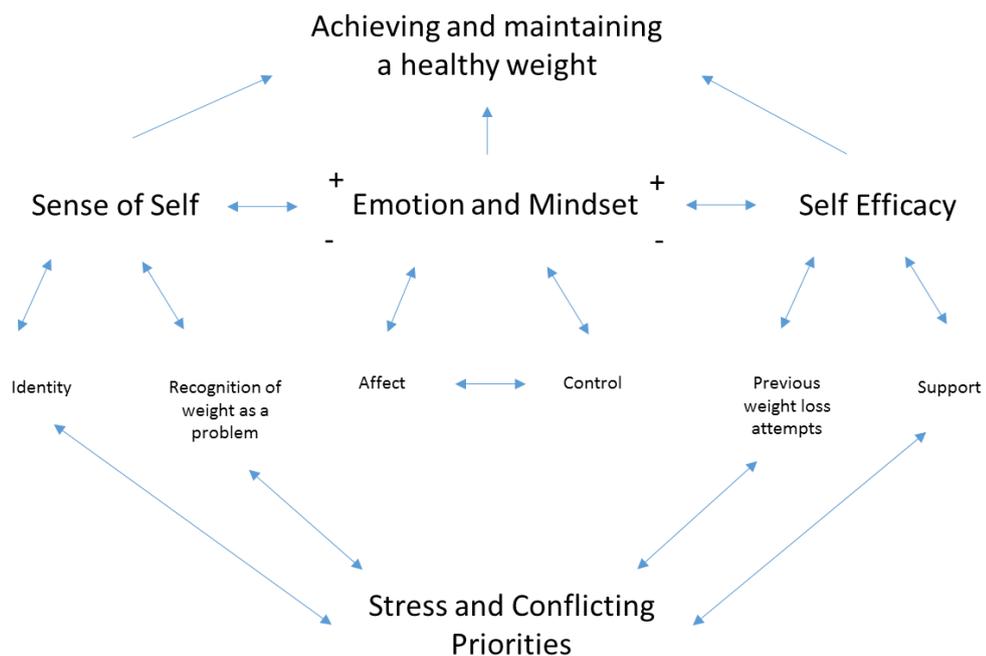


Figure 15. Provides a Graphical Representation of the proposed Grounded Theory Model to explain the challenge of achieving and maintaining a healthy weight in overweight and obese young women.

The Emotion and Mindset Model explains the challenge of achieving and maintain a healthy weight in overweight and obese young women. The ability for young overweight and obese women to achieve and maintain a healthy weight is influenced by the ability to maintain a positive balance of their *sense of self, emotion and mindset*, and *self-efficacy* along with managing *stress and conflicting priorities whilst maintaining a valued sense of self*. All these influential factors are not static states and as such are all changeable over time. Therefore this model presents the challenge of finding the health enhancing equilibrium within these concepts that will lead to achieving and maintaining a healthy weight.

The core components of the model and their relationships will be discussed in turn.

### ***Achieving and Maintaining a Healthy Weight***

The aim of the model is to describe the relationships between the core categories identified during the pre and post weight lost attempt interviews with overweight and obese young women who had sought support to lose weight in an attempt to *achieve and maintain a healthy weight*.

### ***Emotion and Mindset***

This category sits at the heart of the model and emerged as attempts to enact the desired behaviours to achieve a weight loss (such as increasing physical activity or not snacking on high calorie foods) were positively or negatively affected by the emotional state and mindset the women were experienced. If women are feeling positive and experiencing emotions such as happiness, hope and optimism they will experience a positive mindset of wanting to engage in health enhancing behaviours. If women are experiencing negative emotions such as sadness, anger or disgust they will experience a negative mindset of not want to engage in health enhancing behaviours. This is influenced by and also influences how much *control* women feel

they have over their weight and their ability to make the desired changes. **Affect** (the experience of feeling, emotion or mood) influences their **sense of self**.

### ***Sense of Self***

This category explains the importance of maintaining a **valued sense of self** during the process of recognising weight as a problem and attaching to a personal **identity**. Women's sense of self influences how they see themselves and how they identify. Women that are overweight or obese experience changes in their **identity** during weight loss and this in turn affects their **sense self**. It also has an influence on **recognition of weight as a problem**. As women identify their weight as problematic this has an impact on their **sense of self**. This can lead to no action if they become self-critical, however if they are able to maintain a value **sense of self** this has a knock on effect on **emotions and mindset** which enables action. Maintaining a valued **sense of self** throughout is essential in maintaining positive **emotions and mindset**.

### ***Self-Efficacy***

**Self-efficacy** is the belief that one can succeed in achieving their desired goal. This belief has an impact on the level of **control** women perceive to have over their goals that contribute to their ability to lose and maintain weight loss. If they have low **self-efficacy**, they have a low sense of **control** and this results in negative **emotions and mindset**. If they experience a high level of **self-efficacy** they have a high level of **control** and experience positive **emotions and mindset**. The experience and outcome of **previous weight loss attempts** can influence women's **self-efficacy** that they can achieve goals around diet and physical activity to ultimately reach the desired goal of **achieving and maintaining a healthier weight**. The **support** women receive influences their level of **self-efficacy** whether this is professional, peer or family support and

their level of *self-efficacy* can influence if they access this support. *Support* is a key factor for young women in *achieving and maintaining a healthy weight*.

### ***Stress and Conflicting Priorities***

***Stressors and conflicting priorities*** have an impact on whether women are able to engage with positive health behaviours. Women experience the challenge of working, running a household, looking after children and their partner. Finding time to engage in more physical activity is often a challenge due to busy days and is regarded as a self-serving behaviour which doesn't align with the *identity* of being a good mum, an attentive partner, or a hard worker. This creates *conflicting priorities* as women acknowledge that to *achieve and maintain a healthier weight* they need to fit in additional physical activity and a diet that may not align with an already stretched schedule or to family eating patterns. In addition potential *stressors* such as looming deadlines and lack of time along with the challenge of *conflicting priorities* impact on whether weight is *recognised as a problem* and making a *weight loss attempt*. It influences the type and level of *support* that is sought if at all. Ultimately this has an impact on their *emotional state and mindset*.

## **5. Discussion and Conclusions**

### **5.1. Overview**

This study examined and produced a grounded theory to describe the psychosocial barriers and facilitators to achieving and maintaining a healthy weight in overweight and obese young women. The final chapter discusses the key findings in relation to current evidence and practice, and the strengths and limitations of the study and research methodology chosen. This is followed by a discussion of the intervention and policy implications of the proposed theory, recommendations for future research, in addition to the overall conclusions.

### **5.2. Key Findings**

The results of the current study support a number of previous findings within the field of obesity and behaviour change. However, the findings of the grounded theory have extended the current knowledge base in understanding this key public health challenge, specifically in overweight and obese young women by developing the Emotion and Mindset Model.

A summary of the core categories which informed the proposed grounded theory model are discussed below.

#### **5.2.1. Emotion and Mindset**

One of the key overarching findings is the role of emotion and mindset in understanding the challenge of achieving and maintaining a healthy weight in young overweight and obese women. The results indicated that the participants' emotional state and state of mind had an impact on their ability to commit to follow through with diet and physical activity goals. Participants clearly identified with 'mindset' as a key barrier or facilitator to weight loss, indicating that emotional state has an impact on mindset and behaviour. Being in the right

mindset was associated with being able to manage diet and food intake more effectively along with an increased motivation to engage in physical activity.

Research is indicating that there is an emotional dimension to weight management (Duarte, Matos, Stubbs, Gale, Morris et al, 2017; Holland, Dallos and Olver, 2011) but this current research suggests that it is central to the challenge of achieving and maintaining a healthy weight. Recently Nash (2015) has proposed that as emotions are a key part of decision making this is relevant to eating behaviour as they are closely connected to food.

### ***Affect***

Affect is the act of experiencing emotion. The results showed that the experience of feelings and emotions can act either a barrier or facilitator to weight loss by having an impact on sense of self and mindset. Affect can also have an effect on overall mood, which can influence decisions that may not be aligned to the stated intentions.

Findings from Carr, Friedman and Jaffe (2007) suggest that excessive body weight is not necessarily distressing, yet the physical and interpersonal strains associated with obesity may impair one's mood.

### ***Control***

The importance of self-control in relation to eating behaviour, cognitions and emotions was identified. Self-control is defined by West & Brown (2013) as the effortful generation of desire to adhere to a rule that is sufficiently powerful to overcome desires arising from other sources.

Participants indicated that negative thoughts and emotions were related to negative eating behaviours and a negative overall mindset. However there was a lack of ability to identify

negative and dysfunctional thoughts or an awareness of how to exert increased self-control over cognitions and emotions.

Research indicates that those who regain weight are more likely to report over-eating in response to negative emotional states than those who maintain weight loss. This may reflect a tendency for those who are unsuccessful at weight loss and weight loss maintenance to use food or eating to moderate negative mood states (Kayman, Bruvold & Stern, 1990).

Research has shown that when cognitive techniques and strategies aimed at identifying and modifying aversive thinking patterns and mood states are added to behaviour therapy to facilitate weight loss, they appear to improve success with reduced weight gain (Shaw, O'Rourke, Del Mar, & Kenardy, 2006).

Developing increased self-control is reliant on self-monitoring of specified behaviours and the behavioural outcome. This is consistent with two large scale systematic reviews showing that interventions prompting participants to self-monitor their behaviour were more effective in achieving behaviour change (Michie, Abraham, Wittington, McAteer, & Gupta, 2009; Dombrowski, Sniehotta, Avenell, MacLenoon, & Araujo-Soares, 2009).

Self-regulation refers to deliberate attempts to alter one's behaviour, emotions or cognitions to achieve a desired goal (Herman, & Policy, 2011). For people trying to lose weight the principle behaviours requiring self-regulation are associated with eating and physical activity. In a review of effective techniques in healthy eating and physical activity interventions, Michie et al (2009) found interventions that combined self-monitoring with at least one other technique derived from control theory (Carver & Scheier, 1998) were significantly more effective than interventions that did not include these techniques. This finding has subsequently been replicated by Dombrowski et al (2014).

### 5.2.2. Sense of Self

One of the key findings reported is the struggle young overweight and obese women experience in trying to maintain a valued sense of self whilst negotiating the processes, actions and their beliefs in an attempt to achieve and maintain a healthier weight. This is consistent with findings from Cochrane (2008), recommending that interventions need to include strategies to improve self-esteem, enhance self-worth and help develop self-efficacy, so that overweight and obese young women can become agents of change in pursuit of their own wellbeing.

The results from this study suggest that one's sense of self contributes to the challenge of achieving and maintaining a weight loss. There appeared to be a balancing act to maintain a positive and valued sense of self, which was affected by recognition of weight as a problem and identity.

There were a number of different processes identified as employed by participants to reduce the cognitive dissonance associated with their perception of weight and sense of self. These included normalising, minimising and rationalising to maintain a positive sense of self.

Research suggests that people generally make overly positive self-evaluations, exaggerate their perceptions of control, ability and exhibit unrealistic optimism. We have a drive to maintain or enhance an overall evaluation of the self through self-enhancement. There is a self-protective nature of implicit attitudes towards bolstering the self (Taylor & Brown, 1988). How this affects overweight and obese individuals has been unclear. Carels, Hinman, Koball, Oehlhof, Gumble, et al (2011) found that despite overweight and obese participants displaying significant anti-fat attitudes, they identified themselves as significantly thinner, better, more attractive, active, disciplined and more likely to eat healthily than 'other' people. Often using

extreme comparisons, which is consistent with the findings of this study; 'I'm big but I'm not that big'. These perceived 'social norms' are used as a reference point to help maintain a positive sense of self.

### ***Recognition of Weight as a Problem***

The process of recognising weight as a problem was initially identified in the pre-weight loss interviews as participants described their experience of their weight challenge. The results suggested that when young women acknowledge their own weight as problematic they draw on processes to negotiate the potential negative psychological effects in an attempt to maintain a positive sense of self.

### ***Identity***

The results suggest that having and maintaining a strong sense of identity is important to overweight and obese young women and that this is regarded as something that might change negatively once weight loss has been achieved. There is then the need for these young women to negotiate their ability to maintain their identity with their desired weight loss.

The role of identity in behaviour change is central to Prime Theory (West & Brown, 2013), where identity is seen as the mental representation of one's self and the emotions we attach to these. It is an important source of desires and provides a degree of stability to our behaviour by the labels we apply and the rules that govern our behaviour.

Identity change is seen as the starting point for deliberate behaviour change and can be regarded as an 'act' that occurs when the desire to make the change is momentarily greater than the desire not to (Michie, West, Campbell, Brown & Gainforth, 2014). Deliberate behaviour change is sustained when the desires arising from the new identity are stronger at each relevant moment than the desires arising from other sources to revert to the previous

behaviour pattern. For example over-eating, or the ability to over-ride habitual or instinctive impulses, which may result in 'mindless eating' which requires effortful self-control. While identity is influential in shaping behaviour, behaviour is also undertaken as a means of defining our sense of identity.

An individual's sense of identity is influenced by social norms. It is difficult to target an individual's identity directly but it has been proposed that this can be done through the processes by which social norms are internalised, and self-identity defined. Subjective norms are defined as an individual's perception that most people who are 'important to them think they should or should not perform the behaviour in question' (Ajzen and Fishbein 1980). This is important in relation to the findings of the current study, that being a good role model to children now and in the future and of the cultural discrepancies around the ideal body weight.

### **5.2.3. Self-Efficacy**

The results showed that the belief that one has the ability to engage in the required actions to achieve the desired weight loss goals is affected by the level of support received and perception of previous weight loss attempts. It is important therefore to address factors that reduce a person's self-efficacy i.e. perceptions that people are too busy, it is too difficult, it will not make any difference, and put the emphasis on improving outcomes that people value such as protecting themselves and their family, being a good role model for their children.

Self-efficacy has been identified as a key determinant in increasing physical activity (Bauman, Reis, Sallis, Wells, Loos, et al, 2012). Darker, French, Eves, & Sniehotta (2010) found that participants who showed largest changes in walking self-efficacy following a single walking intervention session were also the ones that showed the largest increases in objectively assessed walking behaviour.

Armitage, Wright, Parfitt, Pegington, Donnelly et al, 2014) found that self-efficacy for temptations as opposed to motivation and global self-efficacy, was predictive of subsequent weight loss in a study of dieting overweight and obese women at high risk of breast cancer.

### ***Support***

The results show that support was regarded as a strong facilitator to aide weight loss and had a positive impact on motivation and self-efficacy. There was a desire from participants for more tailored, regular, non-judgemental support, which would create an environment in which the young women felt listened to and understood.

Social support has been associated with positive change in a number of areas, including weight management (Wing, & Jeffery, 1999). Research has shown that when participants have been enrolled on weight loss programmes with a member (or members) of their naturally occurring social network, such as a spouse, friends or family members, they have achieved better results (Black, Glese, & Kooyers, 1990; Wing, & Jeffery, 1999). Within the field of smoking cessation, interaction-oriented groups have been shown to improve attendance and participant retention (Hajek, 1989), mutual linking of individual tasks, improved treatment compliance and short-term outcome (West, Edwards, & Hajek, 1998).

For those that were assigned to the Group Based Intervention, participants described how they found the weekly session supported them to lose weight but for most of the participants as the weekly sessions ceased they reported experiencing weight gain. It appears the weekly sessions provided regular support, monitoring and feedback and when this reduced to monthly drop in sessions participants felt they started to lose the motivation they had and saw a reduction in their weight loss.

### ***Previous Weight loss attempts***

The perceived success of previous weight loss attempts appeared to have an effect on self-efficacy. There was recognition that weight loss was achievable as all participants had lost weight in the past. However, in all cases they have regained the weight lost and acknowledged that the long-term maintenance of a healthier weight would be a challenge to sustain.

Prompting focus on past success is also one of the specified behaviour change techniques in the CALORE taxonomy (Michie, Ashford, Sniehotta, et al, 2011). This involves the individual thinking of or listing previous successes in performing the behaviour. This is synonymous with the literature on positive affirmations, a procedure in which people reflect on cherished values or attributes. If a person's self-image is affirmed in a domain important to them, they should be more open to potentially challenging behaviour change. Studies in fruit and vegetable consumption have shown positive results on the use of implementation intentions and in enhancing the impact of self-affirmation (Epton & Harris, 2008; Harris, Brearley, Sheeran, Klein, Creswell, et al, 2014).

In some instances previous weight loss had not resulted in the desired appearance changes, which created a conflict in wanting to lose weight but not wanting the negative body changes associated.

#### **5.2.4. Stress & Conflicting Priorities**

Despite weight loss being expressed as a clear priority, this was entwined with other competing or conflicting priorities. These were often seen as barriers to achieving and maintaining a healthier weight in regards to eating a healthier diet and engaging in regular physical activity. How they coped with the conflicting priorities and external stressors such as work, deadlines and competing priorities impacted on their sense of self and self-efficacy.

The findings suggest that weight loss support should include strategies to help young women manage conflicting priorities to be able to fit in regular physical activity and actions to support a healthy diet. This is consistent with findings from the Health Survey for England (2007) where women reported wanting to be more physically active. When exploring barriers, lack of leisure time was most cited by women (Health and Social Care Information Centre (2008). This has also been reported as a barrier to behaviour change in general as people have competing demands on their energies and resources which can impact on their engagement (Franks, Hardiker, McGrath, & McQuarrie, 2012).

It is important therefore that time management strategies are advocated which could include more action planning strategies such as meal planning, preparing shopping lists and allowing time for cooking preparation. Action planning is classified as one of the 93 hierarchically clustered behaviour change techniques as part of the Behaviour Change Taxonomy (V1) (Michie, Richardson, Johnston, Abraham, Francis, et al, 2013). It involves detailed planning of what the individual will do including, when, where and how frequently.

There is some evidence of an association between experiencing stressful life events and weight gain or regain. Other studies has found that it is not the absence of stress, rather the ability to cope with stress that appears to be associated with successful weight maintenance (Byrne, S. 2002).

### ***Duties and Desires***

The results suggest that participants felt a conflict between the duties they needed to fulfil in their everyday lives, and their desire to lose weight. This led participants to feel that to achieve their desired weight loss they would have to engage in what was regarded as 'selfish' behaviour. This was seen as a challenge for participants that were parents wanted to be a

'good Mum', which required putting their children's needs before their own. Interestingly, this was entwined with the notion of wanting to be a good role model for their children and not allowing them to have unhealthy food or hiding their own consumption of unhealthy food from them. Prompting the identification as a role model to others to elicit behaviour change is identified in the CALORE taxonomy (Michie, Ashford, Sniehotta, Dombrowski, Bishop, et al 2013). This involves focusing on how the individual may be an example to others with the aim of influencing their behaviour.

### ***Pros and Cons of Weight Loss***

Positives and negatives associated with weight loss were clearly identified, which could act as facilitators or barriers to achieving and maintaining a healthy weight. These included both psychological and physical factors. There was the notion that weight loss would result in participants feeling happier and more confident about themselves and in their lives in general.

Pros and cons of weight loss in achieving the ideal body shape were also identified. There were clear negative connotations associated with being overweight. However, there were also negatives expressed about being 'skinny'. Interestingly the term 'skinny' was not used to mean underweight, but to reflect being slimmer than the participant felt was the right weight for their body shape. Trying to identify what would be considered to be the 'right' weight presented a challenge as this did not necessarily fit with the specified BMI categories.

The results indicated that for some participants having a larger body type was culturally more acceptable, which is supported by an evidence-based review by Kulie, Slattengren, Redmer, Counts, Eglash, et al (2011). However the results indicated that this created an internal conflict as the participants felt they needed to lose weight for themselves.

### ***Intentions and Behaviour***

There was a clear discrepancy reported by participants wanting to lose weight and how to do it. This goes back to the widely accepted notion that eating less and exercising more is the solution to weight loss. Participants reported that they needed to maintain the motivation to do so. This is a clear example of the well documented intention-behaviour paradigm illustrating the gap between intentions and behaviour (Webb & Sheeran, 2006), where participants fail to enact their intentions or they only last for a short period of time. The intention-behaviour gap describes self-regulatory problems with goal realisation, whereby a goal is formed but the intended behaviour is not enacted. Intentions have been shown to be only predictive of approximately 50% of behaviour (Sheeran, 2002), and therefore past behaviour is currently the most accurate predictor of future behaviour.

As all participants were actively seeking support to lose weight and had committed to attend a weight loss intervention it was assumed they had a high intention to lose weight. Despite this, not all participants completed the programme and of those who did, the majority did not lose weight despite displaying having the knowledge and skills to do so. The results indicate that just knowing what you should do is not enough.

Forming an implementation intention can help to overcome this gap (Gollwitzer and Sheeran, 2006). Various techniques for doing so have been developed and tested across a range of behaviours from voting to vaccination. Implementation intentions are defined as carefully formulated plans that encourage people to link critical situations with appropriate behavioural responses. When implementation intentions are formed, the salience of critical situations is enhanced, and the appropriate behavioural response is triggered automatically (Gollwitzer, 1993). Luszczynska, Sobczyk and Abraham (2007) showed that forming implementation

intentions can achieve greater weight reduction in overweight and obese women participating in a commercial weight programme.

This also highlights the need for individuals and for those designing interventions to further understand motivation. Including both the reflective and automatic components (Strack and Deutsch, 2004), that it is not just limited to choice and the pursuit of goals, but including elements of drive, habit, desire, instinct and self-regulation.

### **5.3. Strengths and Limitations of the Study**

The strengths and limitations of this grounded theory study will be discussed in turn.

#### **5.3.1. Strengths**

There were a number of strengths to this study, the majority of which were associated with the appropriateness of the chosen qualitative method of a constructivist grounded theory approach. This allowed for the in-depth exploration of the social and contextual influences on the participant's experiences of being overweight and obese and an attempted weight loss journey.

#### **5.3.2. Methodology**

Adopting a qualitative method allowed for a rich understanding of the research issue from the participant's perspective. The use of open-ended questions in a semi-structured interview format allowed for participants to describe their experiences in their own words and own time. The confidentiality and anonymity offered enabled participants to talk openly about their experiences. This allowed for a deep exploration of the challenge of achieving and maintaining a healthy weight in overweight and obese young women that would not have been possible using questionnaires and quantitative methods.

### **5.3.3. Contributing to the evidence base**

This study has built on and contributed to the existing knowledge base in relation to the public health challenge of obesity. It has provided further insight into a homogenous group of overweight and obese young women, and proposes a new Emotion and Mindset Model, through the use of grounded theory, in which to understand this challenge. It has identified the role of emotion as central to the challenge along with maintaining a valued sense of self and self-efficacy which are affected by stress and conflicting priorities. The findings from this research can guide further research to inform intervention development, improve access and effectiveness of existing clinical practice to improve the health and wellbeing of young overweight and obese women.

### **5.3.4. Recruitment**

As recruitment took place using purposive sampling from individuals who had been invited to attend a screening session to participate in the SWAP research project, it was possible to recruit additional participants as they were needed to inform the emerging findings in line with Grounded Theory analysis.

### **5.3.5. Qualitative Study of Larger Randomised Controlled Trial (RCT)**

As this study was the qualitative element of a larger RCT it was possible to include weight measurement data providing verified weight outcomes to compare to those reported by the participants in the semi-structured interviews.

### **5.3.6. Limitations**

There were a number of limitations with the present study and these will be discussed in turn. It is important to note however that these limitations were largely unavoidable due to the

nature of conducting qualitative research and when relying on participants volunteering to take part.

### **5.3.7. Recruitment**

One limitation was not having an equal number of participants assigned to the intervention and the control condition of the RCT as recruitment for this study took place at screening before participants were assigned to either the control or intervention arm. However, this research study was primarily interested in young women actively engaging in a weight loss attempt and was not evaluating the differences between different interventions or programmes of support.

Another limitation was not having equal numbers of participants that lost weight and maintained a weight loss, with participants that lost weight and regained weight. Further recruitment of participants could have taken place at the six-month follow-up. However, the research was primarily interested in following up participants that were actively engaging support for a weight loss attempt, following these participants through a weight loss journey. As it was judged that theoretical saturation have been achieved the decision was taken that it was not necessary to recruit additional participants.

### **5.3.8. Sampling Bias**

As the study was interested in engaging with young overweight and obese women who were actively seeking support to lose weight, participants were recruited through recruitment to a weight management research trial. Participants were recruited from two Primary Care Practices in East London. Two of the participants were actually siblings and may have encouraged each other to attend the interviews.

### **5.3.9. Sample size and Lost to Follow up**

A total of 16 participants consented to take part in the study and met the study criteria. Two of these participants subsequently did not attend their interview appointment. One was lost to follow up and one did not want the interview to be recorded. A total of 14 participants attended the pre-weight loss interview, however only eight participants attended the post weight loss attempt interview. Therefore a total of six participants were lost to follow up. Of these one relocated and as such it was not possible to conduct an interview, four dropped out of the weight management programme and after three attempts to contact them at different times of the day they were recorded as lost to follow up. The final participant that was lost to follow up failed to attend two scheduled appointments for the post intervention interview arranged at their convenience.

Despite the smaller than anticipated post intervention sample, the researcher felt that due to the development and refinement of categories through the process of data gathering, memo-writing and analysis, the data from the interviews was sufficient to allow for the development of a theoretical framework which subsequently informed the proposed grounded theory model. This follows the concept of reaching data saturation (Glaser and Strauss, 1967) when the collection of new data does not shed any further light on the issue under investigation.

### **5.3.10. Theoretical Sampling and Saturation**

There are a number of different views held regarding how to justify the realisation of saturation. Charmaz (2006) suggests that the aims of the study should be the ultimate driver of the project design and the sample size required. Dey (1999) states the concept of saturation is inappropriate as researchers can close categories early even if only partially coded. Instead Dey argues that the term 'theoretical sufficiency' better fits how researcher should conduct

grounded theory. The longer a researcher examines and analyses their data, there is always the potential for new concepts to arise therefore the researcher needs to identify a point when data gathering and analysis becomes 'counter-productive' where the new discovery does not necessarily add anything to the overall model, theory or framework (Strauss, & Corbin, 1998). Researchers need to be self-critical about reaching theoretical saturation.

Despite reaching theoretical sensitivity and saturation through the data obtained, there was not the opportunity within the confines of this study for negative case analysis due to the nature of the recruitment to the study. Therefore no additional negative case or theoretical sampling took place.

As this research attempts to capture and accurately represent the lived experience of young women actively seeking support to lose weight, the findings from this study could be further strengthened by conducting a similar study with an additional sample of young women attending a commercial or local weight management programme. This would provide an opportunity for further theoretical sampling and negative case analysis.

#### **5.3.11. Language Ambiguities and Interpretation**

During the research process every effort was made to maximise the rigour of the findings. As is the nature of using a grounded theory approach, this involved being fully 'immersed' in the data. However, despite allowing concepts and categories to emerge from the data, the researcher is required to interpret the words of the participants. There is therefore a limitation in the ambiguities of human language and how different people use different terminology to describe meaning. It was therefore important for the researcher to be aware of these differences and reflect on their influence on the presentation of the findings. The problem of

interpreting meanings is a feature of qualitative research and conclusions are always derived from the researcher who interprets the data.

The ability to make generalisations from the findings are limited, however qualitative methods do not strive to achieve this. Rather Grounded Theory is used to uncover the meanings and perspectives which individuals attribute to their own experience of a phenomena (Strauss & Corbin, 1990; Charmaz, 2006). It has been suggested that the results from qualitative research should be considered according to their applicability, the degree to which readers can relate the findings to their own context (Strauss & Corbin, 1990). Therefore facilitating an understanding of the phenomena should be the focus rather than deriving generalisable 'truths' (Elliot, Fischer & Rennie, 1999).

#### **5.4. Intervention Implications and Recommendations**

There is a current focus on the clinical provision of weight management programmes and interventions to address overweight and obesity. These health service focused programmes and interventions are just one element of the support required to address overweight and obesity in young women. Weight management programmes may be helpful in supporting the initial phases of a weight loss attempt. They present an opportunity to provide tools and techniques along with the associated training in which to utilise these effectively. The focus of these however, must be on long term weight maintenance not just initial weight loss and there are clear cost challenges associated with providing these indefinitely as part of the National Health Service offer. Interventions need to span prevention, provision of support for those already over-weight or obese and long-term maintenance of a healthy weight.

As maternal and parental weight is a risk factor for childhood obesity (Agras, Lawrence, Himmer, McNicholas, & Kraemer, 2004), and childhood obesity is subsequently a risk factor for

adult obesity, (Whitaker, Wright, Pepe, Seidel, & Dietz, 1997), there is a clear need to support young women to tackle obesity. Even within individuals living with the challenge of overweight and obesity there appears to be the over simplification of obesity being the result of over-eating and lack of physical activity.

Based on the findings from this study, and supported by previous findings (Cochrane, 2008), interventions need to build in coping strategies to support individuals cognitively, behaviourally and emotionally. These should include building self-efficacy (NOO, 2011; Ashford, Edmunds, French, 2010), sense of self and re-aligning identity (West & Brown, 2013). Individuals need to be taught how to identify, address and re-orient dysfunctional thoughts, to identify potential stressors such as triggers and environmental cues to prevent relapse. Individuals need to be supported and prompted to practice using these techniques regularly for them to become a habitual behaviour.

Intensive, personalised, tailored support, along with peer support were clearly identified as facilitators to weight loss and maintenance in the current study. There is a challenge to continue to provide ongoing support once the intensive part of a weight management programme has come to an end. There are a number of weight loss programmes that run continuously. However similar challenges are experienced as soon as an individual reduces the frequency of attendance, and old habits re-surface. It seems that individuals are unable to maintain the intensive attendance commitment long term. Therefore consideration needs to be given to what additional or alternative support could be made available to provide this required intensive, tailored, ongoing support including relapse prevention.

We are now in a realm of digital technology in which the opportunities afforded are just beginning to be realised. For example, ownership of mobile phones does not follow the social inequalities gradient with; 99% of 16-34 year olds, 98% of 35-54, 92% of 55-64s and 72%

among those aged 65+ using a mobile phone (Ofcom, 2014). This appears to provide an opportunity irrespective of deprivation to provide this additional support. The development of apps that can be tailored and personalised can easily be downloaded at the touch of a button. In-built smart phone sensors could provide real time feedback and support to the user. There is promising evidence for the effectiveness of mobile electronic devices in weight loss among overweight and obese populations (Khokhar, Jones, Ronksley, Armstrong, Caird, & Rabi, 2014). Further work is needed to explore the long term effects and how these could be used at a population level.

This would also help with monitoring and self-regulation, as there is a clear need to support individuals to develop the skills and resilience to embed self-monitoring into their everyday lives without it becoming an onerous task or an obsessive behaviour. These would also provide opportunities to prompt action planning and implementation intentions to over-come the identified intention-behaviour gap.

### **5.5. Policy Implications**

The policy focus needs to be broader than just increasing access to weight management services and educating people about the risks of obesity. There needs to be a preventative approach taken across the life course encompassing a whole systems approach to tackling obesity at the micro and macro level (Foresight, 2007; NICE, 2015; PHE, 2015).

There needs to be increased clarity on the messages given to the general public about diet and physical activity and consideration of cultural and ethnic differences. We need a better understanding of what messages are effective for the different behaviours we are trying to encourage and be clear how we measure these to understand impact and effectiveness.

The individual must have the information, motivation and behavioural skills to be able to engage in the required behaviour (Fisher and Fisher, 1992). At present the information around diet and physical activity is challenging to understand and interpret. For example, how many calories should an adult eat for breakfast, lunch and dinner; how many calories, grams of sugar, salt and saturated fat are in a home prepared meal, and how long would it take you to burn these off? Many people still do not understand calories or nutrition labelling or use these to monitor their intake effectively (Cowburn & Stockley, 2005). To influence action, information must be easily understood and memorable, relevant to current behavioural goals, and readily available in the moment of action or decision (Fisher & Fisher, 1992; BIT, 2014). There is little understanding of the underlying mechanisms and drivers of behaviour that often lead to engaging in these less desirable outcomes.

With overweight and obesity becoming the social norm it is easy to see how the perception of 'I'm big but I'm not that big' has emerged and comparisons with extremes can help to reinforce this perspective. There is a need to re-frame the current social norms of the majority of people being overweight or obese to tap into individual's sense of identity to encourage the adoption of healthier behaviours. There are clear cultural differences in ideal body shapes, which influence perception of overweight and obesity which need to be taken into consideration.

There is a need to identify the environmental influences and behavioural cues that could be addressed at a policy level to support healthier choices. This includes portion sizes, restriction on promotional marketing and availability of unhealthy products taking into consideration the more automatic cognitive processes influencing individual's decision-making processes and ultimate behaviour.

It appears necessary to conduct a thorough behavioural analysis of obesity, mapping out the key drivers and behavioural influences, to identify the key target behaviours that need to be addressed at a population, organisational and political level, and then design appropriate interventions and consider which policy levers could be utilised.

## **5.6. Future Research**

This study has identified the challenge of finding the health enhancing equilibrium of maintaining a valued sense of self while generating action to achieve and maintain a healthy weight through the Emotion and Mindset Model proposed. The next stage is to explore where this equilibrium lies to achieve the optimum outcome. At what stage is positive action initiated, and how do we maintain the sustained behaviour changes necessary to translate dietary and physical activity into health benefits to achieve health-enhancing change? How do we optimise the identified importance of sense of self, emotion and mindset and increased self-efficacy?

This study can be used as a foundation for further studies on how behaviours and strategies are utilised in the population among maintainers and re-gainers as well as healthy weight individuals. Further understanding the protective factors for individuals to avoid accumulating excess weight and maintaining a healthy weight may help provide further insight into this phenomena.

Further research is needed to identify pre-requisites for maintaining a healthy weight and maintaining a weight loss, to explore in more detail the mental preparedness to maintain or change weight and specific actions needed to maintain weight loss.

It is also necessary to further understand if there is a need to differentiate advice and support in weight loss and maintenance in different subgroups of the population, such as different

minority ethnic groups or different age groups, and to explore whether different eating behaviour patterns require different intervention or levels of support. If so, is there a way of tailoring population level interventions to meet these individualised needs?

### **5.7. Concluding Statement**

This current study supports and expands on findings from previous research. The primary objective of this study was to explore the challenge of achieving and maintaining a healthy weight in overweight and obese young women. This challenge has been theoretically framed around the overarching category of *Finding the Health Enhancing Equilibrium* with the presentation of *sense of self, emotion and mindset, self-efficacy* and stress and *conflicting priorities* as the core categories interacting to explain the challenge of *maintaining a positive sense of self whilst generating action to achieve and maintain a healthy weight*. This is a challenging balance to achieve in order to enact and sustain behaviour change in relation to diet and physical activity. Only by improving our understanding of this complex phenomena taking into consideration the individual, sociological and environmental influences will improvements be made to halt and ultimately reverse the current obesity epidemic, improve the health and wellbeing of the population as a whole and contribute to the reduction of health inequalities.

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## 7. APPENDIX

## **Appendix 1 – Pre Intervention Interview Schedule**

### **Achieving a Healthy Weight Exploring the Challenge**

#### **Pre Intervention Interview Question Schedule**

##### ***Introduction***

Make reference to recording of the interview for transcription purposes.

Thank you for agreeing to this interview.

The aim of study is to explore what factors influence how people lose weight and maintain weight loss. To understand more about the challenges people encounter and the ways in which they respond to these.

1. To start can I ask you to tell me a bit about your weight and why you decided to sign up to this weight management programme?

Prompts:

- Why did you decided you wanted support with losing weight?

- Health
- Physical appearance
- life change
- another person
- wanting a baby

##### ***Past Experiences***

2. Can I ask you to tell me a bit about your past experiences of your attempts to lose weight?

Prompts:

- have you done this on your own or with other programmes?

- Successes – what worked?
- Failures – what didn't work so well and why?
- Have you always struggled with your weight or is this a more recent challenge?
- What support have you received to lose weight in the past?

##### ***Contact with Health Services***

3. Can I ask what experiences you have of discussing weight loss with your GP or a healthcare professional?

Prompts:

- What support did you receive?
- What support would you like to have? Who would you want delivering it? What sort of setting? How do you think this would help?

### ***Impact of Current Weight***

4. What do you think about your current weight?

5. How do you think your current weight affects your life?

Prompts:

- your quality of life
- lifestyle
- health
- physical functioning
- relationships
- social life
- work?

6. How does this make you feel?

Prompts:

- About yourself or your mood?
- How does this affect how you see yourself? (body image concerns/self-esteem)
- How does this affect how you think others see you?

### ***Control***

7. How much control do you think you have over your weight?

Prompts:

- Shopping
- cooking
- Eating
- Hunger

8. Can you give me an example of a time when you have felt in control? not felt in control?

9. What do you think would have to happen for you to feel more in control?

10. Can you tell me about anything else that you think contributes to your weight?

11. Can you tell me about anything that you think affects your weight?

Prompt:

### ***Eating Behaviour***

12. Can you tell me about your eating behaviour?

Prompts:

- What do you think affects how much/ what you eat?
- Tendency to over eat?
- Portion size
- Bingeing
- Habits
- Time of day
- Influence of senses?
- Sensation seeking – feeling full
- In what situations do you tend to overeat?
- When do you stop eating? When you feel full? When there is nothing left?

13. What is your experience of feeling hungry?

### ***Activity Levels***

14. Can you tell me a bit about your activity levels?

Prompts:

- What do you think affects how much you exercise? In what ways?

15. Can you tell me about any other factors that have an impact on your weight?

### ***Beliefs/knowledge towards losing weight***

16. What do you think is the best way for you to lose weight?

Prompts:

- Typical length of time to lose weight?
- What would you say is an acceptable size for women aged xx to be?
- What would be an acceptable weight change for you?
- How would you advise someone to lose weight?

### ***Meaning of weight***

17. What does being a healthy weight mean to you?

18. What does losing weight mean to you?

### ***Importance of weight loss***

19. How do you think losing weight would affect you?

Prompts:

- What would be different?
- How would I know you had lost weight?
- How would losing weight make you feel?
- How would losing weight affect your QOL?

### ***Challenges***

20. What do you think affects your attempts to lose weight?

Prompts:

- What do you think are your biggest challenges in losing weight?
- What do you think you can you do to overcome these?
- What do you think you need help/ support with?

### ***Motivators***

21. What are your biggest motivators to lose weight?

Prompts:

- Can you be more specific?

22. What motivated you to take part in this weight management programme?

### ***Why Now***

23. Why now? What is different now?

### ***Support from friends/ family***

24. Can you tell me about your support network?

25. How have your friends/ family reacted to you going on a weight management programme?

### ***Expectations about this programme***

26. What are your thoughts about trying to lose weight with this programme?

27. What are your expectations about the programme?

28. Can you tell me about any challenges you anticipate?

29. What do you hope to achieve? What are your aims?

Prompt: Can you be more specific?

30. What do you think you will have to do to change your weight?

31. How much do you believe you are able to make these changes?

***Maintaining a weight loss***

32. What are your thoughts about trying to maintain the weight you lose in the long term?

33. How confident are you that you can stick to changes in the long term and maintain a weight loss?

***Finish***

34. Any other concerns/anything not covered?

35. We have discussed various aspects of your weight and plans for weight loss, is there anything you would like to raise or discuss that you think we have not addressed?

36. Do you have any questions about the research?

Thank you very much for your participation.

Can I please confirm that you would be happy to talk to me again after you finish your programme to hear about your experiences?

**Prompts/ Probes for questioning:**

Could you give me an example?

Can you give me an example of what you mean?

Can you elaborate on that?

Can you tell me a bit more about this?

Would you explain that further?

What I heard was...

It sounds to me as you're saying....

I'm not quite sure I understand what you're saying.

Is there anything else?

**Ending Questions**

You have been talking about...

This goes back to what you were saying about...

Would you like to add anything else?

**Open Questions**

How

What

What does that mean to you?

Why do you feel that way?

## Appendix 2 – Post Intervention Interview Schedule

### Achieving a Healthy Weight Exploring the Challenge

#### Post Intervention Interview Question Schedule

##### ***Introduction***

Thank you ever so much for agreeing to take part in this 6 month follow up interview.

The aim is to find about your experience of trying to lose weight with this weight management programme and your thoughts of maintaining a weight loss in the long term.

##### ***Experience of weight loss***

It has now been about 6 months since we last met when you were actively seeking support to lose weight. Can you tell me a bit about your experience of trying to lose weight with this programme since then?

1. Can you tell me about your weight loss attempt and your experience of taking part in the weight management programme?
2. What do you think about your current weight?
3. How does your current weight make you feel?
4. How has losing weight/ not losing weight/ gaining weight affected you?
5. What is different now?
6. Can you describe any changes you have become aware of?  
i.e. physical changes/ changes to your body, psychological, mood
7. How does that make you feel?

##### ***Change***

8. Can you describe any changes you have made since being on the programme?  
i.e. lifestyle/ diet/ activity levels/ eating behaviour/ cooking/ shopping?
9. What do you think has led to these changes?
10. How do you feel about sustaining these changes?

##### ***Experience of Programme***

11. Can you tell me a bit about your thoughts of the programme?
12. How successful do you think the programme was in supporting you to lose weight?
  - Did you learn anything new?

- What did you find most useful?
- What did you not find helpful?

13. What kept you attending the sessions? Or why did you not attend all the sessions?

14. What prevented you from attending / made it difficult to attend?

### **Challenges**

15. What did you find hard/ the most challenging?

16. How useful was the programme in supporting you with the challenges you encountered?

17. How much control do you think you have over your weight now? Has this changed?

- Increased/ decreased
- Prompts control over eating/ experience of hunger

### **Setting**

18. How did you find taking part in a programme in a GP surgery?

19. Where would you ideally want to access a weight programme or support?

20. Who would you like to provide the sessions? i.e. GP, Health Care Professional, someone who has lost weight?

### **Future & Maintenance**

21. How confident do you feel that you are able to maintain the weight loss you have achieved?

22. What are your weight loss goals going forward?

23. How might you go about achieving those goals?

24. How confident are you about achieving the weight loss you are aiming for?

25. How do you think you will maintain the weight loss in the long term?

26. How confident are you that you will be able to maintain this?

27. What makes you feel that confident? Or not confident?

28. What do you think are your biggest motivators for losing weight?

29. What do you think will be your biggest challenges going forward?

30. How might you over-come these?

31. Is there any further support you feel you need?

32. Are there any ways in which you feel the programme you attended could be improved?

***Close***

Thank you ever so much for taking the time to discuss this with me. Is there anything further you would like to add at this point?

I will be analysing the data and would be keen to discuss any themes, models, frameworks that start to emerge. If you would like the opportunity to comment on these I would really value your thoughts. Would you be happy for me to contact you again in 3 months to discuss these?

## Appendix 3 – Ethical Approval from City University



**CITY UNIVERSITY  
LONDON**

**School of Social Sciences**

Northampton Square

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[www.city.ac.uk/social](http://www.city.ac.uk/social)

19<sup>th</sup> September 2012

Dear Amanda,

**Re: Doctorate in Health Psychology Thesis: ‘Achieving and maintaining a healthy weight: exploring the challenge for young women’**

Thank you for submitting the documents demonstrating that the above study has received NHS ethical approval. You are not required to seek additional ethical approval from City University given that you have received NHS ethical approval to proceed with your study.

Please submit any NHS ethics related correspondence during the course of conducting your research to City University.

Yours sincerely,

Dr Claire Howard

Health Psychologist

External Supervisor, DPsych Health Psychology Course,

## **Information Sheet for Research Participants**

### **Achieving and Maintaining a Healthy Weight Exploring the Challenge**

I, Amanda Bunten, am a trainee Health Psychologist working for the City and Hackney Public Health team as a Public Health Strategist. I am working towards accreditation as a Health Psychologist through my Professional Doctorate at City University. To demonstrate my research competence I am conducting a piece of qualitative research into the challenges associated with achieving and maintaining a healthy weight in young women.

I am requesting your participation in this study designed to explore the factors associated with achieving and maintaining a healthy weight. This will involve taking part in two semi-structured interviews lasting approximately 30 minutes each. One will take place before you start the weight management programme and the second will take place six months after you started your weight loss attempt. The interviews will be conducted by myself and video recorded for transcribing purposes.

I am keen to hear about your experiences from your perspective; your beliefs; thoughts; and feelings; about your weight and losing weight. I want to understand what motivates you, what you find challenging and what other influences there are in your life.

In the first interview you will be asked questions related to your past experiences of trying to lose weight, your thoughts and feelings about your weight, your decision to actively seek support to lose weight and your expectations. In the second interview you will be asked questions about your experiences of the programme, any changes you made or experienced, and your thoughts and feelings about long term weight loss and maintenance.

Personal information will not be released or viewed by anyone other than researchers involved in this project. Results of this study will not include your name or any other identifying characteristics.

Your participation is voluntary and you may withdraw your participation in this study at any time before or after the interviews have taken place. If you choose not to participate you will not incur any sort of penalty and can still take part in the weight management programme you have been assigned to. If you have any questions please feel free to ask them now, or contact me at a later date on [REDACTED] (Monday – Thursday 9am – 5pm) or email me [REDACTED]

### **Help-line Information**

If you feel you need to speak to someone, want further support or advice please utilise the information on support services below:

Beating eating disorders – 0845 634 1414 - Confidential helpline offering support and advice for anyone affected by an eating disorder. <http://www.b-eat.co.uk/>

NHS Direct – 111 - Health advice, information and reassurance, 24 hours a day, 365 days a year. <http://www.nhsdirect.nhs.uk/>

The Samaritans -08457 90 90 90 – 24hr helpline - Confidential non-judgmental emotional support, 24 hours a day, for people who feel distressed, despairing or suicidal. <http://www.samaritans.org/>

## Statement of Consent

I, \_\_\_\_\_  
[participant's name]

have read the above information sheet. I understand that I may withdraw my consent and discontinue participation at any time without penalty or loss of benefit to myself. I understand that data collected as part of this research project will be treated confidentially, and that published results of this research project will maintain my confidentiality. In signing this consent letter, I am not waiving my legal claims or rights. A copy of this consent letter will be offered to me.

I give consent to participate in the above study.

YES    NO    (Please circle Yes or No)

Signature \_\_\_\_\_

Date \_\_\_\_\_

If you would like to complain about any aspect of the study, City University London has an established complaints procedure via the Secretary to Senate Research Ethics Committee. To complain about the study, you can phone 020 7040 3040 and ask to speak to the Secretary to Senate Research Ethics Committee informing them that the name of the project: "Achieving and Maintaining a Healthy Weight Exploring the Challenge for Young Women". Alternatively you can write to the Secretary Anna Ramberg Secretary to Senate Research Ethics Committee, Research Office, E214, City University London, Northampton Square, London EC1V 0HB or email:

████████████████████.

## Publishable Papers

### Paper 1

#### **The TARGET Patient Information Leaflet: a resource for patient consultations to improve appropriate antibiotic prescribing in primary care**

Amanda Bunten<sup>1</sup>, Meredith Hawking<sup>2</sup>, and Professor Clodna McNulty<sup>2</sup>

<sup>1</sup>Public Health England - Behavioural Insights Team

<sup>2</sup>Public Health England - Primary Care Unit

Published in Nursing in Practice February 2015

Key learning points;

- To slow emergence of antibiotic resistance we need to reduce the use of unnecessary antibiotics and increase patient self-care for infections.
- To raise awareness of the TARGET patient leaflet and TARGET resources.

Actions;

- Use the TARGET patient leaflet in consultations to help patients understand when antibiotics are really needed.
- Join the growing number of people making a simple pledge to help reduce antimicrobial resistance and sign up to be an antibiotic guardian today

<http://antibioticguardian.com/>

### **Introduction**

Antimicrobial resistance (AMR) continues to be a rising threat to the provision of modern medicine. Unless definitive measures are taken to optimise antibiotic use and to control the spread of resistance, we will become unable to treat life-threatening infections. The Chief

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## **Paper 2**

### **The Journey of a Health Psychologist in Public Health**

Bunten, A.K.

Published in the Psychologist April 2015

#### **Stepping Stones**

As an undergraduate psychology student at Southampton University I sought part-time employment to help fund and complement my studies. During this time I worked as an applied behavioural analysis tutor with children diagnosed with autistic spectrum disorder and as a rehabilitation support worker for a young man with acquired brain injury. Having the opportunity to experience the practical application of psychology in different settings enabled me to start considering the career opportunities open to me. On completing my degree I applied for a self-funded place on the taught Masters in Health Psychology at City University, London which I went on to complete full time in one year.

Whilst trawling the NHS jobs website, on completion of my Masters, I came across an advert supporting a Director of Public Health (DPH) in a deprived inner London Borough. Despite embarrassingly never knowingly having heard of 'public health' as a discipline before, I was intrigued and felt my skills matched the job specification.

I was fortunate enough to become a member of this team as a Public Health Strategist. Little did I know, but this was to be the start of my journey understanding, integrating, and championing the synergy of health psychology and public health.

#### **Health Psychology in the context of a Diverse Population**

Over the five years I worked in a local public health team I led on areas of health improvement, health protection, and commissioning of services to improve health and wellbeing. I was involved in designing, implementing and evaluating services, working collaboratively across the

local health system and with local communities to improve health outcomes and reduce inequalities. I designed and delivered targeted campaigns, training to the public and various health care professionals, wrote strategies and action plans, developed and managed contracts, and implemented service improvements working with providers and users of services.

I worked on issues including, sexual health, planning and responding to pandemic flu, health emergency planning for London 2012 Olympics and Paralympics, improving childhood immunisations within an Orthodox Jewish community, improving uptake of the seasonal flu vaccination (working directly with midwives to recommend and offer the immunisation to pregnant women), and supporting the implementation of a TB cohort review locally. This helped me recognise the importance of health psychology not just in delivering individual interventions but achieving improvements in health and wellbeing across a local population at a strategic level, ensuring services were meeting the needs of the local communities and providing more tailored intensive interventions where needed. My work reflected the reality of the term coined 'proportionate universalism'.

To increase my understanding of population level health I completed a course on epidemiology at the London School of Hygiene and Tropical Medicine which was something I had not covered during my Health Psychology training. I was encouraged to pursue a career in Public Health through the specialist public health training, however, I decided I wanted to continue my professional development in Health Psychology. I was lucky enough to be supported by my DPH in applying for a place on the Professional Doctorate in Health Psychology at City University, London, and subsequently completed the mandatory two years supervised practice in this local Public Health team.

During this time I was aware of only one other Health Psychologist working in a similar role, my academic supervisor at City University. I was astonished that there appeared to be so few

Health Psychologists working within the Public Health sphere. The roles that did exist were most likely to be found in a research or clinical setting, working in smoking cessation or rehabilitation services, where supporting behaviour change was still predominantly focused on the individual through 1:1 or group behavioural support.

### **Our Lifestyle is killing us**

In a society where the biggest preventable killers are now nearly all lifestyle related, the need to find opportunities to enable people to make health enhancing choices and behave in a way that has a long term positive impact on their health and wellbeing is paramount. The five big preventable health killers - heart disease, stroke, cancer, lung and liver disease - account for more than 150,000 deaths a year among under-75s in England alone, and it is estimated that 20% of these are entirely avoidable.<sup>1</sup> Making the healthier choice the easier option, creating opportunities, harnessing motivation and ensuring capability are key for behaviour change to occur<sup>2</sup>. Providing health and social care professionals with effective skills to support behaviour change is one piece of the puzzle, but we need to engage with people across the life course whilst making the most of life transition points, and engage with people where they live, work, play and pray<sup>3</sup>. We need to explore opportunities for intervention in the environment around us engaging with teachers, parents, employers, and the commercial sector.

We are living in an aging society with many people living longer but with a poorer quality of life as a result of the rise in non-communicable diseases as they struggle to manage long term conditions. Many of us are encouraged to plan for our older age by investing in pensions and various types of insurance but what about developing effective self-management skills, identifying our community assets<sup>4</sup> and understanding our level of resilience? The role for the application of health psychology across prevention, promotion, managing long term conditions, adapting to and maintaining change is clear.

## **Health Psychology Informing Policy**

In 2013, I saw through the transition of the local public health function into local government as a response to the Health and Social Care Act, 2012<sup>5</sup>. At this time the public health system became fragmented and despite Directors of Public Health retaining the responsibility for the health and wellbeing of the local population, many services were now to be commissioned by different bodies. As the role of the local public health team started to shift more into commissioning and contract management the applicability of health psychology was seen more in terms of the role of providers of services.

I still very much saw the role health psychology had to play in public health and in September I became aware of a new Behavioural Insights Team within the newly established National Executive Agency, Public Health England (PHE). The ambition of this new organisation struck a chord with my passion to reduce health inequalities and translate evidence into practice.

I was amazed to see health psychology as a pre-requisite for the new roles and I jumped at the chance of being part of this team. It became clear to me that this new executive agency had indeed grasped the benefit of integrating health psychology within the public health agenda at a population level. I joined the team in November as a Behavioural Insights Analyst working alongside a Lead Behavioural Insights Researcher (Dr Tim Chadborn, expert in epidemiology and field research), and a Behavioural Insights Advisor (Anna Sallis, C Psychol, CSci, AFBPsS, Registered Practitioner Health Psychologist) where I am being actively supported in completing my DPsych training.

Behavioural Insights is an applied approach which draws on insights from behavioural science (including research in behavioural economics, social anthropology and psychology) to understand why people behave as they do and the context in which decisions are made. It accepts that dual process models of behaviour (conscious/ reflective and less conscious/

automatic system) are involved in decision making and explores the importance of the relatively under researched automatic processes.

These evidence driven concepts are used to develop behaviour change interventions using defined behaviour change techniques which are applied through field testing to encourage, support and enable people to make better choices for themselves. The ultimate aim is to inform and design innovative public policy through robust evaluation and contribution to the behavioural science evidence base.

Our team has a remit to test the application of behavioural insights with a focus (but not exclusively) on automatic processes, to facilitate health related behaviour change, and support population level improvements in health and wellbeing. My role involves designing behaviour change interventions through the application of behavioural insights, to enable people to make positive health choices which will have an effect on population level health. To implement and evaluate these robustly, with the aim to drive scalable change through the translation of evidence into practice, whilst informing policy.

At times this feels like an unachievable task particularly when major developments in public health regularly referenced are linked to restriction or legislation. Such as in the case of the cholera outbreak in Soho, where the removal of the handle of the pump in Broad Street, reduced the transmission of infection (Snow, 1854)<sup>6</sup>, and more recently the introduction of the smoking ban (2007) which has shown significant health benefits, changes in attitudes and behaviour. Restriction and legislation are both viable levers which can be used to achieve population level behaviour change where appropriate, but there are many other behaviour change techniques that can be used at low cost which can address memory, attention and decision processes, the environmental context, and our social influences depending on the behaviour which is being targeted. What these significant public health changes actually

demonstrate, is the importance of the collation of evidence for the development of science which results in knowledge that can be applied and translated into action for social good.

### **Real Life Testing**

One of our core functions is to conduct robustly evaluated interventions (where possible using randomised controlled trials with objective behavioural outcomes) in partnership with local public health teams. Through testing promising interventions robustly we can identify the specific behaviour change techniques within a real life context which are effective in supporting and enabling positive health behaviour change which can then be scaled up to achieve impact.

At present we aim to work with local areas where there is a clearly defined issue, where we can provide expert advice and where possible, support the implementation and evaluation of an intervention. I spend a lot of time out of the office on field visits and meeting with those involved in delivery, provision and management of services to gain an understanding of the problem, the context in which the behaviour occurs and the ability to collect data and monitor change through objective behavioural outcomes. I also conduct literature reviews to help inform an understanding of the health issue and behavioural components.

Once the target behaviour is identified we explore the factors associated with maintaining the current behaviour and potential opportunities for intervention. If appropriate a behavioural analysis will be conducted using COM-B<sup>7</sup> and the Theoretical Domains Framework<sup>8</sup>, and then elements from relevant frameworks including the Behaviour Change Wheel<sup>9</sup>, Behaviour Change Taxonomy<sup>10</sup>, MINDSPACE<sup>11</sup> and EAST<sup>12</sup> are used to help inform the intervention design.

Criteria for conducting behavioural insights research trials include considering the impact (consideration of health inequalities), affordability, acceptability, scalability, feasibility of trial

implementation and evaluation, objective behavioural outcome measures, value added by behavioural insights and alignment with guidelines and priorities.

We have a formal partnership with the Behavioural Insights Team<sup>13</sup> (who have recently become part mutualised from the Cabinet Office now teaming up with the charity Nesta, the UK's Innovation Foundation), to help build our team's expertise in designing and applying behavioural insights to public health policy bringing tools from the field of behavioural economics.

We work on projects across public health and wellbeing to apply and build on the behavioural science evidence base. Working in partnership with other government departments, academics and businesses to identify collaborative opportunities to apply behavioural insights, support implementation and disseminate findings. It is exciting to be developing close working relationships with leading academics in health psychology to help inform and guide our work and to have met with the Public Health Minister to discuss behavioural insights work and future plans.

I am currently working on research trials to test the application of behavioural insights to improve;

- the referral process to local stop smoking services for pregnant smokers
- uptake of NHS Health Checks
- rates of childhood obesity.

Other research trials our team has been working on include testing;

- changes to the Stoptober Website to increase the number visiting the website signing up to quit
- stickers on pregnancy test kits sign posting to MiQuit<sup>14</sup> (a novel SMS support service designed to support pregnant women to stop smoking)
- SMS invites to improve uptake of seasonal flu vaccination

- referrals to promising interventions to reduce social isolation
- interventions to reduce anti-microbial resistance
- motivational text messages to increase exercise and attendance to weight management programmes.

As we develop as a team within PHE and as a wider discipline across government, our approach and remit will inevitably evolve.

Having attended many research methods and statistical workshops over my years of training in psychology has provided me with a good grounding for understanding and conducting research, however the practical realities of designing appropriate, robust field research trials feels quite different. I am learning a great deal trying to work with existing infrastructures and databases in a complex healthcare landscape with data protection challenges and electronic systems which in many instances are not well integrated.

I had found it challenging to find opportunities in my previous role to develop my research competencies. However within this role I find I am using and developing all the expected health psychology competencies every day!

### **Translating Evidence into Practice**

The PHE Behavioural Insights team also have a key role in building capacity for applying behavioural insights to health interventions across the public health landscape. We have developed a master class which we are delivering internally to PHE staff and externally to local public health systems on applying behavioural insights and designing population level interventions.

We are keen to identify expertise across the public health field in population level health behaviour change and find examples of local practice where behavioural science is being harnessed. Hertfordshire County Council have decided in order to move towards achieving

their desired improvements in public health they need to utilise evidence based behaviour change principles at the individual, community and population level. As such they have been exploring the market for developing a Behavioural Science Unit.

We have been working with forward thinking Director of Public Health, Jim McManus on this new initiative. A market testing event was held in June where a number of different potential providers proposed different models in which this vision can be realised. We will be continuing to support Hertfordshire in this venture and are keen to identify other areas working to utilise evidence based population level behavioural change initiatives embedding behavioural science in public health.

I am now an active member of the Health Psychology in Public Health, East of England network and look forward to identifying other practitioners across England who share my vision and ambition and exploring more opportunities to apply behaviour change principles to achieve population level behavioural change.

I am really encouraged by how health psychology appears to be gaining recognition within the public health sphere and see my role in championing this symbiotic relationship, raising awareness of the applicability of behavioural science to the health and wellbeing agenda. We still have a long way to go to bring implementers, academics and policy makers together not just in the field of health but across the wider determinants, to make a real impact on the health of our population and to ultimately improve people's lives.

**Author** Amanda Katharine Bunten MSc, BSc, DipHEP.

The author is a Stage II Health Psychology trainee enrolled on the Professional Doctorate in Health Psychology Training Programme, City University London. At the time of writing this article the author is working as a Behavioural Insights Analyst in the Public Health England Behavioural Insight Team.



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### Research Paper 3

## The effectiveness of an enhanced invitation letter on uptake of National Health Service Health Checks in Primary Care: A pragmatic quasi-randomised controlled trial.

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#### Abstract

**Background** The National Health Service Health Check (NHS HC) is a population level public health programme. It is a primary prevention initiative offering cardiovascular risk assessment and management for adults aged 40–74 years (every 5 years). It is designed to reduce the incidence of major vascular disease events by preventing or delaying the onset of diabetes, heart and kidney disease, stroke and vascular dementia [1]. Effectiveness of the programme has been modelled on a national uptake of 75% however in 2012/13 uptake, nationally, was 49%. Ensuring a high percentage of those offered an NHS HC actually receive one is key to optimising the clinical and cost effectiveness of the programme.

**Methods** A pragmatic quasi-randomised controlled trial was conducted in four General Practitioner (GP) practices in Medway, England involving 3,511 patients. The aim was to compare attendance at the NHS HC using the standard national invitation template letter (control) compared to an enhanced invitation letter using insights from behavioural science (intervention). The intervention letter includes i) simplification - reducing letter content for less effortful processing ii) behavioural instruction - action focused language iii) personal

salience - appointment due rather than invited and iv) addressing implementation intentions with a tear off slip to record the date, time and location of the appointment. Multivariable logistic regression explored the association between control and intervention group and attendance at a health check.

**Results** 29.3% of patients who received the control letter and 33.5% of those who received the intervention letter attended their NHS HC (OR 1.26, CI 1.09-1.47,  $p < 0.01$ ). This is an absolute increase in uptake of 4.2 percentage points for those receiving the intervention letter.

**Conclusions** An invitation letter applying behavioural insights is more effective than the existing national template letter at encouraging attendance at an NHS HC. Making small, low cost behaviourally informed changes to letter invitations can increase uptake of the NHS HC. Further research is required to replicate the effect with more robust methodology and powered for sub-group analysis including socio-economic status.

**Trial Registration** ISRCTN66757664

#### **Keywords**

NHS Health Check, cardiovascular disease, General Practice, primary prevention, implementation intentions, simplification, behaviour change techniques, behavioural insights, prompts.

## **Background**

Reducing avoidable premature mortality is a government priority. In 2009, the Department of Health introduced a phased implementation of the NHS HC programme in England. It is a preventative population-based approach, involving a cardiovascular risk assessment and management programme for adults aged 40–74 years. It is designed to reduce the incidence of major vascular disease events by preventing or delaying the onset of diabetes, heart and kidney disease, stroke and certain types of dementia [1].

Everyone between the ages of 40 and 74, who have not already been diagnosed with one of these conditions or who has certain risk factors, will be invited, once every five years, to assess their risk of heart disease, stroke, kidney disease, diabetes and certain types of dementia. They are given support and advice to reduce or manage their risk. It is a national programme, delivered by local arrangements to fit local context ensuring equity of access [2]. The programme is predominantly delivered through primary care.

The NHS HC involves measurement of cardiovascular disease (CVD) risk factors, generation of global risk estimates, risk communication, lifestyle counselling, as well as managing individual risk factors, such as smoking or hypertension. The programme also aims to reduce levels of alcohol related harm and includes an alcohol risk assessment. A blood sample is taken to assess cholesterol. The format of the NHS HC may vary depending on where it takes place but in most cases it consists of a face to face individual risk assessment with a trained health professional. The second part of the NHS HC is a discussion of the results which may happen at the same appointment or at a later date when the results are available.

The provision of NHS HC risk assessments is a mandatory requirement for LAs [3]. Local authorities have flexibility on who they commission to provide the service and what locations are used to deliver the check. The tests and measurements however, are standardised to help

ensure the safety, quality and effectiveness of the programme. It is also key that the actions taken at certain thresholds are the same, to assure a systematic and uniform offer across England and to maximise the public health impact of the programme. Beyond this, variation in delivery across LAs is vast.

Local authorities must achieve a 100% offer rate in their eligible populations after five years of the programme start date. Ideally LAs will offer the NHS HC to 20% of their eligible population each year, reaching 100% over five years. Across England, there are approximately 15 million people in this age group who should be offered an NHS HC once every 5 years [4]. Funding has been allocated to support this scenario and is modelled on an uptake rate of 75%. Currently there are no set targets on uptake however guidance states areas should aspire to take up rates comparable with other screening programmes which achieve around 75% [1]. Local authorities have a legal duty to seek continuous improvement in the percentage of eligible individuals taking up their offer of a NHS HC as part of their statutory duties. Ensuring a high percentage of those offered a NHS HC actually receive one is key to optimising the clinical and cost effectiveness of the programme [5]. This is especially important for populations with the greatest health needs and may impact on the programme's and local area's abilities to narrow health inequalities. Data shows that there is considerable variation in offers and uptake across LAs.

Learning from similar programmes has demonstrated that it takes time to increase uptake rates and with the programme still in its early stages, it is encouraging that the national take-up rate in 2011/2012 was 52%, although dropped slightly in 2012/13 to 49% most likely as a result of the Health Service transition. There is however, a significant drop off rate from those invited to attend an NHS HC, the number who respond, attendance and treatment uptake. A study on the uptake of the NHS HC in Stoke on Trent showed 63.3% of those invited to a health check responded, 43.7% attended a check and 29.8% took up treatment [6].

Few countries have introduced large scale cardiovascular risk assessment programmes and the evidence of increasing uptake in routine care settings is sparse [7]. Although recently Forster et al. published a study protocol to test the hypothesis that enhanced invitation methods using the question behavior effect will increase uptake of the NHS HC compared with a standard invitation [8]. There is a need to ensure high quality research is conducted to ensure the programme is being delivered effectively and is delivering its aims as a population level primary prevention programme.

#### *Invitation Process*

A range of different invitation processes and services have been commissioned from providers and delivered by a range of health care professionals. NHS HCs are offered to the eligible population either by an invitation or opportunistically. Opportunistic invites typically occur through community outreach, community based events or within practices and work places. They may be verbal or through a marketing campaign offering either immediate access to a health check or directing them to their local provider.

Invitation via letters from a patient's GP practice is the most common route for inviting the eligible population for an NHS HC. A national template was developed following qualitative research, but there is no robust evidence on its effectiveness. Therefore this study was designed to test optimisation of the invitation letter as a potentially low cost and scalable way to increase uptake.

Literature has shown response rates to invitations to attend for medical screening vary by condition, ethnicity, and are notably lower among socially deprived groups [9]. A Cochrane Review of interventions to encourage the uptake of cervical screening showed there is evidence to support the use of invitation letters [10]. In reviewing the evidence for increasing the participation of women in community breast screening, Bonfill et al. found in general, most

active recruitment strategies were found to be more effective than no intervention [11]. The review favoured five active strategies for inviting women into community breast cancer screening services; letter of invitation, mailed educational material, letter of invitation plus phone call, phone call, training activities plus direct reminders. Home visits, and letters of invitation to multiple examinations plus educational material did not prove to be effective. The authors suggest considering the simplest and cheapest recruitment strategies, such as letters and phone calls (either separately or combined) in the first instance to increase uptake.

One reason why uptake is suboptimal for all of these services could be due to the intention-behaviour gap. The intention-behaviour gap describes self-regulatory problems with goal realisation whereby a goal is formed but the intended behaviour is not enacted. Forming an implementation intention can help to overcome this gap [12] and various techniques for doing so have been developed and tested across a range of behaviours from voting to vaccination. Milkman et al. [13] improved flu vaccination uptake amongst employees by 4.2 percentage points simply by prompting them to write down the date and time of their appointment. Another study by the same authors found that mailed reminders to employees including a sticky note to record the date and name of the doctor increased attendance at colonoscopies by a statistically significant increase of 1 percentage point or a 15% increase relative to the control group [14]. Nickerson and Rogers used implementation intentions techniques to increase voter turnout using a telephone script to encourage registered voters to attend voting polling stations to cast their vote. The implementation intentions script asked voters what time they would vote, where they would be coming from and what they were doing beforehand. Combined with a self-prediction script they increased voter turnout by 4.1 percentage points [15].

Evidence from other areas suggests that making small changes to the wording of letters alone can have big impacts on behavioural responses. This was demonstrated in a trial to increase

tax compliance. Letters from Her Majesty's Revenue & Customs to taxpayers yet to pay their tax liabilities led to millions of pounds in increased tax payments [16]. Shah and Oppenheimer [17] also emphasise the importance of integrating less information to reduce the effort associated with tasks and subsequent impact on decision making. Therefore simplifying the information presented could increase the decision to engage with the NHS HC.

This study aimed to test the impact of an enhanced invitation letter on attendance at an NHS HC appointment compared to the standard national template letter.

## **Methods**

### *Trial Design*

The study is a quasi-randomised controlled trial with one intervention arm. Ethical approval was received from the NHS National Research Ethics Service (NHS REC 13/NW/0399).

### *Study Recruitment*

Four GP practices in Medway were purposively selected due to having large numbers of patients eligible for NHS HCs in 2013/2014, suitable IT systems and centrally administered systems for distributing the letters. In Medway the NHS HC is offered to all patients aged 40-74. Each year, those turning 41, 46, 51, 56, 61, 66 or 74 on their next birthday are invited for an NHS HC. Invitations are sent in one batch, each year in May and June. In 2013, 14,814 people were invited to an NHS HC in Medway. Of these, only 31% attended.

The cholesterol blood test element of the NHS HC takes place at another appointment; after their NHS HC appointment in practices 1 and 2 and before the NHS HC in practice 4. Practice 3 invites patients to attend an appointment for a fasting blood test before the NHS HC appointment, requiring the patient to not eat or drink anything except water for 8 to 10 hours prior to the appointment. (See Figure 1.)

### *Procedure*

A list of the 3,511 patients eligible for an NHS HC in 2013/14 registered at one of the four practices was generated from patient records accessed by the Medway NHS HC manager. These were extracted into a database and ordered alphabetically. The IT systems in place for sending out the letters meant that it was not possible to truly randomly allocate the participants to the control or intervention letters. Instead, the local NHS HC manager allocated participants to control and intervention groups by surname divided at the midpoint within their practice lists. In order to minimise bias those with surnames in the first half of the list received the control letters at two practices and intervention letters at the other two primary care practices; and vice versa. Practice staff were unaware which intervention group participants were allocated. In May 2013, the NHS HCs manager mail-merged and printed the letters. All letters were posted to patients during May and June.

### *Intervention*

The letter sent to the control group was the existing invitation letter used in Medway which is based on the national template [18]. The letter is the same across all practices apart from one paragraph which outlines the different arrangements for blood testing. See Additional file 1 for example.

The intervention letters [see Additional file 2 for example] involved four key changes. The first is simplification - the letter was shortened to two, one sentence paragraphs plus a headline call to action to improve readability and reduce complexity. This type of simplification is aimed at reducing the effort required for information processing, recognizing that humans are cognitive misers with a preference for simple over complex information (Fiske and Taylor, 1991) [19]. King et al. for example, found making prescription forms simpler and clearer significantly reduced prescription errors [20]. Information removed from the letter was already

contained in the associated information leaflet which patients are directed to in the letter and which is sent with all letters to ensure patients have the opportunity to make an informed choice about the benefits and risks of attending.

The second set of changes aimed to improve the behavioural specificity of the letter using a behavioural instruction and concrete statements. The action (calling to book an appointment) was made more prominent by using an instructional statement in bold type face in the first sentence of the letter. Michie and Johnston amended the language used in the National Institute for Clinical Excellence guidelines for the management of schizophrenia to improve behavioral specificity. In doing so they improved mental health service users attitudes towards, intentions to act and perceived behavioural control over guideline implementation compared to a control group reading the guidelines in place at the time. Their work was based on principles of plain English, behavior change being more likely when specified in concrete terms [21] and specifying how, what, when, where and why being associated with improved comprehension and recall [22;23].

Thirdly, to increase the personal salience of the letter we added an emboldened heading stating 'you are *due* to attend your NHS Health Check'. The intention of using the word 'due' rather than 'invited' is to infer personal relevance of the letters timing (indicating the 5 year cycle for the NHS HC).

Finally by adding a tear-off slip with space for patients to record the date, time and location of their NHS HC with an instruction to stick it to their fridge, we intended to address the intention-behaviour gap (see Glowitzer & Sheeran, 2006 for review) through planning prompts. Stating when, where and how one will undertake an action rehearses the cognitive link between behaviour and the context of performance. This intervention is similar to Milkman et al. [16; 17] described earlier.

According to the Behaviour Change Techniques Taxonomy V1 (BCT-T V1) these would be classified as ‘action planning’ BCT 1.4 and asking recipients to stick the slip to their fridge could be classified as ‘prompts/cues’ BCT 7.1 [24]. The authors were unable to categorise the other three changes using the BCT-T V1.

Intervention letters were the same for each practice besides the essential variation in attendance instructions due to the 3 different local blood test arrangements across the 4 practices. Therefore three different letter combinations were developed. The three control letters are labelled A, B and C and the three intervention letters are labelled D, E and F as described in Figure 1.

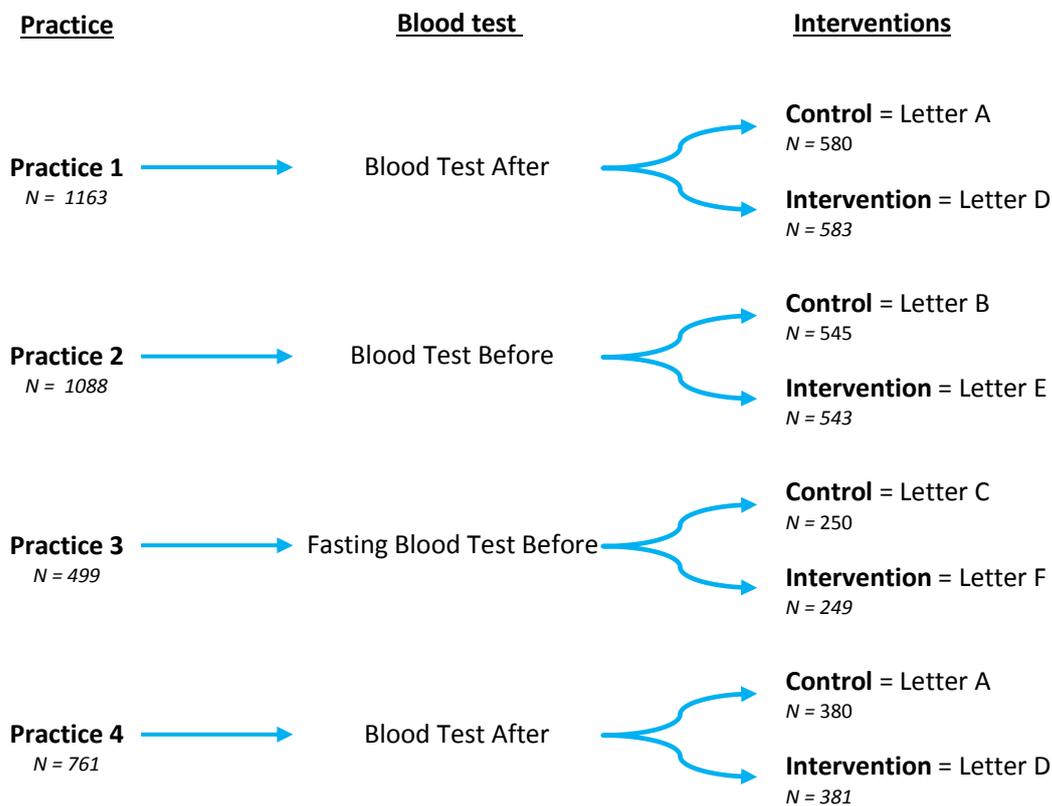


Figure 1 Trial Design: Number of patients invited per practice across control and intervention letters.

*Outcome measure*

The primary outcome was attendance at an NHS HC (binary measure).

### *Power calculation*

A power calculation was based on a provisional sample size of 3,580 (1,790 per arm) and an assumption that the existing attendance was at 40%. Based on similar studies such as Milkman et al. [14], we estimated that the study could achieve a 4-5 percentage point difference. The study was therefore set to detect a 4.6% difference in control and intervention groups for our primary outcome measure of attendance at an NHS HC, with 80% power and 5% significance.

### *Statistical analysis*

Data were analysed in SPSS (2011, version 20.0 [25]). In addition to the two trial arms (intervention and control), the explanatory variables were age, gender, deprivation quintile (categorised by patient postcode mapped to the Index of Multiple Deprivation; 1 = 20% most deprived, 5 = 20% least deprived), and GP practice (Table 1). The quasi-randomisation was checked using chi-squared tests and a t-test to check for differences between control and intervention groups by the other explanatory variables. Multivariable logistic regression was used to assess the independent contribution of the intervention and protect against chance imbalance of the covariates. We additionally tested for an interaction between the intervention and the GP practice due to the differences in process described above (Table 1).

## **Results**

### *Characteristics of patients invited to attend the NHS HC*

3,511 people were invited to attend an NHS HC across the four practices during the trial period. Table 1 shows the summary characteristics of the 1,755 individuals (mean age 53.1) who were sent the control letter and 1,756 (mean age 52.8) who were sent the intervention letter. Slightly more women than men were invited. Relatively few (6.2%) patients from the least deprived quintile were invited compared to the other quintiles. There were no significant differences between the control and intervention group in their demographic characteristics.

Table 1. Characteristics of patients invited to attend an NHS Health Check by trial arm.

		Control (n= 1755)	Intervention (n= 1756)	p-value
Gender [n (%)]	Male	816 (46.5)	862 (49.1)	0.13
	Female	939 (53.3)	894 (50.9)	
Age [mean (s.d.)]	Years	53.1 (9.76)	52.8 (9.78)	0.47
Deprivation Quintile [n (%)]	Quintile 1 - most deprived	114 (6.5)	104 (5.9)	0.93
	Quintile 2	414 (23.6)	414 (23.6)	
	Quintile 3	337 (19.2)	327 (18.6)	
	Quintile 4	390 (22.2)	395 (22.5)	
	Quintile 5 - least deprived	500 (28.5)	515 (29.3)	
GP Practice [n (%)]	Practice 1	580 (33.0)	583 (33.2)	1.00
	Practice 2	545 (31.1)	543 (30.9)	
	Practice 3	250 (14.2)	249 (14.2)	
	Practice 4	380 (21.7)	381 (21.7)	

### Effect of the letter on attendance at the NHS HC

A total of 1,102 (31.4%) individuals attended an NHS HC (29.3% control invitation letter v 33.5% intervention invitation letter) (Table 2). This is a 4.2% absolute increase and a 14.3% relative increase in attendance by the intervention group. The intervention letter was significantly associated with attendance at an NHS HC (multivariable adjusted odds ratio (AOR) 1.26, confidence interval (CI) 1.09-1.47,  $p < 0.01$ ). Older age (AOR 1.62, CI 1.50-1.75,  $p < 0.01$ ) and female gender (AOR 1.5, CI 1.29 - 1.74,  $p < 0.01$ ) were also significantly associated with attendance for an NHS HC. Being in the least deprived quintile was significantly associated with attendance at the health check (AOR 1.61, CI 1.14 - 2.26,  $p < 0.01$ ). Patients from practice 1 were significantly more likely to attend a health check than patients from other practices.

Table 2 Numbers invited to, and attending, an NHS Health Check with multivariable adjusted odds ratios for attendance.

		Total number invited <sup>a</sup>	Percentage (number) who attended	Multivariable adjusted odds ratio for attendance (95% confidence interval)
Letter	Control	1755	29.3 (514)	1
	Intervention	1756	33.5 (588)	1.26 (1.09 - 1.47)*
Gender	Male	1678	26.6 (446)	1
	Female	1833	35.8 (656)	1.50(1.29 - 1.74)*
Age	10 Years	-	-	1.62 (1.50 - 1.75)*
Deprivation Quintile	Quintile 1 - most deprived	218	30.7 (67)	1
	Quintile 2	828	26.7 (221)	0.88 (0.62 - 1.24)
	Quintile 3	664	32.1 (213)	1.24 (0.87 - 1.75)
	Quintile 4	785	33.9 (266)	1.35 (0.96 - 1.90)
	Quintile 5 - least deprived	1015	33.0 (335)	1.61 (1.14 - 2.26)*
GP Practice	Practice 1	1163	38.4 (447)	1
	Practice 2	1088	21.4 (233)	0.33 (0.27 - 0.41)*
	Practice 3	499	35.9 (179)	0.78 (0.62 - 0.99)*
	Practice 4	761	31.9 (243)	0.78 (0.64 - 0.96)*
Total		3511	31.4 (1102)	-

\* p<0.01

<sup>a</sup>Missing deprivation data for 1 person excluded from the multivariable analysis.

There was a statistically significant interaction between the letter and the practice (p<0.01). The intervention letter was statistically more effective in practice 4 than in practice 1 (odds ratio (OR) 1.76, CI 1.18-2.64) but other comparisons between practices were not significant.

The effects of age, gender and deprivation are unchanged. These results should be interpreted with caution as the study was not powered to detect interaction effects.

## **Discussion**

Patients receiving the intervention letter were 26% more likely to attend an NHS HC appointment than patients receiving the control letter. Female patients were 50% more likely to attend than men, and older patients were 62% more likely to attend with every additional 10 years of age. Deprivation is shown to be significant with the most deprived least likely to attend. The least deprived were 61% more likely to attend.

The 4.2% absolute increase in attendance due to the intervention letters is identical to the effect size observed by Milkman et al. [16] who sent reminders to employees due to attend influenza vaccines in the workplace. These prompts asked employees to record the date and time of their appointment. Asked only to record the date of the appointment the same effect was not observed. Similarly Nickerson and Rogers [18] observed a 4.1 percentage point increase in voter turnout when voters were prompted, via a phone call, to record what time they would vote, where they would be coming from, and what they would be doing beforehand. This phone call also included a self-prediction element asking if the individual intended to vote although self-prediction alone was not found to be effective allowing the authors to conclude the impact is due to the implementation intentions planning prompt. The present research adds evidence to the impact and likely effect size of communications including planning prompts with certain characteristics (date, time and place) in prompting actions related to protective health behaviours. It is possible that this effect could be enhanced by overcoming further channel factors or friction costs in the actions required to undertake achieve a desired outcome for example by use of point of care blood testing to remove the need for more than one appointment. One such example to reduce the hassle factor of health protective behaviours was by Leventhal et al. [26]. They improved student

attendance for tetanus vaccines using a pamphlet which shows the university health centre location where the vaccines would take place, times shots were available and a suggestion to plan according to their weekly schedule when they would attend for their vaccination. This resulted in a 22 percentage point increase compared to control.

The findings that females were twice as likely to attend than men is consistent with other findings of gender differences in primary care consultations where rates for females tend to be higher than those for men except in the very young and the very old [27]. Dryden et al. [28] also found that men were less likely to attend general health checks in their narrative scoping review. Practice 1 generated the highest proportion of attendance by males. This practice was one of the largest practices and conducted the blood test after the health check. There was a significant positive relationship between age and attendance which is reflected in national uptake statistics [27]. Again Dryden et al. [29] found that attenders at general health checks were older than non-attenders. This may be symptomatic of the younger cohort being of working age and finding it hard to attend an appointment within working hours. Older patients may attend primary care more frequently and be more familiar with making and attending appointments due to other screening invites and eligibility for annual flu vaccination.

While the invitation letter improves the likelihood of a person attending an NHS HC, other factors, such as age and gender, play a larger role in determining whether a person attends an NHS HC. When exploring the interaction between practice and letter further it is evident that the practice itself is having an impact on the effectiveness of the letter. It appears the intervention letter worked much better in some practices than others but this was not consistent across blood test delivery type which we might have expected. Shah and Oppenheimer highlight that any cue (for example mention of a blood test) that indicates positive or negative associations will be used when evaluating information presented [27]. This is important to consider in the delivery of the NHS HC and thus how it is described in the

invitation letter. A larger study is required to determine the effects of deprivation, practice and timing of blood tests.

It is not possible to determine which aspect of the multi-component intervention letter was the driver of increased uptake in some practices. However this study has indicated that techniques to simplify information processing, increase the salience and behavioural specificity of desired actions and improve action-planning could all be important for increasing uptake of the NHS HCs through letter invitations. Further research would be of value to determine disaggregate and enhance effects, as well as to compare the impact of enhanced letters against other strategies for improving opportunities to attend the NHS HC.

### *Limitations*

It was not possible to truly randomly allocate the participants to the control or intervention letters. Although no differences between intervention and control group characteristics were observed it is possible that this pseudo-randomisation procedure introduced biases of which the researchers are unaware. Arrangements for blood tests differed between practices and it was not possible to know from this study whether this impacted upon the effect of the intervention letter. Further research is needed to explore how different practice characteristics and local delivery procedures affect uptake and how these interact with the invitation process. The study was designed to detect a difference in attendance at an NHS HC between those who were sent the control or intervention invitation letter but was not powered for sub group analysis. Exploring the effect of enhanced invitation letters with regard to variations in ethnicity and deprivation is an important area for further study.

### **Conclusions**

These findings suggest that making small, low cost changes to the invitation letter using behavioural insights can increase uptake of the NHS HC. However caution should be used

when interpreting the generalisability of results to other local areas given the limited number of practices taking part and the large variation between them. Context is an important factor which may influence uptake depending on characteristics of the patient and practice. Further local testing and monitoring is required before this letter is recommended for wider implementation.

### **List of abbreviations**

OR – Odds ratio

CI – Confidence interval

AOR- Adjusted odds ratio

CVD - Cardiovascular disease

LA – Local authority

NHS HC – National Health Service Health Check

GP- General Practitioner

BCT-T V1-Behaviour Change Techniques Taxonomy

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## **Research Paper 4**

### **A Critical Review of the UCL Partners Behaviour Change for Health Professionals: An Introductory Course - Building Capacity for Behaviour Change Activity within the NHS**

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Submitted to the Health Psychology Update.

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#### **Background**

At the beginning of March 2103, I was awarded a funded place on a new behaviour change course for health professionals, developed by UCL Partners' Integrated Mental Health Programme. The course was designed to build capacity for behaviour change activity within the NHS, by supporting health professionals to implement evidence based approaches to achieve sustainable behaviour change, and drive improvements in health.

Delegates were selected from a range of professional health backgrounds including: providers and commissioners of services working in primary and secondary care, mental health trusts and local authorities. The course was designed around a programme of professionally led seminars held one evening a week, combining formal presentations with practical tasks.

There were eight core modules focused on understanding behaviour using the COM-B model (Michie, van Stralen & West, 2011), and applying this to the evidence based Behaviour Change Wheel (Michie, van Stralen & West, 2011), to develop effective behaviour change interventions. These modules included specific sessions on the principles of behaviour change; changing motivation, increasing capability, changing opportunities, whilst considering the importance and challenge of maintaining behaviour change. Delegates explored embedding behaviour change within an organisation and were required to develop individual behaviour change plans tailored for their workplace. The guiding principle of the course was using evidence to make a difference.

Seven optional specialist sessions followed the COM-B modules, focusing on the application of brief intervention to target key public health challenges; smoking cessation, substance misuse, healthy eating, physical activity, and depression.

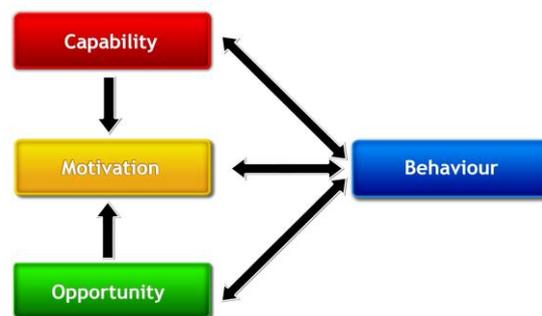
### **COM-B and the Application of the Behaviour Change Wheel**

The eight core modules were designed to take the delegates through the theory and application of the COM-B model (Michie et al, 2011), for conducting behavioural analysis of a target behaviour, and the Behaviour Change Wheel (BCW) for designing and evaluating appropriate interventions, by applying this to a personal health related behaviour and a work related behaviour.

The COM-B model (Figure 1.) provides a framework for understanding behaviour which sits at the centre of the BCW (Figure 2.). The basic premise of the model is that you need to address the 'sources of behaviour' (capability, opportunity and motivation), to facilitate a change in behaviour. In this behavioural model, capability, opportunity and motivation (sources of behaviour), all interact to generate behaviour which can in turn influence these 'sources' of behaviour.

Capability is defined as an individual's psychological or physical ability to engage in an activity which includes having the necessary knowledge and skills to perform the action. Motivation is defined as the conscious (reflective) and less conscious (automatic) brain processes that activate or inhibit behaviour including decision making. Opportunity is defined as the physical or social environment that enables or prompts behaviour to occur (Michie et al 2011).

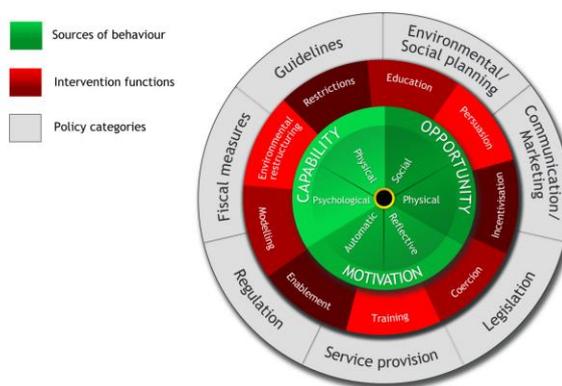
Figure 1. COM-B



(Michie et al 2011)

The BCW (Figure 2.) provides a framework for designing interventions aimed at behaviour change. The 'sources of behaviour' are central to the wheel, surrounded by possible 'intervention functions' (activities designed to changed specified behaviour patterns), with the 'policy categories' labelled on the outer wheel (actions taken by responsible authorities that enable or support interventions).

Figure 2. The Behaviour Change Wheel



(Michie et al 2011)

The sessions allowed time to explore approaches to influence some of the less conscious drivers of motivation which originate from PRIME Theory (West, 2013); the important distinction between wants and needs, inhibitions and impulses, and the role of identity and emotion in behaviour change. One of the key points of note was that motivation can be influenced, indirectly, by addressing opportunity and capability.

Delegates were encouraged to explore interventions to build motivation, physical and psychological capability, and increase opportunities for specified behaviour to occur by identifying opportunities for behavioural interventions within their current service. Examples included: increasing use of the alcohol audit screening tool by health trainers; reducing alcohol and addictive substance use in patients with serious and enduring mental health problem in a long stay rehabilitation ward; and increasing the number of midwives recommending the seasonal flu vaccination to pregnant women during consultation.

The BCW framework was applied and started with conducting a thorough behavioural analysis of the target behaviour to develop an understanding of why the behaviour does or

does not occur within a given context. Interestingly, selecting and specifying an appropriate behavioural target was the most challenging part of the behavioural analysis process for many of the delegates. Suggestions for behavioural targets in a number of instances were either a change in a process or an outcome which was not a behaviour in itself. Highlighting that behaviours are observable, and as such can be monitored, appeared to be helpful for those without a background in psychology or behaviour change.

Tasks were set to monitor a personal behaviour to help develop an ability to identify behavioural targets, and understand the complexity of behaviours. Mapping out the behaviour and the behavioural influences helped to identify that behaviour occurs as part of a network, and can be made up of multiple sub sets of behaviours. This highlighted that there may be competing behaviours which need to be addressed in order to make progress with the target behaviour.

Understanding the nature of the target behaviour, the context in which it occurs and what needs to change, informs the intervention design. This is important as it helps identify whether an intervention needs to target one or more of the behavioural drivers such as; the physical or psychological aspect of capability, social or physical element of opportunity or the automatic or reflective motivation elements of the behaviour. Time was spent at this stage considering appropriate monitoring tools to assess the feasibility of implementation and the effectiveness. It is important to consider how an intervention would be implemented and evaluated as part of the intervention development and design.

One session was dedicated to delegates presenting their behavioural analysis and intervention development for their work based behaviour change. This allowed for peer discussion, feedback and refinement of intervention design. Interventions included: changing health professionals behaviours, improving communication skills between co-workers and Doctor/ patient interactions; introducing brief smoking advice within

physiotherapy appointments; and introducing online behavioural support for smoking cessation within a multiple sclerosis service. I presented on developing an intervention to increase physical activity within the workplace using motivational prompts, increased signage and facts sheets to target automatic and reflective motivation to increase stair usage. This replicated a study conducted in New York demonstrating the effectiveness of motivational prompts on promoting routine stair usage (Lee et al 2012).

Professor Susan Michie and Professor Robert West attended the final session providing current examples demonstrating how the model is used in practice. West (2013) used the example of smoking cessation, the introduction of very brief advice, and the NCSCT referral and monitoring system. Michie (2011) led the final discussion on the importance of evidence led action and the challenges of implementing science. Participants were encouraged to practically apply the skills acquired through the course to their clinical work and disseminate their knowledge to colleagues in clinical teams and other contexts.

### **Specialist Modules**

The seven specialist modules were delivered by invited guest speakers including: Professor Stephen Pilling, Professor Robert West, Dr Fabiana Lorencatto and Dr Paul Chadwick. The sessions covered: brief interventions for excessive alcohol consumption; very brief advice for smoking cessation; brief behavioural support for smoking cessation, reducing substance misuse, healthy eating, and physical activity; and changing behaviour to manage depression through behavioural activation.

These sessions were designed to provide examples of the application of the BCW to design and implement evidence based behaviour change interventions. Delegates were provided with evidence based tools and techniques which could be implemented in a range of health settings including the brief alcohol audit tool and drug use questionnaire (DAST-10) for

screening, along with brief and extended advice intervention tools for smoking cessation and alcohol consumption. The sessions generated discussions around the practical application and challenges for some professionals, in particular raising issues around depression and substance misuse, related to disclosure and consultation time. The use of brief advice for smoking cessation, healthy eating and physical activity appeared to be more acceptable by the group to be implemented within current practice. Many of the existing tools would need to be adapted for different population groups to be more relevant and meaningful, which created an immediate practical implementation barrier.

### **Behaviour Change Interventions and Techniques**

As a trainee and commissioner, I was particularly interested in the feasibility of the practical application and implementation of the model in current practice, and how this could be applied at not just the individual level, but with communities and at a population level. The primary focus of the course was, however, on how individual clinicians can work to integrate behaviour change techniques into their current consultations to improve health outcomes for patients.

There was limited time spent on the link between the BCW and specific behaviour change techniques. Any one of the intervention functions is likely to comprise of many behaviour change techniques and there was very little time spent exploring how health professionals identify which technique or combination of techniques to use. Most, if not all of the professionals attending the course, were employed in positions that do not allow for dedicated time to plan complex behaviour change interventions, and as such require frameworks that will help facilitate the development of quick, easy, simple to implement, and effective behaviour change interventions. This requires consideration for the applicability of BCW to more population level interventions and accessibility for utilisation in existing practice.

## **Psychologists and Complex Language**

One challenge of the course was the perceived complexity attributed to the use of psychological language. Many delegates did not have a background in psychology and were unfamiliar with many of the terminologies used. It is a challenge across all professions where the same words are used to convey different meanings and different words are used to convey the same meaning.

The BCW has much relevance to many different disciplines, professions and services, at a local, regional and national level. As such there is a need to ensure it is accessible to many professionals working across many disciplines to be utilised effectively. As a profession, psychology is rapidly gaining recognition in many areas of health and policy as integral to effective multi disciplinary work. As psychologists, we need to consider the language we use to present concepts, ensuring that we do not over complicate some of the basic psychological and behavioural principles, and ensure these can be utilised and embedded in the work of providers and commissioners of services.

## **Moving Beyond Behaviour Change and Health Professionals**

During the period of this course I experienced the transition of the local public health function from the NHS into local government under the Health and Social Care Act, 2012. Those working in public health are now forging new partnerships and ways of working to support positive health behaviour change, improve health outcomes and reduce inequalities, with a focus on developing a local 'place based' public health system.

With local public health now a local authority responsibility, there is a real opportunity for the wider determinants of health (Marmot, 2010) to be realised, championed and addressed through an integrated health and social care agenda. There is the opportunity to embed public health outcomes into core local authority services, as the fundamental role

of housing, employment and the local environment on our health and behaviour is recognised along with the contribution these wider determinants make to the inequalities that exist in our local communities.

As we move away from a focus on treatment to prevention, we also have an opportunity to address the key challenges to good health and wellbeing which remain associated with lifestyle and behaviour. Local authorities need to harness this time to understand the influences, drivers and facilitators of behaviour to embed effective behaviour change interventions in existing and new services. This is crucial during a time of significant reductions to local government funding to achieve improvements in health and wellbeing.

If we really are to utilise behavioural science effectively we need to move away from focusing on health care professionals alone to promote this agenda. We need to utilise front line service providers across health, social care, housing, education, environmental services, travel and transport 'making every contact count' (Yorkshire & Humber, 2010). Along with acknowledging the importance of the public realm and urban planning; bringing together architects, designers, planners, and health professionals, will in turn help us to develop healthier places and healthier people. We need to strive to encourage those working in domains outside of the traditional health sector to think about positive health behaviour change and help them understand and identify with their role.

### **Next Steps**

Going forward the course organisers aim to develop a professional network of behaviour change practitioners to continue to support the learning and implementation of evidence based practice. This could be a real opportunity to engage with professionals outside of the health sector, spreading best practice at pace, identifying champions and developing

behaviour change practitioners within the non-traditional health sector to improve health outcomes.

We need to think through how the BCW can be developed to be accessible, used appropriately and with ease in practice by individuals other than those trained in psychology or behaviour change. We need to work to ensure it can be utilised to promote positive health changes at a population level not just focusing on the individual. Is it feasible to run a course for all these professionals that would be in a position to utilise the model in practice? Could UCL Partners be looking at the development of an accessible 'how to' guide for the non-psychologist?

The course organisers plan to hold a follow up session to assess how those who attended the training have utilised their learning in their current practice. It will be interesting to see how different professionals have progressed with embedding behaviour change within their day to day practice and identify the barriers and enablers associated with the application of the BCW to their own personal behaviour change, work with their clients or patients and the maintenance of this.

I reflect on a very interesting course which ran during a time of considerable change within the NHS. It was a fantastic opportunity to learn about a new evidence based behaviour change model bringing together many theoretical models of health psychology providing a way of applying science to facilitate positive health behaviour change. Being part of a pilot training course and being able to provide feedback to help refine how we translate science into practice has been an incredibly interesting and positive experience.

## Acknowledgements

With thanks to UCL Partners, the academic leads Professor Susan Michie and Professor Robert West, the course lead Dr Paul Chadwick, and the course coordinator Dr Stephanie Lietz.

If you would like more information about the course please contact the course coordinator Dr Stephanie Lietz [REDACTED]

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## SECTION C – Professional Practice

## **Generic Professional Case Study**

### **Reflecting on my Journey of Professional Practice in Becoming a**

#### **Health Psychologist**

##### **1. Professional Autonomy and Accountability**

For my first two years of supervised practice I worked as a Public Health Strategist for Hackney and the City of London. Within this role I led on areas of health improvement, health protection and commissioning. I was involved in designing, implementing and evaluating interventions, working collaboratively across the local health system and with local communities to improve health outcomes and reduce inequalities. I designed and delivered targeted campaigns and training to the public and health care professionals theoretically underpinned by health psychology, wrote strategies and action plans, developed and managed contracts, and implemented service improvements working with providers and users of services. My role also involved ensuring services were meeting the needs of the local communities, achieving outcomes, and where necessary, providing more tailored intensive interventions. During this time I received academic supervision through City University and workplace supervision through the local Director of Public Health.

I currently work as a Behavioural Insights Research Analyst within Public Health England's (PHE) Behavioural Insights Team (BIT). I joined the team in December 2013. Within this role I design population level behaviour change interventions through the application of behavioural insights. This role has enabled me to develop my research skills to a high standard. I am involved in designing research trials; developing proposals, protocols, completing ethics applications and seeking opportunities to apply for appropriate research funding, in addition to the implementation, evaluation and dissemination of results. I also provide expert advice on behavioural science to colleagues in PHE and to the wider public

health workforce nationally. This role has developed my confidence in leading trial design, conducting robust research trials, evaluation and informing policy. Within this role I am supervised by my line Manager who is a registered Health Psychologist and have continued to receive academic supervision through City University.

### **1.1. Practicing within Legal and Ethical Boundaries**

Throughout my training as a health psychologist, I have worked in accordance with The British Psychological Society's (BPS) Code of Ethics and Conduct (BPS, 2009), more recently their Code of Human Research Ethics (BPS, 2014), and the Health Care Professions Council (HCPC) guidance on conduct and ethics for students (HCPC, 2016). I have also had to familiarise myself with and adhere to internal organisational policies and procedures.

Whilst working as a strategist in a local public health team I supported the local Director of Public Health who was also the Medical Director and the Named Lead for Safeguarding Children and Vulnerable Adults. I had to familiarise myself with the organisational policies and ensure that we were adhering to these, as for part of my time I was responsible for ensuring our community providers had up to date lists of vulnerable children and adults with robust procedures in place in case of an emergency.

As part of my role working in health protection and communicable diseases I have been involved in designing, implementing and evaluating responses to outbreaks including, a Hepatitis A, measles and a meningococcal cluster where I have had to aide and facilitate targeted mass immunisation campaigns. These have involved accessing child health records, maintaining up to date infection reports and immunisation coverage data.

In these cases I was accessing child health records containing patient information. I adhered to the Data Protection Act (1998) at all times along with specific Primary Care Trust and Local Authority policies. Ensuring data was at all times; held securely and

confidentially; obtained fairly and efficiently; recorded accurately and reliably; used effectively and ethically; and shared appropriately and lawfully.

Any patient identifiable data or sensitive data was stored securely by ensuring any paper records were locked away in designated storage. Any electronically accessible data was only stored and accessed on NHS hardware. All files were password protected and any laptops or data sticks were accessed through an NHS approved encrypted password system. Any patient identifiable data which needed to be shared with partner organisations, was done so in accordance with the Caldicott Principles (Department of Health, 2010), and was sent password protected using an nhs.net to an nhs.net account.

In my work on improving tuberculosis (TB) treatment completion rates and clinical outcomes for patients in City and Hackney I was involved in facilitating a local TB Cohort Review held quarterly. I was responsible for extracting the data from the London TB Register (which holds data of all individuals diagnosed with TB in London) and presenting this to the local TB team. This involved compiling reports on performance and sharing these with the clinical team with any required actions, the aim being to improve the quality of patient care and ensure best practice was being followed. I was also responsible for updating the TB Health Equity Audit and the Strategy to review our progress and identify areas for action, taking into consideration the changes in commissioning and the new configuration of health services. To do this I had to apply to access the London TB register and have this counter signed by the local TB Consultant. This data was securely stored on NHS computers adhering to the Data Protection Act (1998) and shared with members of the TB control team following the Caldicott Principles.

I also led on the Suicide Audit whilst working as a Strategist which required collating and analysing national and local data sets, comparing acute Serious Untoward Incidents (SUIs), GP Quality Outcomes Framework (QOF) reports along with the local coroner's reports. To

gain access to mortality files with patient identifiable data I had to go through an application process specifying what data I would need access to, how this would be used, and sign a confidentiality agreement which was countersigned by my manager. As part of this I attended the local coroner's office to review the coroner's records of any deaths reported as suicide or suspected suicide within the audit timeframe. This audit highlighted the need for more up to date local intelligence on suicides and unintended deaths. In response, I established a process whereby we regularly collate reports from GPs and SUIs to build our own local intelligence to provide a more accurate up to date population profile which in turn would help to inform the suicide prevention strategy.

During my time working as a public health strategist I experienced the transition of the public health function from the NHS into local government under the Health and Social Care Act, 2012, and moved from being employed by the NHS to a Local Authority (LA). The transition of the public health function into local government created some new challenges for accessing patient data and sharing data as we were no longer part of the NHS. There was limited guidance and lack of clarity on health data access as a LA employee due to delays in receiving guidance from the Health and Social Care Information Centre (HSCIC) and national arrangements to establish a lawful basis for information flows. To be able to continue with business as usual, those who were required to access sensitive data were able to retain an NHS.net account whilst new data sharing protocols were being established organisation wide.

As part of my competence in research development I have had to complete and follow the relevant ethical processes. My doctoral research project is the qualitative component of a NIHR funded randomised controlled trial (RCT) run by the Wolfson Institute of Preventative Medicine (part of Queen Mary's University, London), exploring the challenge of achieving and maintaining a healthy weight in overweight young women. We had to apply for NHS

ethics as the trial was recruiting patients through primary care. I also submitted a proposal to City ethics and received approval to proceed. To be able to conduct my doctoral research I had to obtain an honorary contract with BARTS Health to be part of the research team. As an honorary employee to comply with BARTS research policy I attended a one day Good Clinical Practice Course.

### **1.2. Practicing as an autonomous professional**

I have worked independently on projects without substantial supervision, as part of a public health team and with stakeholders across the local health economy to improve health and wellbeing and reduce inequalities. I have become experienced in managing a busy work load and prioritising to achieve tight deadlines through my role as a strategist, conducting research and in submitting reports for my Doctorate and other training courses. My role as a Public Health Strategist was often reactive as I was required to respond to major incidents and public health outbreaks and providing additional support to the Director of Public Health when needed. Responding and managing these incidents whilst continuing with other work commitments has required an ability to be flexible and time efficient. To help with prioritisation and meeting deadlines I have used project management documentation and gantt charts.

### **1.3. Continuous Professional Development**

Throughout my training I have been seeking opportunities to further develop my competence as a health psychologist, to demonstrate my skills and capabilities, and highlight the benefits health psychology could bring to the public health sphere. I have attended all the compulsory CPD workshops as part of the professional doctorate at City University and have sought out further, training and development opportunities.

Keeping up to date with the most recent developments in health psychology and relevant disciplines is vital in ensuring I am utilising and implementing evidence based practice. As a member of the BPS and Division of Health Psychology I receive monthly publications of the Psychologist and quarterly Health Psychology Update publications. I have also have set up alerts on health psychology and behaviour change journals to help me keep up to date with any relevant newly published articles and papers. I regularly attend a monthly journal club where we critically appraise academic papers. I have also attended talks put on by the UCL Centre for Behaviour change and BPS, recently attending the DHP CPD event Behaviour Change intervention design and evaluation (January, 2015).

I also attend and present at relevant conferences on health psychology, public health and behaviour change. I recently attended the BPS DHP Conference in Aberdeen (August 2016) as part of my role as policy officer for the DHP. I presented a poster on the development of a Behavioural Insights Taxonomy at the DHP conference in York (2014) (Appendix 1) and the PHE Conference in Warwick. I am now an active member of the Health Psychology in Public Health Network (HPPHN) and have identified other practitioners across England who share my vision and ambition in exploring opportunities to apply behaviour change principles to achieve population level behavioural change.

To ensure I am continually developing my skills as a health psychologist and am able to develop more in depth understandings of new models and frameworks I aim to attend relevant training where possible. I became aware of Michie's Behaviour Change Taxonomy work (Abraham & Michie, 2008), and the Behaviour Change Wheel Framework (Michie, Atkins, & West, 2014) and applied to attend the 'Behaviour Change for Health Professionals: An Introductory Course' developed by UCL Partners' Integrated Mental Health Programme. I was awarded a funded place at the beginning of March 2013. I have since used this framework to design a workplace physical activity behaviour change

intervention, and use this within my current role in behavioural analysis and intervention design.

Since starting the doctorate I have published an article in *Nursing in Practice* on the development of the Target Patient Leaflet (Bunten, Hawking & McNulty, 2015), a careers piece in the *Psychologist* on the Journey of a Psychologist in Public Health (Bunten, 2015), and an academic paper in a peer reviewed journal, *BMC Public Health*, on the effectiveness of an enhanced invitation letter on uptake of NHS Health Checks (Sallis, Bunten, Bonus, James, Chadborn et al, 2016). I am currently working on three additional papers for publication in peer reviewed journals shortly.

## **2. Professional Skills**

Throughout my training I have been developing my ability to demonstrate my competence as a health psychologist by reflecting on my work in practice. I have been working to understand the application of health psychology in the context of a diverse population whilst achieving population level behaviour change in my current role in PHE BIT. This role has enabled me to build my confidence in providing theoretical, evidence based advice to colleagues within PHE and to the wider public health workforce. Managing multiple projects, team members and trainees on placement has required me to develop effective management and leadership skills.

During my role as a strategist I designed, delivered and evaluated; a weight management intervention in the workplace demonstrating my skills in consultancy; training for midwives on the importance of promoting the seasonal flu vaccine to pregnant women; a series of lectures for MSc Health Psychology students on Health Promotion and Evaluation; and a behaviour change intervention in the work place designed to increase stair usage 'Burn Calories, Not Electricity'.

I have also been working on developing and demonstrating my skills in research, through conducting a qualitative empirical study on weight maintenance, conducting systematic reviews, presenting at conferences and writing for academic publication.

### **2.1. Effective communication**

Having an ability to effectively communicate with health care professionals, commissioners, policy makers, different communities, and individual patients are core skills for Health Psychologists. I believe I have developed effective communication skills, both written and verbal through presenting at meetings, boards and conferences to a cross section of healthcare professionals, members of the public and councillors, writing reports, evaluations and briefings.

I have presented posters at conferences including; Containing a Hepatitis A Outbreak at the HPA conference (Appendix 2), winning best poster, and a meningococcal incident at the HPA annual Forum (Appendix 3). I have recently had a poster presentation accepted for the UKSBM in December 2016 on a recent trial testing the framing of swaps in a virtual online supermarket (Appendix 4). I have presented orally at conferences including the evaluation of the 'Burn Calories Not Electricity' campaign at the Fit Cities Fit World International Conference (2013). I have also chaired workshops and seminars and been invited to sit on expert panels including the Smoking in Pregnancy, Call to Action event hosted by the Royal College of Midwives at which I also presented on the application of behavioural insights to smoking in pregnancy.

I taught as a guest lecturer on the Health Promotion module at City University to Health Psychology MSc students on community level health promotion and evaluation. I have developed my ability to deliver different types of training to different professional groups, and have engaged directly with the public and patients during health road shows (Breast

Aware, SHO-me, Stop Smoking and Health4NEL). I have run focus groups and conducted interviews for service evaluation and research and have run a number of group workplace based weight management programmes in conjunction with Queen Mary's University London.

Working within the PHE Behavioural Insights team I have a key role in supporting people working across public health to understand key behaviour change principles and building capacity for applying behavioural insights to health interventions across the public health landscape. I have been involved in designing and developing the content for a masterclass on applying behavioural insights and designing population level interventions which I deliver nationally to public health professionals (Appendix 5).

In addition, having the opportunity to write content for websites, press releases, briefs for partner organisations and members of the board and for councillors have all helped to develop my written communication skills.

## **2.2. Providing appropriate advice and guidance**

In my current role I am expected to provide expert advice on health psychology, intervention design and how to conduct robust evaluation to the Department of Health, Public Health England, and the local public health system, and to comment on national consultations, reports and policy briefings. Providing expert advice and guidance takes up a significant proportion of my time. I have provided behavioural advice for increasing staff survey completion, improving the alcohol AUDIT brief intervention tool, reducing vaccine over ordering, piloting the introduction of a risk reduction element for 40 – 64 year olds in the NHS Health Checks, and wording for letters sent to Trust CEO's.

I recently developed new national template letters for this flu season for schools and primary care practices, for pre-school children, primary school children and those at risk

and their carers using concepts from behavioural science (PHE, 2016a; PHE, 2016b; PHE, 2016c). As part of this work I also produced a document on applying behavioural insights to optimise uptake of flu vaccination in primary school children which was sent to all immunisation leads across England. (Appendix 6). This new school template letter is being tested as part of a large randomised controlled trial working with six providers covering 13 local authorities and including 1,726 schools.

I contributed to the Royal Society for Public Health Guidance (RSPH) on Commissioning for Health Improvement on behaviour change (RSPH, 2014). I regularly provide advice to Local Authority public health leads on behaviour change and designing interventions embedding robust evaluation. I have also been involved in supporting Hertfordshire on developing and commissioning a behavioural science unit.

In June (2016) I successfully applied for the BPS DHP Policy Officer role. This role requires me to keep abreast of relevant policy development to health psychology in the UK and keep the committee informed. I also work to support, promote and represent the work of the DHP professionally and effectively with other BPS committees such as workforce planning, health professionals, commissioners and policy makers. I have also worked to develop MSc and stage II student placements and internships and am exploring opportunities to develop a PhD Policy offer. I have also recently been co-opted by the HPPHN committee into the policy and liaison role and we are I will be leading one of the workshops at the annual conference in February 2017.

Every year local areas are required to publish a Joint Strategic Needs Assessment. In my role as a public health strategist I was able to influence key organisational leaders to put a greater emphasis on the importance of understanding behaviour change. I wrote a chapter about the different levels of behaviour change from individual to population and the importance of developing a more behavioural focus in addressing lifestyle challenges

associated with the key public health challenges. After this, colleagues within my organisation became aware that I was a trainee Health Psychologist and I was regularly approached to provide advice and expertise.

For example, I was approached by a number of colleagues to run a weight management programme for staff within the organisation, in addition to working in the local smoking cessation team to help them design a new training programme for their stop smoking advisors. They felt there was a gap that needed to be addressed between the Stage I training they delivered and the Stage II training delivered by the National Centre for Smoking Cessation Training (NCSCT). I provided advice on how the training could be improved to better meet the aims and objectives and together devised a ½ day training course as stage II, part II. One of the gaps was the transfer and development of the stop smoking advisor's communication skills. The current Stage II training was quite theory heavy with limited opportunity for role play practising the skills. The introduction of the part II provided an opportunity to focus on the practical application using role play, thereby providing advisors with an opportunity to bring any challenges they were experiencing with clients and share in a solution focused way (Shennan, 2014). The second gap was around understanding addiction and behaviour change. I developed a presentation on the challenges of behaviour change, the role of addiction and introduced the principles of motivational interviewing (Rollnick, Miller & Butler, 2012). I also helped them develop evaluation forms to assess whether they had met their training objectives (Appendix 7).

### **2.3. Collaborative working**

Working as a strategist I developed a good working relationship with a team of Clinical Research Psychologists and Health Psychologists at Queen Mary's University working on Smoking Cessation. I met with the team and discussed possible collaborative opportunities as part of my professional development as a health psychologist in practice. I highlighted

my interested in the field of weight management, an area in which the team were also conducting research. It was agreed that I would support the development and implementation of a weight management programme named the Weight Action Programme (WAP).

My current role is focused on supporting and enabling the public health system to develop, implement and evaluate evidence-based behavioural science interventions through innovative demonstration projects and leadership. I work to identify opportunities for collaborative projects to demonstrate how behavioural insights (BI) can improve public health outcomes and translate evidence into wider practice/policy. This involves working directly with local public health systems to identify such opportunities for collaborative projects, working with academics and teams across government. I have worked on projects to reduce smoking in pregnancy and increase uptake of NHS health checks. I am currently working on a research trial to increase the healthiness of packed lunches in primary schools in Derby collaborating with a LA and two Universities. I am the principle investigator and project lead.

#### **2.4. Effective Leadership**

I am working towards becoming an innovative, competent and confident leader, highlighting the synergy of health psychology and public health, to identify and explore opportunities to improve public health and wellbeing, working collaboratively with local public health systems, academics and policy makers.

Whilst working in a local public health team I completed a middle management training course run by the Institute of Leadership and Management. This was focused on 'getting the job done' and provided me with some useful tools and techniques in managing individuals, teams and projects. To further develop my leadership skills, I applied for a place

on the Public Health System Talent Management Programme as part of the London pilot. I was successful in gaining one of the very limited places for a small cohort of public health professionals. As part of the programme I had a number of individual coaching sessions to discuss my personal development plan in leadership development which I found useful in enabling me to re-shape my thinking around my perceived barriers and focus on my strengths.

Working in a time of transition locally and nationally for the NHS and Social Care System, it has been essential to maintain a high level of commitment and drive for improving the health of our population. This move has created a wealth of opportunities to work across the determinants of health and wellbeing creating greater local accountability. Despite the opportunities there have been some real challenges as commissioning arrangements and decision making arrangements changed significantly. This created a level of fragmentation which has required real partnership across LAs, CCGs, NHSE and PHE to understand accountability and consideration of new commissioning arrangements to achieve shared outcomes. Working directly with elected members and needing to influence local government priorities and agendas to address public health outcomes has required learning new skills to influence key decision makers, including, how to use health evidence in the non-health sector to influence decision making and policy development.

### **2.5. Development as a reflective practitioner**

At the start of this journey I had limited research experience and now conduct national randomised controlled trials leading the design, implementation and evaluation. Seeking out opportunities to develop my competence as a health psychologist has included attending additional training, offering to deliver regular training and volunteering to present, alongside shadowing other colleagues and asking lots of questions. I had been anxious about submitting work for publication, and now having successfully had three

different types of papers published I have increased confidence in the quality of my work and see and understand the importance of disseminating findings and sharing frameworks and thinking. Completing the stage II training has been challenging yet rewarding as I review the work I have developed and delivered over the past 4 years, as well as having a full time job and starting a family. I look forward to my continued journey as a Chartered Health Psychologist.

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# Appendix 1 – Behavioural Insights Taxonomy Poster for DHP Conference 2014



## Understanding Behavioural Insights in the Context of the Theoretical Domains Framework

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INTRODUCTION

Government Behavioural Insights teams are tasked with applying behavioural economics and psychology to change population behaviour. Local and national policy makers need the skills to apply behavioural science with transparency and justification for the techniques and insights used. Recent advances in behavioural intervention design are welcome (including; the Behaviour Change Wheel [1], Theoretical Domains Framework (TDF) [2], Behaviour Change Technique Taxonomy (BCT-T V1) [3]), where a key objective has been to standardise terminology. However, a range of terms commonly used by behavioural insights teams, often drawn from behavioural economics, are notably absent from the frameworks. Authors of the BCT-T V1 recognise that "Further work needs to be done to extend it to the BCTs relevant to community and population level interventions. [3] It is important to understand if these terms describe additional behavioural drivers or behaviour change techniques, or if they are simply different terms for the same concept.

AIMS & OBJECTIVE

The overall objective is to facilitate appropriate selection and application of behavioural science theory and concepts in behaviour change intervention design.

- Improve the accessibility and scientific application of behavioural economics and social psychology concepts (sometimes referred to as behavioural insights) to behavioural intervention design - in particular applied to health.
- Encourage consideration of how behavioural insights translate into active intervention ingredients.
- Provoke discussion and understanding of how existing tools include or do not include commonly used behavioural insights.

EXPLORATORY WORK RESULTS

**Initial observations of Behavioural Insights**

Initial results of a selection of commonly known and applied behavioural insights indicate that some:

- explain behaviour (loss aversion) and some are behaviour change techniques (framing), and some are both (priming)
- are in the BCT-T V1 (e.g. framing) however, some are not (e.g. Changing the reference point).
- overlap heavily (e.g. Status quo bias and inertia)
- can be matched to Behaviour Change Techniques (e.g. anchoring and changing the reference point; loss aversion and message framing).
- BCTs (e.g. defaults) can work through/address a range of behavioural insights (e.g. Inertia, demonstrating a social norm, status quo bias).

**Mapping insights to the Theoretical Domains Framework (TDF)**

The TDF is intended to be a comprehensive multi-disciplinary list of influences on behaviour. Initial observations of behavioural insights indicate;

- Some insights fit within the TDF for example loss aversion and long tailed perception of risk may fit under 'outcome expectancies'.
- Some insights do not fit well in the TDF for example those relating to 'ownership' (e.g. endowment effect, entitlement belief) and the moral aspects of emotions (e.g. moral hazard, reciprocity).
- It is unclear where other behavioural insights fit (e.g. Hyperbolic discounting) and some fit into more than one domain.
- No insights mapped to the TDF 'skills' and few to 'behavioural regulation' domains.
- Many insights mapped to 'environmental context and resources' and 'memory, attention and decision-making'.

**Figure 1 . A selection of commonly cited Behavioural Insights identified through a brief literature search**

Surprise	Hyperbolic Discounting	Social Learning	Priming
Placebo Effect	Decoupling	Procrastination	Availability
Impact Bias	Long-Tailed Risk	Social Identity / norms	Habit
Anticipation of Reward	Simplification	Band Wagon Effect	Anchoring
Optimism Bias	Intertemporal Choice	Business Norms	Intuition
Messenger	Planning Fallacy	Key Influencers	Hindsight Bias
Loss Aversion	Attention Collapse	Identity	Reciprocity
Status quo bias	Hedonic Framing	Cognitive Load	Gaming
Sunk Costs	Defaults	Regret	Choice Bracketing
Certainty Bias	Altruism	Social Proof	Mental Accounting
Ambiguity Effect	Salience	Commitment effect	Information Avoidance
Endowment Effect	Inequity Aversion	Diagnostic Bias	Representativeness
Participatory Effect	Teachable moment	Cognitive Dissonance	Over-Extrapolation
Actor-Observer Bias	Omission Bias	Attribution Error	Framing

**Figure 2 . Example of Behavioural Insights mapped to the Theoretical Domains Framework**



DISCUSSION

Behavioural insights teams working in health are focused on population level behaviour change interventions which can be scaled up for little or no cost. Behavioural Economics provides some evidence of insights that might be relevant to health and can be applied at a population level but have often not been tested.

Health Psychologists have mainly focused on social cognitive models and interventions aimed at individuals or groups requiring intensive work on the part of a practitioner to deliver the interventions. This is reflected in the BCT-T V1 as it is based on a synthesis of existing literature.

ACKNOWLEDGEMENTS

We are grateful for the comments from UCL Health Psychology Group who we presented to in January 2014. We have amended the next stage of the method in response to comments received.

NEXT STEPS

**Questions we would like to answer with the next stage of the research:**

- Are behavioural insights inherently different and therefore do not belong in the TDF or BCT frameworks? Or do all the behavioural insights actually fit within the TDF and BCT-T V1?
- Do these behavioural insights indicate new domains, constructs and/ or BCTs for inclusion in TDF and BCT-T V1?
- Are there other domains which might better describe the behavioural insights for example: information processing, judgement, time, loss, choice architecture, ownership, ambiguity.

Future work may include coding previous policy interventions, searching for evidence of application and techniques applied in the literature, translating insights into new or established behaviour change techniques.

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**Containment of Hepatitis A Outbreak in the Orthodox Jewish Community in Hackney**

**Dr Jose Figueroa (1), Amanda Douglas (1), Giuseppe Nixon (2), Maria Saavedra-Campos (2) & Dr Deborah Turbitt (2)**  
 (1) NHS City and Hackney Public Health Department, (2) North East & North Central London HPU

**Hackney's Charedi Community:**

- Hackney has the largest Orthodox Jewish Community in Britain (20,000 residents, 9% of population)
- Large families with high birth rates (half the population are children under the age of 16)
- The community is primarily located in Stamford Hill, with 23 GP Practices and two Walk In Centres

**Hepatitis A:**

- Single-stranded, linear RNA enterovirus member of the **Bornaviridae** family
- Person to person spread **faecal-oral** route
- Flu like illness, stomach pain, sickness and **diarrhoea**, jaundice, pale stools and dark urine
- Incubation period 2-6 weeks and infectious for up to three weeks before symptoms and one week after
- 80-90% of young children may not show signs of infection
- Most people recover completely and become immune. However some people develop severe liver damage requiring hospital treatment.







**Initial Cases:**

- Two primary cases aged over 60 years were identified in August 2010, both had travelled to Israel separately but had attended the same wedding and visited the same holiday resort. Hepatitis A Typing was inconclusive but it is likely that the cases were infected from a single source
- Both index cases had 30-40 household contacts and all contacts received vaccination.
- Three further cases were reported – all were linked to index case 2 and had not been initially identified as contacts
- The 5th case, a 6 year-old-boy, had attended a day camp in August
- All children who attended this day camp and the same school were offered vaccination
- The vaccination for exposed school children was administered on day 14 following onset of jaundice in case 5

**Vaccination was offered to:**

- 120 household or family contacts across 6 different English health regions and in Switzerland
- 60 contacts at day camps
- 300 children attending same school/nursery as cases
- 470 children who attended a day camp with a case

**Outbreak Response Team:**

- Contact tracing and vaccination of close contacts
- Opportunistic vaccination of those at risk through Primary Care
- Targeted health promotion campaign promoting awareness of infection in community
- Encouraging GPs to report cases to the HPU
- Promoting good hand hygiene practices in schools.

**Evaluation:**

- The Outbreak Response Team agreed resolution point was evidence of transmission in the community where the source case was unidentified
- HPU advised to vaccinate all children aged from 1 to 11 years to reduce asymptomatic transmission

**Targeted Immunisation Campaign:**

- Estimated 4,782 children in target group attending 35 different nurseries/schools
- A Local Enhanced Service was developed for GP Practices and Walk In Centres





**Challenges**

- Responding to an outbreak in an insular community
- Children predominantly in independent schools
- **Reorganisation** of health services
- Poor Primary Care response—only 6 practices signed LES
- Engaging with the Local Press and the community
- Costs of a mass immunisation campaign
- Difficulties of diverting resources as outbreak was concurrent with seasonal flu
- Difficult to evaluate impact of targeted immunisation campaign in controlling the outbreak

**Community Engagement**

- Orthodox Jewish Health Team provided immunisation sessions in the community, schools and nurseries.
- Opportunity for routine childhood immunisation catch up
- Involvement of faith leaders and rabbinate through the Orthodox Jewish Health Forum

**Outcome**

- 29 reported cases, 17 sampled and 14 confirmed
- Significant number of contacts and children between the ages of 1 to 11 year of age were immunised.

# Appendix 3 – Meningococcal Disease Cluster Poster for the Health Protection Annual Forum (2013)



## Nursery meningococcal disease cluster in the Orthodox Jewish Community in Hackney

Vanessa Saliba<sup>1</sup>, Sarah Addiman<sup>1</sup>, Deborah Turbitt<sup>1</sup>, Amanda Bunten<sup>2</sup>, Jose Figueroa<sup>2</sup>, Alice Whittle<sup>2</sup>, Vanessa Baugh<sup>1</sup>  
<sup>1</sup>North East and North Central London Health Protection Unit, <sup>2</sup>City and Hackney Public Health Department, NHS North East London and the City

BACKGROUND	CASE A	2012	CASE B
<p>On Sunday 16<sup>th</sup> December 2013 the North East and North Central London Health Protection Unit (NE&amp;NCL HPU) became aware of a second confirmed case of meningococcal septicaemia in a four year old boy from the Orthodox Jewish community resident of Hackney who attended the same nursery as another confirmed case, resident of Haringey, reported on the 9<sup>th</sup> of December, on entering the nursery as a 'context' on HPZone. We describe the cluster investigation and response and highlight the key learning identified from the incident</p>	<p><b>Patient presented to HUH A&amp;E with coryzal symptoms and deteriorated rapidly, becoming obtunded and developed a widespread petechial non-blanching rash. Transferred to GOSH</b></p> <p><b>Microbiology registrar reported the case to HPU as a probable meningococcal septicaemia. Public health action taken, chemoprophylaxis organised for household contacts. Nursery entered in HPZone as "context"</b></p>	<div style="background-color: #004a99; color: white; padding: 2px;">Saturday 8 Dec</div> <div style="background-color: #004a99; color: white; padding: 2px;">Sunday 9 Dec</div> <div style="background-color: #004a99; color: white; padding: 2px;">Monday 10 Dec</div> <div style="background-color: #004a99; color: white; padding: 2px;">Tuesday 11 Dec</div> <div style="background-color: #004a99; color: white; padding: 2px;">Wednesday 12 Dec</div> <div style="background-color: #004a99; color: white; padding: 2px;">Thursday 13 Dec</div> <div style="background-color: #004a99; color: white; padding: 2px;">Friday 14 Dec</div> <div style="background-color: #004a99; color: white; padding: 2px;">Saturday 15 Dec</div> <div style="background-color: #004a99; color: white; padding: 2px;">Sunday 16 Dec</div> <div style="background-color: #004a99; color: white; padding: 2px;">Monday 17 Dec</div> <div style="background-color: #004a99; color: white; padding: 2px;">Tuesday 18 Dec</div>	<p><b>Symptom onset. Started to feel generally unwell, then developed a fever, rash and conjunctivitis.</b></p> <p><b>Attended HUH. On examination: afebrile, no signs of meningism. Blood cultures taken and serology sample sent for PCR. Discharged on IV antibiotics</b></p> <p><b>Microbiology registrar reported case to HPU as confirmed meningococcal septicaemia. PCR positive for <i>Neisseria meningitidis</i></b></p> <p><b>Mum reported the name of the nursery that child attended. OOH on call doctor entered this as "context" on HPZone. Link to Case A identified</b></p>
<h3 style="background-color: #004a99; color: white; padding: 2px;">CLUSTER INVESTIGATION &amp; MANAGEMENT</h3> <p>The link between the two cases was identified on a Sunday and an incident team was established and teleconference held on Monday. The incident team included HPA staff and colleagues from the City and Hackney Public Health Department.</p> <p>A careful and rapid assessment of the clinical, epidemiological and microbiological information was made (see timeline). No other meningococcal disease had been notified in Hackney and Haringey in the previous 3 months.</p> <p>We confirmed that the two cases did not mix in social settings outside of the nursery and defined the 'high risk' group to offer chemoprophylaxis to as the two classes in the nursery consisting of 70 boys aged 3 to 5 years who mixed and played together during the day.</p> <p>Evidence from national guidance suggests that; two confirmed meningococcal disease cases, identified within a four-week period, attending the same nursery and could be caused by the same serogroup, is defined as a cluster and public health action is indicated. The risk of a third case may be as high as 30-50% and is highest in the week after the second case.<sup>1,2</sup> Outbreaks of meningococcal disease often generate high levels of public alarm.<sup>3,4</sup> The speed of public health response is thus important both to implement preventive measures and reduce public anxiety:</p> <ol style="list-style-type: none"> <li>Information should be given out widely within the institution to parents and students as appropriate</li> <li>A clearly defined group of children and staff (for pre-school and primary) should be offered prophylaxis</li> <li>For a cluster involving a vaccine preventable serogroup, vaccine should be offered to all individuals who were offered antibiotics (for Men C previously unimmunised individuals only).</li> </ol>	<p><b>PCR positive for <i>Neisseria meningitidis</i> resistant to rifampicin, sensitive to ciprofloxacin</b></p> <p><b>Incident meeting</b></p>		<p><b>Chemoprophylaxis administered to 71 children and 7 members of staff</b></p>
<h3 style="background-color: #004a99; color: white; padding: 2px;">Mass Chemoprophylaxis</h3> <p>Urgent arrangements were made for a Patient Group Direction for the 'administration of ciprofloxacin by accredited community pharmacists in NHS East London and the City' to be implemented. A community pharmacist, administrator, Consultant in Communicable Disease Control, Health Protection Nurse and GP trainee ran a session at the nursery on Tuesday where 5ml ciprofloxacin syrup was given to 71 children and 500mg ciprofloxacin tablets were given to 7 staff.</p>			<h3 style="background-color: #e67e22; color: white; padding: 2px;">LABORATORY INVESTIGATIONS</h3> <p><b>CASE A</b> EDTA PCR and blood cultures confirmed <i>Neisseria meningitidis</i> group B type 1 subtype NT /P1.14/NT, resistant to rifampicin but sensitive to ciprofloxacin.</p> <p><b>CASE B</b> EDTA PCR testing confirmed <i>Neisseria meningitidis</i> group B. This was a weak positive and subtyping was not possible. Blood cultures were negative and antibiotic sensitivities could not be tested.</p>
<h3 style="background-color: #004a99; color: white; padding: 2px;">Communication</h3> <p>The key challenge was to coordinate communication to parents and collate consent forms within 24 hours. A letter was distributed to parents together with a meningitis factsheet, information on ciprofloxacin and a consent form. Written information was also translated to Yiddish by the Rabbi as this is the first language of many members of the Orthodox Jewish community. We discussed the plan of action with nursery staff and agreed on the practical arrangements and the key messages for parents, which were supported by the local Rabbi</p> <p>The main concern of the community was our definition of the 'high risk group' and whether a wider community group, e.g. all those attending the same synagogue, could also be at risk. Our communication strategy sought to reach a balance between outlining the risk to the nursery group and reassuring the wider community, emphasising that the purpose of chemoprophylaxis was to prevent onward transmission of infection. We emphasised that we would continue to review the situation and that if more linked cases were identified we would re-evaluate our plan. HPA communication colleagues advised on all letters and information and prepared a reactive press statement. We alerted the Meningitis Trust and the Meningitis Research Foundation. Letters were sent to all GPs in Hackney and Haringey, where some of the nursery children were resident, and to local A&amp;E Departments and other health professionals.</p>			
<h3 style="background-color: #004a99; color: white; padding: 2px;">DISCUSSION</h3>			
<p>The chemoprophylaxis session at the nursery was very successful as nursery staff and the community came together to ensure that all children received the antibiotics. Consent forms were completed by most parents and we obtained oral consent over the phone for the remainder. An Orthodox Jewish community worker and the Rabbi attended the session to offer their endorsement and support. We were able to answer questions face to face and provide reassurance. Typing could not be done on the second case so we were unable to confirm/disprove the link between the two cases. Ongoing surveillance has revealed no further cases known to be linked to the nursery or wider Orthodox Jewish community to date.</p> <p>This was a challenging incident which was managed promptly and successfully through strong partnership and collaborative working between multiple stakeholders in the HPA, Public Health and primary care. The 'context' function on HP Zone is a useful surveillance tool, providing up to date information about cases linked to educational settings in particular. Mobilising primary care to deliver the antibiotics was possible in such a timely and effective fashion due to the longstanding relationships in place between colleagues and their extensive knowledge of the local community and health economy. From 1<sup>st</sup> April 2013 this function will transfer to the NHS Commissioning Board and we anticipate that providing such a timely response may prove challenging in the early phases of the transition. Communication is always difficult in meningitis clusters when anxiety in the community can be high. Prompt and culturally sensitive communication in English and Yiddish, including the visit to the nursery, and endorsement by community leaders, such as the Rabbi, were key to the success of our strategy.</p>			
<p><b>Acknowledgments:</b> We would like to thank – members of the incident team, nursery staff, pharmacists, OJ community worker</p> <p><b>References:</b></p> <ol style="list-style-type: none"> <li>Division KL, Andrews N, White JM, Ramsay M.E, Crowcroft NS, Rushdy AA et al. Clusters of meningococcal disease in school and preschool settings in England and Wales: What is the risk? Arch Dis Child 2004; 89: 256-60</li> <li>Zangwill KM, Schuchat A, Riedo FX, Pinner RW, Koo DT, Reeves MW, et al. School-based clusters of meningococcal disease in the United States. Descriptive epidemiology and a case-control analysis. JAMA 1997; 277(5): 389-95.</li> <li>Begg N. Outbreak management. In: Cartwright KAV, editor. Meningococcal disease. Chichester: John Wiley &amp; Sons; 1995. p. 285-305.</li> <li>Stuart JM. Managing outbreaks the public health response. In: Pollard AJ, Maiden MCJ, editors. Methods in molecular medicine. Vol 67. Meningococcal disease: methods and protocols. Totowa, NJ: Humana Press Inc; 2001. p. 257-72.</li> <li>Guidance for public health management of meningococcal disease in the UK. Health Protection Agency Meningococcal and Haemophilus Forum. Updated March 2012</li> </ol> <p><b>Abbreviations:</b> HUH: Homerton University Hospital; A&amp;E: Accident and Emergency; EDTA: Ethylenediaminetetraacetic acid; GOSH: Great Ormond Street Hospital; PCR: Polymerase chain reaction</p>			



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# Framing Swaps in a Virtual Online Supermarket to Maximise Acceptance Rates of Healthier Alternatives

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UNIVERSITY OF CAMBRIDGE



BHRU Behaviour and Health Research Unit



Anglia Ruskin University

### INTRODUCTION

Prompting individuals to choose healthier food alternatives is an appealing and potentially simple way of shifting people towards healthier food purchasing and consumption (Hollands et al., 2013).

Swaps are often used to encourage healthier and cheaper food choices (Smart Swaps, Change4Life; [www.mysupermarket.com](http://www.mysupermarket.com)), but there is limited evidence of their effectiveness.

In an adapted real life online supermarket, Huang et al. (2006) found the use of automated tailored swaps to products lower in saturated fat reduced the amount of saturated fat in foods purchased. However, Forwood et al. (2015) found no evidence for the impact of offering swaps in the same food category with lower energy density at the point of check.

The current study aims to extend this work by testing whether framing the swap without appealing to health, instead using cost or social norms, might improve swap acceptance rates.

### INTERVENTION

**626 participants** were tasked with purchasing a list of **10 food items** within a **naturalistic online virtual supermarket** environment, choosing products they would normally purchase or have purchased in the recent past.

Participants were randomly assigned to receive health, cost or social norm framed swap at the point of check out. There were on average 2.5 swaps presented per participant. All the swaps offered healthier food choices, which are also cheaper than the initially selected item.

An automated algorithm was used to determine when to offer swaps and what alternatives to offer. A swap was offered if a food could be identified that met the following criteria: from the same product category as the original food (as defined by the 'shelf' location used by the retailer from which the food database originated ([www.woodssupermarket.co.uk](http://www.woodssupermarket.co.uk)), between 90% and 110% of the weight of the base food, less than the cost base item by at most 20% and with an energy density less than the base food by at least 100 kJ/100g.

What about an alternative with fewer calories per gram?

You chose: How about:

Jordan's Country Crisp With Whole Raspberries 500g

£2.69



Dorset Fruit And Fibre Raisin Apple/Date 500g

£2.49



### DISCUSSION

- This study shows that a **social norm framed** message is more likely than a cost or health frame to maximise acceptance rates of healthy products, but not energy density of the basket.
- Also noteworthy is the exploratory finding that **food preference strength is the largest predictor of swap acceptance**.
- There was **no socio-demographic effects on swap acceptance**, irrespective of the swap frame message shown.
- On average a **131 KJ reduction in energy density per shopping basket** was observed, however there were no differences in energy density between swap frame messages for accepted swaps.
- Future research** should explore how swap acceptability of products without strong preferences (e.g. milk or bread) compare to strong preference foods (e.g. cheese or pasta sauce).

### METHODS

This study was conducted using a Between-Subject Design. All participants were randomly allocated to one of three conditions:

- Swap framed in terms of **health** (control) "Swap to save calories"
- Swap framed in terms of **cost** "Swap to save money".
- Swap framed in terms of **social norm** "Swap to this product chosen by customers who buy similar groceries to you".

**Hypothesis:** cost or social norms frame will be more effective than the health framed message.

**Primary outcome:** proportion of accepted swaps; number of swaps accepted, number of swaps offered.

**Sample:** participants (aged 18yrs +) were recruited via a research agency to take part in a virtual online shopping task. Screening questions were used to ensure all participants were responsible for at least 50%, all or most of the food/ grocery shopping.

**Statistical Analysis:** a GEE logistic regression analysis of swaps accepted by participant and intervention type was conducted.

For the purposes of this study, food items were compared on the basis of their energy density (i.e. kJ per 100g).

### RESULTS

**Swaps were accepted 8.1% of the time.** GEE logistic regression analyses of swaps accepted by participant and intervention type were conducted including various types of control variables (see table 1). Subsequently the best model was analysed without each of the predictors to identify the most important predictor of swap acceptance (see table 2). Figure 1 shows the relationship between the best predictor (baseline basket strength of preference) and swap frames in predicting swap acceptance. **When preferences are high, the social norm frame is most effective.**

Model	Model Components	AIC-QIC	AIC-QICC
Model 1	Swap frames	1791.103	1786.506
Model 2	Swap frames, age, gender, BMI, education level, BMI, household income, shopping responsibility	1781.929	1767.522
Model 3	Swap frames, base product favouring, snack factor, food factor	1617.459	1609.385
Model 4	Swap frames, preference strength baseline products, food factor, snack factor, age	1608.248	1599.009

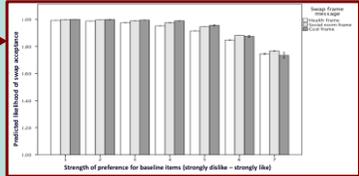
**Table 1.** Comparing AIC-QIC and AIC-QICC values for model selection between GEE logistic regression models of the effect of swap frame message on swap acceptance.

Model 1: swap frame only  
 Model 2: including demographic variables.  
 Model 3: including psychological shopping habit variables and  
 Model 4: including age and psychological shopping habit factor variables as covariates was the best model.

Model	AIC-QICC	Wald $\chi^2$	P value
Model without group	1604.210	5.201	p = 0.74
Model without strength of preference	1771.003	171.994**	p < .001
Model without main meal factor	1600.970	1.967	p > .100
Model without snack factor	1600.563	1.554	p > .100
Model without age	1609.385	10.376**	p = .002

**Table 2.** AIC-QICC values comparison using Chi-squared analysis for best model fit full model (see table 1; model 4) with models without each of those components to compare the relative contribution to the model.

**Swap frame message is the strongest predictor of swap acceptance after strength of preference for baseline products, snacking habit factor and age.**



**Figure 1.** Preliminary visualisation of relationship between baseline likability of shopping basket (strongest predictor of swap acceptance) and message framing using predicted likelihood of accepted swaps shows that assuming 100% swap acceptance for baseline items in shopping basket for a baseline of likability rating of 1 stronger baseline preferences, predict reduced likelihood of swap acceptance.

When preferences are high, the cost and social norm frame are more effective than the health frame, with the **social norm frame being most effective**.

### REFERENCES

Forwood, S. E., Ahern, A. L., Marteau, T. M., & Jebb, S. A. (2015). Offering within-category food swaps to reduce energy density of food purchases: a study using an experimental online supermarket. *International Journal of Behavioral Nutrition and Physical Activity*, 12, 85. DOI 10.1186/s12966-015-0241-1

Hollands, G. J., Shemilt, I., Marteau, T. M., Jebb, S. A., Kelly, M. P., Nakamura, R., Suhrcrke, M. & Ogilvie, D. (2013). Altering micro-environments to change population health behaviour: towards an evidence base for choice architecture interventions. *BMC Public Health*, 13, 1218. doi:10.1186/1471-2458-13-1218

Huang, A., Barz, F., Huxley, R., Dwyer, G., Rohlfach, B., Jayne, K., & Neal, B. (2006). The effects on saturated fat purchases of providing internet shoppers with purchase-specific dietary advice: a randomised trial. *PLoS clinical trials*, 1(5), e22

### ACKNOWLEDGEMENTS

Prof. Suzanne Higgs for advice on the social norms messages.





## Appendix 5 – Behavioural Insights Masterclass

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### Behavioural Insights Masterclass

Dr Tim Chadborn – Behavioural Insights Lead  
Anna Sallis – Health Psychologist  
Amanda Burten – Health Psychologist in Training

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### Overview

1. The PHE Behavioural Insights Team's Approach
2. Stages of Designing a Behavioural Intervention
3. Problem Identification, Target Behaviour and Outcome Measures
4. Behavioural Analysis
5. Intervention Design
6. Group Feedback
7. Evaluation & Implementation

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### 1. PHE Behavioural Insights Team approach

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### Why behavioural insights?

- Behaviour underpins the effectiveness of health interventions
- Behaviours often complex but there are predictable responses
  - often people know what they 'should' do but don't do it
- We are heavily influenced by context
  - e.g. how choices are presented / what we think others are doing
- Behavioural science is underused to improve health outcomes
- Potential for low cost and population-wide interventions

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### The Behavioural Insights approach

The application of behavioural science to policy and practice with a focus on (but not exclusively) 'automatic' processes.

*Michael Hallsworth, The Behavioural Insights Team*

Draws on insights from behavioural economics and psychology research

Central role of robust evaluation to develop the evidence-base

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### Characteristics of this Approach

- Dual process models of behaviour – focus on interventions that work through the automatic system
- Unique applied approach with field testing and robust evaluation
- Enhancing systems/processes by applying behavioural science
- Scalable, practical, affordable, low delivery intensity
- Behavioural outcomes (not self-reported or behavioural mediators)
- Small changes can have widespread impact

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### Importance of Automatic Processes

Limitations of theories based on rational choice:  
You think much less than you think you do!

<p><b>We are all:</b></p> <ul style="list-style-type: none"> <li>&gt; Imperfect information processors</li> <li>&gt; Emotional</li> <li>&gt; Influenced by context</li> <li>&gt; Short-sighted</li> <li>&gt; Inconsistent</li> <li>&gt; Cognitively lazy/efficient</li> </ul>	<p><b>We use:</b></p> <p>Two interacting systems</p> <ol style="list-style-type: none"> <li>1. <b>AUTOMATIC</b> Fast, effortless</li> <li>2. <b>REFLECTIVE</b> Slow, conscious</li> </ol>
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### Example

What percentage of UN nations are African?



Is the % of African countries above or below 15%?  
What is the actual %?

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### Example

What percentage of UN nations are African?

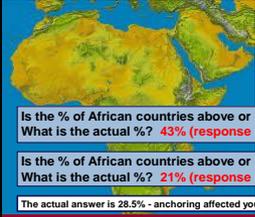


Is the % of African countries above or below 65%?  
What is the actual %?

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### Example

What percentage of UN nations are African?



Is the % of African countries above or below 65%?  
What is the actual %? **43% (response in studies)**

Is the % of African countries above or below 15%?  
What is the actual %? **21% (response in studies)**

The actual answer is 28.5% - anchoring affected your answers

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### Role of PHE's Behavioural Insights Team

Utilising insights from research in behavioural economics and psychology to improve public health outcomes

Understanding **why people behave as they do** and the **context** in which decisions are made

- > Projects demonstrating how behavioural insights can improve public health outcomes and sharing of evidence
- > Integration of approach into public health system / capacity building  
**local areas testing their own programmes and sharing**

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### Criteria for Behavioural Insights Trials

- > Impact (includes consideration of health inequalities)
- > Affordability
- > Acceptability (includes complementing wider initiatives)
- > Alignment with guidelines and priorities
- > Scalability
- > Feasibility of trial implementation and evaluation
- > Objective behavioural outcome measures
- > Value added by behavioural insights

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## Case studies

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### Enhancing Stoptober Registration

Stoptober - 10% this October. Don't inhale the cigarette.

Join the **Stoptober** challenge taking part in Stoptober

**Step 1**  
Look over the registration pack. You'll find everything you need to get started. It includes a registration pack, a challenge pack, and a pack of 10 cigarettes.

**Step 2**  
Look over the registration pack. You'll find everything you need to get started. It includes a registration pack, a challenge pack, and a pack of 10 cigarettes.

160,000 people completed the challenge, join them!

I quit 12 months ago and I still feel a sense of pride. It's a huge achievement. I've been able to live a healthier life and I'm now a non-smoker. It's a great feeling!

Labels: "Carousel", Fact, Image, Testimonial

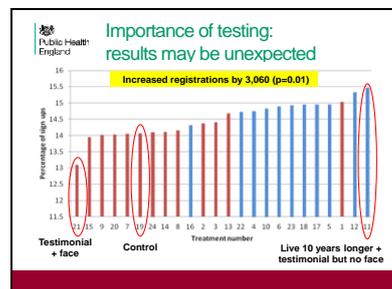
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### Which message do you think was most effective?

Control: no message about the benefits of Stoptober

Interventions:

- 160,000 people completed the challenge, join them! (social norm)
- Live 10 years longer (health gain framed)
- Save £200 in 28 days (financial gain frame)



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### Boost uptake of NHS Health Checks

Focus on letters and text invitations because:

- Principal way most patients are invited to the Check
- Variety of approaches currently used But no robust evidence for what works best
- Clear scope for improvement Small changes could make a significant difference
- Optimising these processes is free Writing a good letter costs the same as writing a bad letter!

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### Medway – NHS Health Check uptake

13% increase

29% 33%

Control (n=1755) Intervention (n=1755)

- Simpler – less content
- Action-orientated – what to do next
- Salient – 'due', not 'invited'
- Commitment – use of tear-off slip

Public Health England Southwark - engagement and effectiveness of lifestyle referral services

Refer

An individually randomised controlled trial of:

- > **Social norms** via personalised motivational texts
- > **Reminders** via text
  - for pre-diabetics on exercise programme -----
- > **Instruction** on how to use the pedometer
- > **Monitoring and feedback** from smart pedometers
- > **Monitoring** of HbA1c tests (exercise)

Public Health England Outcome measures

All

- Attendance at referred services
- Attendance at follow up interview

Pre-diabetics

- Average daily steps/usage of smart pedometer
- HbA1c test

Public Health England Project Pipeline

Consideration	Development	Implementation	Completed
<ol style="list-style-type: none"> <li>1. Sexual health STI and HIV</li> <li>2. School Food Plan</li> <li>3. Nicotine replacement therapy support</li> </ol>	<ol style="list-style-type: none"> <li>1. Social isolation</li> <li>2. Smoking in pregnancy – referrals</li> <li>3. Antimicrobial resistance</li> <li>4. Health Checks – uptake</li> <li>5. Child obesity and NCMIP</li> <li>6. Drinkaware</li> </ol>	<ol style="list-style-type: none"> <li>1. Smoking in pregnancy – retail</li> <li>2. Health Checks – referrals</li> <li>3. Pre-diabetes programme</li> <li>4. Cervical cancer screening</li> </ol>	<ol style="list-style-type: none"> <li>1. Stoptober</li> <li>2. Flu vaccination</li> </ol>

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## 2. Stages for Designing a Behavioural Intervention

Public Health England Behaviour change intervention design process

Stage 1: Understand the behaviour → Stage 2: Identify intervention options → Stage 3: Identify content and implementation options

Public Health England Key Questions to address

- What is the problem you are trying to solve?
- What behaviour(s) are you trying to change and in what way?
- What will it take to bring about the desired behaviour change?
- What types of intervention are likely to bring about the desired change?
- What should be the specific intervention content and how should this be implemented?

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## Overview of stages for designing a behavioural intervention

1. Problem Identification
2. Identify behavioural target
3. Identify behavioural outcome measure
4. Conduct behavioural analysis
5. Design Intervention
6. Design Evaluation
7. Implementation

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## Step 1: Problem identification

What is the problem that needs to be addressed?

- High rates of obesity  
(weight loss? Reduce calorie intake?)
- High infection rates  
(increase hand washing? reduce infection?)
- Low uptake of health checks  
(increase motivation to attend health check? Increase number of patients invited to HC?)

Behaviour is anything a person does in response to internal or external events. (Hobbs Campbell, Hildon & Michie, 2011).

Behaviour should be differentiated from its determinants (self-efficacy, emotion) and its outcomes (quality of life, cholesterol level)

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## Step 2: Identifying the Behavioural Target

Behaviour occurs within a context and within a system of behaviours at different levels (patient, professional, system).

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## Example

**Intervention Aim: improve hygiene practices in hospitals**

<b>Equipment</b>	<ul style="list-style-type: none"> <li>• Keeping sterile single use items in packaging until use</li> <li>• Sterilising reusable medical equipment</li> <li>• Handling sharps appropriately</li> </ul>
<b>Patient Care</b>	<ul style="list-style-type: none"> <li>• Washing patients as appropriate e.g. following incontinence</li> </ul>
<b>Hospital Environment</b>	<ul style="list-style-type: none"> <li>• Cleaning wards, toilets, offices and theatres</li> <li>• Changing bed linen as appropriate</li> <li>• Transporting soiled or infected bed linen in bags</li> <li>• Providing clean bed linen</li> </ul>
<b>Personal Hygiene</b>	<ul style="list-style-type: none"> <li>• Cleaning hands using alcohol gel</li> <li>• Cleaning hands using soap</li> <li>• Providing alcohol gel &amp; dispensers</li> <li>• Providing soap</li> <li>• Providing paper towels</li> </ul>

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## Step 3: Identify behavioural outcome measures

- Not mediators (e.g. self efficacy) but behavioural outcomes
- Not self-report
- Any routine data available?

**Example: Organ donation**

1. Clicks on call to action button to say yes I want to register (easiest to record but could be drop off)
2. Actual registrations completed (linked to NHSBT recorded)
3. Registrations by people not already on the register (matched by NHSBT)
4. Secondary outcome: Click through to register but then do not complete the page

**Example: Uptake of NHS Health Checks**

- What is completion?

**Quality and consistency of meaning of outcome measure**

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## Task 1: Problem Identification; Identify behavioural target and outcome measure

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### Step 4: Conduct Behavioural Analysis

Understanding the target behaviour in context

- Behaviour occurs as an interaction between:
  - Capability
  - Opportunity
  - Motivation
- What factors initiate and maintain behaviour?
- What needs to change for the desired behaviour to occur?

(Slide by Dr Lou Atkins, UCL)

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### COM-B: A simple model to understand behaviour

Michie et al (2011)

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### Prime Theory (West, 2013)

- It is the wants and needs at each moment that drive our behaviour.
- Our intentions and beliefs about what is good or bad only influence our actions if they create sufficiently strong wants and needs at the relevant moment.
- Our image of ourselves and how we feel about that, our identity, is a potentially very strong source of wants and needs which can be enough to overcome ones arising from biological drives such as hunger.

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#### Reflective

A Polo is £9,790.  
 Honestly, a Polo is £9,790.  
 It's true, a Polo is £9,790.  
 No really, a Polo is £9,790.  
 Well yes, a Polo is £9,790.  
 Look, a Polo is £9,790.  
 No joke, a Polo is £9,790.  
 Seriously, a Polo is £9,790.

#### Automatic

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## Task 2: COM-B Analysis

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### EXAMPLE

COM-B Model Component	What needs to happen for the target behaviour to occur?	Is there a need for change?
Physical Capability	Have the physical skills to clean hands	No change needed as staff have these skills
Psychological Capability	Know the correct techniques to clean hands	No change needed as knowledge of hand cleaning techniques is sufficient
Social Opportunity	See senior health professionals clean their hands using alcohol gel	Change needed as staff do not always see senior health professionals cleaning their hands using alcohol gel
Physical Opportunity	Have alcohol gel available	No change needed as gel is available at each bed side
Reflective Motivation	Hold beliefs that using gel more frequently will reduce infection transmission	No change needed as research literature shows staff hold these beliefs
Automatic Motivation	Believing that consistent hand hygiene will require improved cognitive and self-regulation skills	Change needed as staff do not necessarily recognise the value of these skills
	Have established routines and habits for hand cleaning	Change needed to establish routine and habit formation

Michie et al. The Behaviour Change Wheel: A Guide to Designing Interventions

Public Health England **Step 5: Designing the intervention**

- Intervention functions
- Modes of delivery (intervention opportunities)
- Applying behavioural insights
- Trial criteria

Public Health England **Going beyond COM-B: The Behaviour Change Wheel (Michie et al, 2011)**

Synthesis of 19 Frameworks to classify interventions

Centre: COM-B Model

Inner Ring: 9 intervention functions

Outer ring: 7 Policy categories

What is causing the behaviour – how best to intervene?

Public Health England **A. BCW Intervention Functions**

- Education:** Using rules to reduce the opportunity to engage in the behaviour (or to increase behaviour by reducing opportunity to engage in competing behaviours)
- Training:** Increasing knowledge or understanding
- Restriction:** Using communication to induce positive or negative feelings to stimulate action
- Environmental restructuring:** Changing the physical or social context
- Modeling:** Provide an example for people to aspire to or emulate
- Incentivisation:** Creating an expectation of reward
- Persuasion:** Increasing means or reducing barriers to increase capability (beyond education or training) or opportunity (beyond environmental restructuring)
- Enablement:** Creating an expectation of punishment or cost
- Coercion:** Imparting skills

Public Health England **Selecting appropriate intervention functions**

	Education	Persuasion	Incentivisation	Coercion	Training	Restriction	Environmental restructuring	Modeling	Enablement
Physical capability					✓				✓
Psychological Capability	✓				✓				✓
Physical Opportunity					✓	✓	✓		✓
Social Opportunity						✓	✓	✓	✓
Automatic Motivation		✓	✓	✓	✓		✓	✓	✓
Reflective Motivation	✓	✓	✓	✓					

Michie et al. The Behaviour Change Wheel: A Guide to Designing Interventions

Public Health England **B. Intervention opportunities**

**Consider the intervention points.**

- e.g. NCMP pathway: Opt out letter, measurement day, feedback letter, follow-up.

**Consider the mode of intervention delivery**

- e.g. NCMP: Letter, phone call, group intervention, online, local media.

Public Health England **B. Modes of delivery**

**Face-to-face**

- Individual; group

**Distance**

- Phone, text, app

**Population-level**

- Mass-media: internet, TV, radio, billboard, print media, leaflet

**Individually-tailored**

- Individually accessed computer programme

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### C. Tools for behavioural insights

**EAST**

BIT (2014)

**MINDSPACE**

**M**essenger  
**I**ncentives  
**N**orms  
**D**efaults  
**S**aliance  
**P**riming  
**A**ffect  
**C**ommitments  
**E**go

Cabinet Office and Institute for Government (2010)

Michie et al (2011)

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### C. EAST: Four Simple Ways to Apply Behavioural Insights

If you want to encourage a behaviour, make it:

- > Easy
- > Attractive
- > Social and
- > Timely

Define the outcome

→

Understand the context

→

Build your intervention

→

Test, learn and adapt

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### C. MINDSPACE

MINDSPACE	
Messenger	We are heavily influenced by who communicates information
Incentives	Our responses to incentives are shaped by predictable mental shortcuts such as strongly avoiding losses
Norms	We are strongly influenced by what others do
Defaults	We 'go with the flow' of pre-set options
Saliance	Our attention is drawn to what is novel and seems relevant to us
Priming	Our acts are often influenced by sub conscious cues
Affect	Our emotional associations can powerfully shape our actions
Commitments	We seek to be consistent with our public promises, and reciprocate acts
Ego	We act in ways that makes us feel better about ourselves

Doan et al (2010)

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### C. Other key Behavioural Insights

**Anchoring: Reference points matter**

- We value something according to where we see it from now

**Losses loom larger than gains – loss aversion**

- We dislike losses more than we like the equivalent gains.

**Hyperbolic discounting – we live for today**

- Given two similar rewards, humans show a preference for one that arrives sooner rather than later.

**Endowment effect**

- Preference for items already in our possession.

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### D. Considerations when designing interventions and selecting BCTs

- > Evidence of effectiveness
- > Local relevance
- > Practicability
- > Affordability
- > Health inequalities
- > Acceptability
  - o public
  - o professional
  - o political

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## Task 3: Intervention Design

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## How this fits into the wider public health context

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## PHE vision and approach

- 1 A approach that brings together**
  - appreciation of wider health determinants
  - promoting wellbeing, prevention and early intervention
- 2 An approach that relies on**
  - evidence-base for what works
  - adapting to local needs
  - collaboration and cross-sector leadership
- 3 A renewed focus on driving healthy behaviour**
  - promoting healthy behaviour (campaigns)
  - informing personal choice
  - providing local data for improving health

## Cross-government leverage opportunities

<b>Housing</b>	<ul style="list-style-type: none"> <li>Good housing drives health</li> <li>20,000 excess deaths each winter</li> </ul>	<b>Physical activity</b>	<ul style="list-style-type: none"> <li>Reduces risk of illness by up to 50%</li> <li>2/3 of adults obese or overweight</li> </ul>
<b>Work</b>	<ul style="list-style-type: none"> <li>Work a key health determinant</li> <li>Poor health keeps people out of work</li> </ul>	<b>Healthy Food</b>	<ul style="list-style-type: none"> <li>1/3 children in Y6 obese or overweight</li> <li>Cost of obesity to NHS £5bn a year</li> </ul>
<b>Crime and violence</b>	<ul style="list-style-type: none"> <li>Alcohol a factor in 44% of violent crime</li> </ul>	<b>Smoking</b>	<ul style="list-style-type: none"> <li>Leading cause of premature mortality</li> <li>Estimate cost to economy £13bn</li> </ul>
<b>Early intervention</b>	<ul style="list-style-type: none"> <li>Foundations for every aspect of development laid in childhood</li> </ul>	<b>Healthy community</b>	<ul style="list-style-type: none"> <li>Isolation significant driver of poor health</li> <li>Poor environments lead to social isolation</li> </ul>

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## Intensity of interventions

### Intervention spectrum - combination approach

Nuffield Council of Bioethics Intervention Ladder

Eliminate choice	No smoking-e-cigs for minors
Restrict choice	No smoking in workplaces
Guide choice by disincentives	Taxes
Guide choice by incentives	Stop smoking during pregnancy
Guide choice by changing the default policy	Plain packaging
Enable choice	Free NRT and support to quit
Provide information	Websites, leaflets, adverts
Do nothing	

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## Scope of Interventions

Source: Dickinson and Whittaker, 1991

NICE Guidance - Behaviour change at individual level - updated Jan 2014  
Behaviour change at population, community and individual levels - 2007, being updated

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## Summary

Behavioural insights provides **opportunities** for new approaches in a new public health landscape

Importance of **automatic system** in decision-making and behaviour.

Behavioural insights can be applied across the intervention spectrum

There are tools to support practical application of behavioural insights e.g. COM-B, BCW, MINDSPACE

Crucial role of **testing** to see what works

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## Useful resources

- Ariely, D. (2008). **Predictably irrational: the hidden forces that shape our decisions**. New York: Harper Collins Publishers.
- Dolan, P., Hallsworth, M., Halpern, D., King, D. & Vlaev, I. (2010). **MINDSPACE: Influencing behaviour through public policy**. UK Cabinet Office & Institute for Government.
- Kahneman, D. (2011). **Thinking Fast and Slow**. UK: Penguin.
- Michie, S., Atkins, L., & West R. (2014). **The Behaviour Change Wheel. A Guide to Designing Interventions**. London: Silverback Publishing. <http://www.behaviourchangewheel.com/>
- Thaler, R., & Sustein, C. (2008). **Nudge: Improving Decision about Health, Wealth and Happiness**. Yale University Press.



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## Further learning opportunities

**Online training** <http://www.bdt-taxonomy.com/>

**Teaching, training & events** <http://www.ucl.ac.uk/behaviour-change>

**Behavioural Economics Seminars** at the London School of Economics <http://www.lse.ac.uk/LSEHealthAndSocialCare/events/BehavioralEconomicsSeminars.aspx>

**Behavioural Economics Events** <http://be-events.org/>

## Contact details

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**Appendix 5a – Behavioural Insights Masterclass Worksheets**

**TASK 1: Worksheet 1** – Define the problem in behavioural terms. This worksheet allows you to set out in behavioural terms the problem you are trying to solve and the individual, professional or organisational system involved. Generate a list of target behaviours that could bring about the desired outcome, defined by the level. Think about where does the behaviour occur, who needs to do what and where?

<b>Health issue to resolve</b>		
<b>Possible target behaviours</b>		
<b>Individual (patient, public)</b>	<b>Health practitioner/ professional</b>	<b>System/organisational</b>

## TASK 1: WORKSHEET 2

Prioritise the behaviours by considering the following criteria:

1. How much of an impact changing the behaviour will have on desired outcome
2. How likely is it that the behaviour can be changed (when considering likelihood of change being achieved, think about capability, opportunity and motivation to change those performing the behaviour)
3. How likely it is that the behaviour (or group of behaviours) will have a positive or negative impact on other, related behaviours
4. How easy it will be to measure the behaviour

Different criteria will be more or less important in different situations.

List all potential target behaviours	Impact of target behaviour on desired outcome behaviour change. (Importance – will change here make a big impact on your outcome?)	Likelihood of changing behaviour (Changeability – is it feasible and practical to attempt)	Spill over score (behaviours which are central to the system may have spillover effects on other behaviours – positively or negatively)	Measurement – what will you measure? (how easy is it to measure, is routine data available? Can you avoid self-report?).
Record selected target behaviour here:				

**TASK 1: Worksheet 3** – Specify the target behaviour

Describe the target behaviour according to who needs to do what, when, where and how often and with whom.

Target Behaviour	
Who needs to perform the behaviour?	
What do they need to do differently to achieve the desired change?	
When do they need to do it?	
Where do they need to do it?	
How often do they need to do it?	
With whom do they need to do it?	
How will you measure it?	

**TASK 2: Worksheet 4** – Identify what needs to change in order for the target behaviour to occur.

COM-B Model Component	Definition	What needs to happen for the target behaviour to occur?	Is there a need for change?
<b>Capability - Physical</b>	Physical skill, strength, stamina		
<b>Capability - Psychological</b>	Knowledge or psychological skills, strength or stamina to engage in the necessary thought processes		
<b>Opportunity - Social</b>	Opportunity afforded by interpersonal influences and cultural expectations that dictates the way we think about things. What are the influences that come from friends, family, work colleagues and others that lead people to change their thoughts, feelings, or behaviours in favour of doing or not doing a particular behaviour.		
<b>Opportunity - Physical</b>	Opportunity afforded by the environment involving time, resources, locations, physical barriers.		
<b>Motivation - Automatic</b>	Automatic processes involving emotional responses, desires, impulses, habits and reflex response that arise from associative learning and/ or innate		

	dispositions/ physiological state		
<b>Motivation - Reflective</b>	Reflective processes beliefs about what is good and bad, conscious intentions, decisions involving plans and evaluations.		

### TASK 3: Worksheet 5: Intervention functions

Which COM-B components from your behavioural analysis need to be targeted and which intervention functions could be used to deliver your intervention?

	Education	Persuasion	Incentivisation	Coercion	Training	Restriction	Environmental restructuring	Modelling	Enablement
Physical Capability									
Psychological Capability									
Physical Opportunity									
Social Opportunity									
Automatic Motivation									
Reflective Motivation									

### **TASK 3: Worksheet 6: Intervention opportunities and modes of delivery**

What and when are the intervention opportunities? Consider the behavioural pathway where an intervention could be implemented.

**Intervention opportunities (When and where could you intervene in existing processes?  
Do you want to add an intervention point or change an existing one?)**

**Mode of delivery (e.g. Distance v face to face/individual v group/Letter v phone call)**

### TASK 3: Worksheet 7: Applying Behavioural Insights

Using MINDSPACE, EAST and your knowledge of behavioural insights and behaviour change techniques consider any particular strategies or concepts you might apply within your intervention to encourage behaviour change. Focus on the COM-B components you think are most important to your target behaviour.

COM-B Model Component	Intervention Functions	Behavioural Insights
<b>Physical Capability</b>	Training Enablement	
<b>Psychological Capability</b>	Education Training Enablement	
<b>Social Opportunity</b>	Restriction Environmental restructuring Modelling Enablement	
<b>Physical Opportunity</b>	Training Restriction Environmental restructuring	
<b>Automatic Motivation</b>	Persuasion Incentivisation Coercion Training Environmental restructuring Modelling Enablement	
<b>Reflective Motivation</b>	Education Persuasion Incentivisation Coercion	

**As you do this don't forget to consider the following intervention feasibility criteria:**

- **Evidence of effectiveness**
- **Local relevance**
- **Practicability**
- **Affordability**
- **Health Inequalities**
- **Acceptability**
  - **public**
  - **professional**
  - **political**



	<p>If yes please briefly explain how:</p> <hr/> <hr/> <hr/>
4.	<p>How confident do you feel about applying behavioural insights? (please circle your response)</p> <p>not at all confident      slightly confident      quite confident      very confident</p>
5.	<p>What do you hope to achieve by attending this session today?</p> <hr/> <hr/> <hr/>

Thank you for completing this questionnaire.



	<hr/> <hr/> <hr/>
4.	<p>How confident do you feel about applying behavioural insights? (please circle your response)</p> <p>not at all confident      slightly confident      quite confident      very confident</p>
5.	<p>Did the session meet the objectives set? (please circle your response)    Yes/ No</p> <p>If no, please briefly explain why:</p> <hr/> <hr/> <hr/>
6.	<p>What did you find the most interesting/ useful feature of the session?</p> <hr/> <hr/> <hr/>
7.	<p>Are there any ways this session could be improved?</p> <hr/>

8.	Any further comments

Thank you for completing this questionnaire.

## Appendix 6 –Applying Behavioural Insights to Optimise Uptake of Flu Vaccination



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### Applying Behavioural Insights to Optimise Uptake of Flu Vaccination in Primary School Children Years 1 - 3

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This document suggests innovative approaches to increase uptake of flu vaccination in primary school children using behavioural insights.

The ideas presented are focused on enhancing the invitation letter sent to parents/guardians about the school seasonal flu immunisation programme for children in years 1 – 3.

#### **Behavioural Insights: What is it and how can it be applied?**

Behavioural insight (BI) provides understanding of how and why people behave utilising knowledge from behavioural sciences and has potential to positively impact on numerous areas of public health and health services. There is evidence that it can improve health service usage by patients, various areas of clinical practice by healthcare professionals, and increase healthier behaviours among the general population.

#### **The EAST framework: A useful framework for thinking about behaviour change**

The EAST framework was developed by the Behavioural Insights Team in Partnership with the Cabinet Office<sup>1</sup>. It is advised that, to encourage a behaviour, it should be made:

- Easy
- Attractive
- Social
- Timely

The following ideas from behavioural science are presented using the EAST Framework. Where possible the ideas presented should be implemented using the test, learn and adapt framework<sup>2</sup> to assess the effectiveness of the intervention by randomly allocating the participants to control or intervention groups.



## Summary of the Top Tips to Enhance Invitation Letters

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### 1. Make it Easy

- Shorten, simplify and highlight key actions in the letter.
- Ensure a consent form is sent home with the letter for each eligible child.
- Pre-populate fields such as Name of Child/ DOB / Address, if feasible.
- Include a pre-addressed, and if appropriate and budget allows a pre-paid envelope for return.



### 2. Make it Attractive

- Address the parent/ carer personally opposed to a generic [Dear Parent/ Carer], and name the child in the letter. This can be implemented by a simple mail merge function.
- Use subheadings, bullet points, bold, colour and sizing to help emphasize key messages.
- Send reminder messages to increase salience and prompt completion of consent form.
- Highlight the benefits of their child having the vaccination and the potential costs of not.



### 3. Make it Social

- Emphasise the majority of parents/ guardians consent to their child being vaccinated and/or that the vaccine has been given to millions of children worldwide.
- If feasible, a supporting email/ letter/ SMS could be sent from the Head Teacher, since this is a known named individual in a trusted position of authority, alongside the provider invitation letter.



### 4. Make it Timely

- Circulate an email/ letter/ SMS in advance notifying parents/ guardians to expect the consent form shortly to prime them to expect the letter.
- Send a reminder email/ letter/ SMS after the initial letter to prompt parents/ guardians to complete the consent form.
- State a clear deadline for returning the consent form.
- Remind parents by email/ letter/ SMS about the vaccination day. Include here a note that if their child has become wheezy or has had their asthma medication increased they should contact the healthcare team. Provide contact details of the healthcare team.



## Applying Behavioural Insights

### Make it **Easy**

#### Simplification

Reducing the 'cognitive load' has shown to increase uptake<sup>3</sup>. Reducing the cognitive effort required to process information makes it less effortful for an individual to identify what action is required of them. This approach has been successful in increasing uptake of NHS Health Checks in Medway<sup>4</sup> and Southwark (DH, 2013) simply by *shortening, simplifying and highlighting key actions* required in an invitation letter.



- Make sure that the key message is presented early, ideally in the first sentence or subject line;
- Keep language simple;
- Be specific about recommended actions;
- Provide a single point of contact for responses;
- Remove all information that is not absolutely necessary for performing the action.  
(A follow-up email/ letter or SMS with more information could be sent upon initial response.)

#### Reduce Friction Costs

~~Most individuals want to adhere to the desired behaviour (i.e. complete consent form) but seemingly irrelevant details that make a task more challenging or effortful can make the difference between doing something and putting it off.~~<sup>5</sup> Making it simple for people to comply by reducing 'friction' can help to reduce low completion.



- Ensure a consent form is sent home with the letter ensuring one for each eligible child in the household.
- Pre-populate fields such as Name of Child/ DOB / Address, if feasible.
- Include a pre-addressed, and if appropriate and budget allows a pre-paid envelope for return.

### Make it **Attractive**

#### Personalisation

Research shows that self-relevant information (e.g. one's own name, street where you live, year you were born etc.) draws our attention effortlessly and helps imagine the costs or benefits of a particular action<sup>ii</sup>. People are more likely to respond to an individualised message than a general message. The more relevant it is to them personally the more likely they are to engage.



- Address the parent/ guardian personally opposed to a generic [Dear Parent/ Guardian] and name the child in the letter. This could be implemented by a simple mail merge function.



### Saliency

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We unconsciously filter out much information and focus only on what draws our attention<sup>6</sup>. These are likely to be stimuli that are novel, accessible and simple.



- Using a novel, simple and attractive<sup>7</sup> message may increase engagement.
- Consider using subheadings, bullet points, bold, colour and sizing to help emphasize key messages.
- Reminder messages may increase saliency and increase completion.

### Framing

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People respond differently to choices when they are presented in different ways. This is known as 'message framing'. The content of the message is the same but is presented in a different way.

**Gain frames** – emphasise potential gains of your target behaviour, for example 'If you maintain a healthy weight, you reduce the risk of getting cancer'.

**Loss frames** – stress the potential losses of not adopting the target behaviour, for example 'if you are overweight or obese, you increase the risk of getting cancer'.

Literature emphasises the importance of message framing. Within Prospect Theory, if the individual views the outcome of a target behaviour as risky they are motivated best by loss frames. If the target behaviour is seen as 'safe' gain frames may be more effective<sup>8</sup>.

In general, loss-framed messages tend to be most effective when encouraging detection behaviours (e.g. breast screening) whereas gain-framed messages tend to encourage preventative behaviours (e.g. dental hygiene behaviours)<sup>9</sup>. This research is based on self-motivated behaviour (i.e. the risk to the individual of non-compliance).



- Consider how you communicate why the vaccination is an attractive offer.
- Highlight the benefits of their child having the vaccination and the potential costs of not.

## Make it Social

### Social Norms

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If people believe that a behaviour is the most common one among other people, particularly people similar to them, then they are more likely to take this course of action themselves. The use of social normative messaging has been found to be highly effective in a variety of areas<sup>10</sup>. Visser et al. (2011) found uptake of the HPV vaccine significantly correlates with subjective social norms i.e. the perceived social pressure to engage (or not) in a behaviour.

Using feedback messages about peer engagement has also been highly effective in a range of areas.<sup>11</sup> Using an RCT, PHE-BIT significantly reduced prescriptions of antibiotics by providing feedback to the



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Make it **Timely**

### Priming

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We are often influenced by sub-conscious cues in our environment, which can be utilised to help us make healthier choices. Priming is exposing a person to some information or a situation so that they are prepared to act in a certain way when a subsequent situation arises. For example, sending a text message stating that a letter will soon follow can prime people to be expecting the letter and to respond positively to it. Reminder text messages after a letter has been sent can also prompt a response in some people who may have forgotten or delayed taking action initially. In a trial in the Southwark Health Checks programme, sending a primer and reminder text message either side of a full invitation letter increased response rate from 21% to 30%.



- Circulating an email/letter/SMS in advance notifying parents/guardians to expect the consent form shortly.

### Reminders/ Prompts

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Our decisions, thoughts and behaviour are often influenced by the ideas, objects and people we experience from moment to moment<sup>18</sup>. People's ratings of their life satisfaction are significantly affected by the questions that have just been asked. When to prompt people is important. Prompt people when they are likely to be most receptive. We are particularly likely to change our habits during periods of transition (after we move house, get married, have a child, start a new job). A proven solution is to prompt people to identify barriers to action and develop a specific plan to address them. Text messages have been used to increase attendance, reducing DNAs. A recent trial of text message reminders for outpatient appointments at St Bart's hospital found that including the cost of not attending or a social norm message reduced missed appointments by approximately a quarter<sup>19</sup>.



- Prompt or reminder email/letter/SMS could be sent after the initial letter to complete the consent form.

### Deadline

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People are more likely to respond to an action if there is a clear course of action within a given timeframe. Providing a deadline also helps to create an impression of scarcity due to the time limited nature<sup>20</sup>. People place increased value on resources that they believe to be scarce. Scarcity can also be inferred by stating for example, that there are only two courses running per year or that places are limited.



- State a clear deadline for returning the consent form.
- State that this is the only flu immunisation session offered by the school this year.



For more information or to discuss any of these ideas further, please contact Amanda Bunten – [REDACTED] from the Public Health England Behavioural Insights Team.

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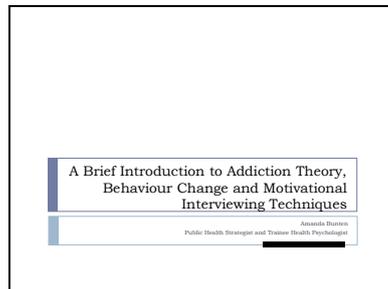
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## Appendix 7 - Level II Part II Smoking Cessation Training



### Training Overview

- ▶ Why people smoke
- ▶ Addiction
- ▶ The challenges of behaviour change
- ▶ Brief overview of Motivational Interviewing
- ▶ Practising practical skills

### Aims

- ▶ To help you build on your existing skills in the area of health behaviour change
- ▶ To introduce the 'spirit' of motivational interviewing
- ▶ To provide opportunities to practice skills with a safe environment

### Learning Outcomes

- ▶ Participants have greater understanding of nicotine addiction and challenges of behaviour change
- ▶ Participants understand and are able to put into practice Motivational Interviewing skills
- ▶ Participants have increased confidence in their skills to help people make health behavioural changes.

### Why do people smoke?

#### Initiation – social reasons

- ▶ Highly social activity that brings people together
- ▶ 80% of smokers start smoking in their teenage years

#### Maintenance

- ▶ Addiction – biopsychosocial (physiological changes, psychological – thoughts, beliefs, habit, environmental and social)

#### Two common types of smokers:

1. peak seekers
2. trough maintainers

### Addiction

#### What is addiction?

- ▶ Powerful motivation to engage in maladaptive behaviours that can undermine and overwhelm motivation to exercise restraint.

#### What is the role of nicotine?

- ▶ Has an effect on the central nervous system, generates impulses and impairs inhibition, creates associations of pleasure and relief with smoking, creating positive beliefs about smoking - experience stress relief. Generates an automatic impulse to smoke in the presence of smoking cues.

#### How do we assess level of addiction?

- ▶ Fagerstrom test for nicotine dependence – measures behavioural addiction (time of first cigarette of day and number of cigarettes per day)
- ▶ Subjective – rating of enjoyment, urges
- ▶ Want and need drive the behaviour.
- Want – anticipated pleasure
- Need – anticipated relief
- Nicotine – create craving / desire

- ▶ Difference between wanting and needing – wanting to smoke deters attempts to stop while needing to smoke leads to relapse once an attempt is made.

### Understanding behaviour

- › Acquiring new behaviours/ changing pre-existing behaviours is a process, not an event.
- › Psychological factors; beliefs, attitudes, and values, physical and social environmental factors; housing, education, work, socioeconomic status and our experiences all influence how we behave.
- › The more rewarding a behaviour the more likely it is to be repeated the more unpleasant the less likely.
- › Head and the heart distinction
- › Impulse, Instinct
- › Reflex – habit
- › Cues - drive impulses

### Theories of Behaviour Change

- › Social Learning Theory – Bandura
- › The Health Belief Model – Becker
- › Health Action Model – Tones
- › Stages of Change Model – Prochaska and DiClemente
- › Theory of Reasoned Action – Ajensen & Fishbien
- › Relapse Prevention Theory
- › Self regulating model – Leverston

### Common beliefs about behaviour change

People continue with unhealthy behaviours because;

- › They don't know the risks
- › They don't understand the risks
- › They don't know how to change
- › They don't care

#### Commons Solutions

- › Give them insight
- › Give them knowledge
- › Give them skills
- › Make them concerned

### An alternative perspective

- › What sustains a person's inaction is not a lack of insight, knowledge, skills or concern
- › People don't change until they have resolved their ambivalence (psychological state)
- › Resolving ambivalence is key to motivational interviewing
- › Persuading Approach versus evoking motivation
- › Need to resist the desire to tell people what they should do.
- › Can lead to resistance as a feeling of control being take away
- › Recognise resistant behaviours
- › Working in partnership with client

### Motivational Interviewing

"Motivational Interviewing is a collaborative, person-centred form of guiding to elicit and strengthen motivation for change". (Miller and Rollnick, 2009).

The client, not the practitioner, expresses concerns about their current behaviour and expresses arguments in favour of change.

The practitioner needs to demonstrate an understanding of the client's point of view.

### Key guiding principles

- › Resist the righting reflex
- › Understand and explore the client's motivations
- › Listen with empathy
- › Empower the client, building confidence that change is possible

### Skills

- › Develop reflective listening skills – understand meaning
- › Build relationship, confidence and empathy
- › Elicit – Provide – Elicit
- › Ask permission to give information
- › Utilise OARS
- **Open Questions** – elicits information
- **Affirmations** – genuine, direct statements of support
- **Reflections** – check meaning and understanding, demonstrates that the client has been listened to.
- **Summarising** - contain clients motivations for change, prepares client to elaborate further.

### Open-ended questions

- Disadvantages of status quo
- › How do you feel about your smoking?
  - › What worries do you have about your health right now?
- Advantages of change
- › What benefits might you see if you were to change?
  - › How would you feel if you were to stop smoking?
- Optimism for change
- › What makes you feel that now is a good time to try something new?
- Intention to change
- › What would you like to do about this?

### Change talk

- › Aim to elicit 'change talk'
- › Listen out for positive statements for behaviour change – demonstrates ambivalence resolve
- › 'change talk' is a good predictor of level of commitment – stronger commitment – good predictor of behaviour change
- › Get the client to talk themselves into behaviour change
- › Ask evocative questions – be interested/ curious in client

### Responding to change talk EARS

- › **Elaborating** – “in what way...? Please could you tell me more...?”
- › **Affirming** - “that took a lot of courage. You’re a person who can make changes when you need to”
- › **Reflecting** - “ that’s really important to you...”, “ you realise it’s become a problem”
- › **Summarising** - “There are a number of things I’m hearing about your situation. First you’re concerned about...Also you feel...And you are thinking...”

### Sustain talk (not change talk)

- › I really like smoking (Desire)
- › I don't see how I could give up smoking (Ability)
- › I have to smoke as it helps me to relax (Reason)
- › I don't think I need to quit (Need)
- › I intend to keep smoking and nobody can stop me (Commitment)

### Exercise

- › On a scale of 1 – 10
- 1. How important do you feel it is for you right now to ...?
- › Why did you score yourself at a X and not a X (lower number)
- › What would it take for you to move up a score or two?
- 2. How confident do you feel in being able to ...?
- › What would it take for you to move up a score or two?
- › Is there anything we could do to help you become more confident?

### Responding to change talk Exercise

- ▶ Thinking of a change you are considering within the next 6 months. Write down 4 change talk statements (desire, ability, reason, need, commitment)
- ▶ Read one change talk statement out loud.
- ▶ Person on right responds with either an elaboration, affirmation or reflection
- ▶ Response from initial speaker
- ▶ Observations from group – was the speakers statement change talk?



### Relapse Prevention

- ▶ Planning for difficulties can be helpful
- ▶ Identify potential cues which could trigger a relapse – client may not be aware of all triggers – advisor may need to help client identify these
- ▶ Help client identify coping strategies

"thinking about the next couple of weeks, what might get in the way..."

"if this happened, what might you do?"



### Action Planning

- ▶ Goal setting
- ▶ Specific actions and when

The most important reasons why I want to change are:

My main goal for myself in making this change is:

- ▶ I plan to do these things in order to accomplish my goals:

Specification:

When:

- ▶ There are some possible obstacles to change, and how I could handle them:

Possible obstacle to change...

How to respond ...

- ▶ I know that my plan is working when I see these results: ...



### Closing exercise

- ▶ Thinking about motivational interviewing and how you communicate with clients...

- ▶ One thing I will do less of is...

- ▶ One thing I will do more of is...



Thank you for listening and participating!



## Appendix 7a – Smoking Cessation Training Agenda

<b>Level II Part Two Workshop</b>		
1.	<b>Registration</b>	12:30pm
2.	Level II Part One Summary <ul style="list-style-type: none"> <li>- Health impacts of smoking</li> <li>- Drug interactions</li> <li>- Service Protocols</li> <li>- Gold Standard monitoring</li> <li>- Other stop smoking services</li> <li>- Quit rates and CO validation</li> </ul>	1pm
3.	Addiction theory	1:40pm
4.	Motivational interviewing	2:00pm
5.	<b>Break</b>	2:45pm
6.	Role Play Session with Level III advisors	3:00pm
7.	Level II Q&A	3:45pm
8.	NCSCT Stage Two Skills	4pm
9.	<b>Close</b>	5pm

**Appendix 7b – Smoking Cessation Motivational Interviewing Evaluation**

On a scale of 1 – 10 how confident are you right now in your ability to help people to make a behavioural change?

Start of training



End of Training



Please briefly explain why you gave yourself the above ratings.

I rated myself as \_\_\_\_\_ at the start of training because \_\_\_\_\_  
\_\_\_\_\_

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I rated myself as \_\_\_\_\_ at the end of training because \_\_\_\_\_

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## **Teaching and Training Case Study 1 – Midwives and Seasonal Flu**

### **Training for Midwives on the Seasonal Flu Campaign 2012/13**

#### **Context**

Working as a Public Health Strategist for the City and Hackney Public Health Department I am involved in the delivery and monitoring of the annual seasonal flu campaign. This involves working with health care professionals to ensure they are up to date on current guidelines, have appropriate action plans in place for the offer and delivery of the vaccine to the eligible population, and engaging with the local community to improve uptake of the vaccination.

#### **Background**

Seasonal flu vaccination is recommended in the UK for everyone aged 65 and over, those aged over 6 months with chronic conditions such as diabetes, pregnant women, carers and frontline health and social care professionals with the aim of directly protecting those who are most at risk of serious illness or death should they develop flu (Centres for Disease Control and Prevention, 2009).

Pregnant women were identified as being particularly at risk from complications associated with the H1N1 virus strain during the pandemic in 2009 (Jamieson, Honein, Rasmussen, Williams, Swerdlow, Biggerstaff, et al, 2009). Since then, all pregnant women have been classified as in a clinical 'at risk group' and prioritised to receive the annual seasonal flu vaccination during any stage of pregnancy (Centres for Disease Control and Prevention, 2009; Department of Health, 2011). There is good clinical evidence that there are no risks associated with vaccinating pregnant women against seasonal flu (Björn Pasternak, Svanström, Mølgaard-Nielsen, 2012; Zaman, Roy, Arifeen, Rahman, Raqib, et al, 2008) and there are preventative benefits to both mother and child (Benowitz, Esposito, Gracey,

Shapiro, & Vazquez, 2010; Eick, Uyeki, Klimov, Hall, Reid, Santosham & O'Brien, 2011). (Appendix 1).

To date uptake of the seasonal flu vaccine in pregnant women has been low locally and nationally and work is needed to try and improve uptake. In 2011/12, uptake among pregnant women in City and Hackney (C&H) was 20.4%, below the London average of 29.8% and the National average of 27.4%. Interestingly uptake among pregnant women in a clinical risk group was higher at 55.2%, compared to an average for London of 51.8%. Despite this, all rates of immunisation uptake are well below the advised target set of 75% for flu vaccination uptake in pregnant women (Department of Health, 2012).

The Department of Health (DH) also recommends annual immunisation of frontline health and social care staff against flu as they are at increased risk of exposure and transmission of the virus to vulnerable patients, and Trusts are currently expected to achieve 75% uptake. In 2011/12, uptake among frontline health care workers was 53.21% in C&H, which was above both the London average of 37.9% and the national average of 44.7% yet well below the target of 75%.

### **Training Delivered Prior to Becoming a Stage II Trainee**

GP Practices in C&H were the primary route for pregnant women to access the vaccine. After considering the care pathway during pregnancy and the touch points with health care professionals, it was decided it was important to engage with midwives locally to encourage them to promote and where possible provide access to the vaccine for pregnant women.

I met with the Head of Midwifery at Homerton University Hospital Foundation Trust (HUHFT) in July 2011, in advance of the coming flu season, to discuss this new immunisation programme and midwifery involvement. It was agreed that midwives should be involved in providing the immunisation and discussing the importance of the vaccine with their

patients. I offered to provide training for the midwives to bring them up to date with current guidance. It was agreed that I would provide training on the new immunisation programme, the local plans in place to promote and provide access to the vaccine, and address any queries or concerns.

I was advised there were approximately 160 midwives working for HUHFT so I set up a series of training sessions at the hospital across September and October 2011 at dates and times advised as most convenient for the midwives to attend. I developed the training materials and liaised with a local Health Protection Agency (HPA) Nurse Consultant to support the elements around vaccine components and contraindications.

[REDACTED]

[REDACTED]

[REDACTED]

Results from the 2011/12 campaign showed there was still low uptake of the vaccine in pregnant women. There was anecdotal evidence from those that had attended the training, that a number of midwives were not recommending the vaccine and many were still not aware pregnant women should receive the vaccine.

In October 2011 I enrolled on the Stage II Health Psychology training and became aware one of my competencies was to develop and demonstrate my competence in teaching and training.

## **Planning and Designing Training**

### **Assess Training Needs**

A brief online survey was conducted with midwives and other healthcare professionals in May 2012 to explore factors affecting seasonal flu vaccination uptake in pregnant women.

(Appendix 2). The results of this, along with the feedback from the previous training with midwives and the low immunisation uptake rates highlighted a gap in knowledge on risks associated with seasonal flu in pregnant women, a lack of confidence to advise or discuss the vaccine with pregnant women, along with incorrect beliefs held about flu and the vaccine.

I met with the Head of Midwifery in July 2012 to discuss the coming year's campaign and how to improve uptake. She was keen for me to deliver more training sessions on seasonal flu vaccination and for these to focus on improving staff uptake along with increasing uptake in pregnant women. I proposed that we run a number of more informal, interactive sessions where I would facilitate discussions with the midwives around the challenges faced with promoting the vaccine and work to dispel reported myths. I suggested the sessions could be more action-oriented to provide the midwives with the opportunity to develop practical skills to use when discussing the immunisation with their patients to address some of the barriers identified in the survey. It was agreed the sessions should run between late August and early September, ideally twice a week on the same day each week. It was advised that 8am would be a good time for community midwives and staff on the delivery suite.

### **Planning Training Sessions**

It took a number of weeks to finalise dates due to the number of different teams of midwives. I managed to identify a community midwife administrator that was able to help book midwives onto the training for me, identify training rooms and help set up the computer for my power point presentation. Despite being advised that the most appropriate time to hold training sessions was early morning before clinics started, it transpired that this was only convenient for community midwives, not for the midwives base on the antenatal and delivery suite wards. Therefore I arranged a number of sessions

to cater for these staff taking place later in the afternoon and on the ward. The head of midwifery agreed to ensure the heads of service would advertised this to staff and encourage them to sign up.

### **Training Structure and Content**

In August 2012, a resource pack was developed and shared by the HPA on increasing flu vaccine uptake in pregnant women which highlighted the need to educate staff (Health Protection Agency, 2012). It highlighted 'safety of the vaccine' as the mostly commonly mentioned barrier to vaccination and recommendations and knowledge given by healthcare professionals as the second most common factor in the decision making of pregnant women deciding to accept the vaccine. This was also supported by an evaluation report on improving access to seasonal flu vaccination for pregnant women in the north west 2011/12 which found that training altered midwives' attitudes by increasing their knowledge and confidence enabling them to raise the issue of vaccination with pregnant women, and that staff who had the vaccine may be better advocates for the flu vaccine (Petch & Anwar, 2012).

*This provided me with more evidence on the importance of delivering training and the content I intended to deliver. It also highlighted my need to be aware of identifying any new literature being published that I may need to include during the course of the training.*

As a result of the survey and the barriers identified, the training was designed to increase midwives' knowledge and understanding of the risks associated with flu in pregnancy, the benefits of the vaccine, and their confidence in being able to raise this with their patients whilst utilising effective language to promote behaviour change.

The main components of the training were providing information on the importance of increasing uptake of the seasonal flu vaccine in pregnant women and front line health care workers, the role of the midwife in promoting the vaccine to pregnant women, the barriers and motivators associated with vaccine acceptance and the role of language in communication between midwife and client.

*It was important to plan carefully and be well prepared but I was also mindful of adopting a flexible training approach to be able to respond to different group dynamics and meet the learning needs of those attending.*

I planned to have a local HPA Nurse Consultant present at each training session to be able to provide support from a clinical perspective, to answer any specific questions on the aetiology of the virus and provide more detailed epidemiological updates on flu activity, clusters and outbreaks locally, across London and wider.

### **Training Approaches and Methods**

Taking into consideration how people learn is a fundamental part of delivering appropriate training. Kolb (1984) saw learning as a process “whereby knowledge is created through the transformation of experience” and believed that “knowledge results from the combination of grasping experience and transforming it”. Kolb (1984), proposed a model of ‘Experiential Learning’ as a continuous cycle of *doing* (concrete experience), *observing* (reflective observation), *thinking* (abstract conceptualisation) and *planning* (active experimentation). He identified four learning styles and highlights conditions under which learners learn more effectively:

- Assimilators - learn better when presented with sound logical theories to consider

- Convergers - learn better when provided with practical applications of concepts and theories
- Accommodators - learn better when provided with 'hands-on' experiences
- Divergers - learn better when allowed to observe and collect a wide range of information

*Acknowledging that learning occurs in different ways, people have preferential learning styles and are motivated in different ways meant that I had to adopt an approach which utilised both experiential and didactic methods to support the learning process and optimise engagement. As my training was focused on increasing knowledge and confidence it was also important to identify the barriers and facilitators of offering the vaccination to pregnant women and address any deep set beliefs.*

*I believe my training style is consistent with the learner centred model where the trainer acts as a facilitator of learning, which involves valuing the experiences the participants bring to the training and working in a collaborative way to support their learning needs and meeting their learning objectives (Lambert & McCombs, 1998).*

My training was focused on increasing knowledge of the risks of seasonal flu in pregnancy and the benefits of the vaccine but also changing behaviour by increasing the number of midwives accepting the vaccine and recommending the vaccine. This involved changing beliefs about the vaccine and imparting skills to enable midwives to raise the issue and recommend the vaccine to their patients during routine consultations.

I approached this training from the COM-B model perspective (Michie, 2011). Ensuring the midwives had the capability, opportunity and motivation to engage with the desired behaviour of having the vaccination themselves and offering the vaccination to pregnant women. From the needs assessment, the training needed to increase the physical capability

(knowledge), address the reflective motivation (beliefs) and the social opportunity (social influences). The pre-training questionnaires helped to identify the barriers and beliefs around flu and the vaccine. The training sessions were designed to increase their knowledge of the risks associated with flu and pregnancy and the benefits of the vaccine and address any myths. By holding the training sessions with groups of midwives and having midwives speak from their own experience of seeing pregnant women on ITU as a result of catching flu this addressed the social opportunity. Alongside the training, working to improve the availability and accessibility of the vaccine would help to reduce the barriers increasing the physical opportunity.

I developed a power point presentation and prepared handouts which included a number of published scientific papers from peer reviewed journals, a fact sheet for midwives and pregnant women including myth busters, and a leaflet (Appendix 3, 4 & 5). These were made available for reference in advance of the training and for those that were unable to attend the training. This was to support the education element of the session and I utilised principles from motivational interviewing to provide the midwives with some tools to use in conversation with their patients to resolve vaccine ambivalence through role play and modelling (Miller & Rollnick, 2002).

*Before each session I would familiarise myself with the learning objectives and content of my presentation to ensure I felt prepared. This helped to reduce my anxiety about delivering the training.*

### **Delivery of Training**

At the start of each session I introduced myself and gave a brief overview of the session. I explained that this was a safe learning environment and that anything discussed would remain within the room. That the pre and post questionnaires were anonymous and

designed to identify any further training requirements and help us to tweak this training to ensure it delivered on meeting its aims and objectives.

As I am not clinically trained and have not worked in antenatal or maternity services, I wanted to ensure that the midwives identified with the terms I was using. I was unclear whether to refer to the pregnant women as 'pregnant women', 'patients', or 'clients', so I took time at the beginning of the first two sessions to clarify this and it was agreed they should be referred to as 'clients' or 'pregnant women'.

*I felt this helped build rapport with the midwives as I was acknowledging their expertise and creating an opportunity to elicit engagement and discussion.*

The training sessions took place at [REDACTED] in a training room near the maternity suite. The room was a good size with a large table in the middle which all participants were able to sit comfortably around. I ran four training sessions from August to October 2013. A total of 26 members of staff from the maternity service attended (Appendix 6).

### **Training Challenges**

I encountered some technical issues in the first session which meant I could not utilise the slides on the overhead projector. This meant I ran the session in a more informal way which generated lots of discussion.

*I was concerned that the midwives would feel that I had not come across as professional, however the post training questionnaire demonstrated that the session had met the aims and objectives of the training and had increased their level of knowledge about the vaccine, confidence in discussing and promoting the vaccination to their clients. After reviewing the feedback from the training session I felt very positive about my delivery and the despite some unexpected challenges it had been a success.*

Towards the end of September 2012, DH introduced a temporary immunisation programme to vaccinate pregnant women against whooping cough to protect their new born babies. This was aimed at all women 28 – 38 weeks of pregnancy (Department of Health, 2012). The Antenatal Lead contacted me and asked if I could include this within my training sessions. It was a challenge to cover a new immunisation programme within an already tight training session however I was able to extend the length of the training session slightly to incorporate this.

*As it was the same target population and the same group of health care professionals that would be promoting the immunisation the barriers were likely to be similar and it was a good opportunity to address this with the midwives that were already signed up to the training. This again highlighted the importance of flexibility in delivering training.*

### **Assessing Learning Outcomes**

I set aims and objectives for the training which were agreed with the Deputy Director of Public Health and Head of Midwifery, but was also mindful that the training needed to be tailored to address the different cohorts of midwives. At the beginning of each session I presented these and asked the midwives if these were consistent with what they hoped to achieve from attending the training.

I developed a brief anonymous pre training questionnaire for the midwives to complete at the beginning of the session, and a brief post training questionnaire to be completed at the end of the training session. These were utilised to evaluate the effectiveness of the training and assess the learning outcomes achieved (Appendix 7 & 8).

### **Evaluation of Training Programme**

26 attended the four seasonal flu training sessions for midwives, 23 pre training questionnaires were returned and 25 post questionnaires. I collated the results and

compiled an Evaluation report (Appendix 9). I sent brief evaluation reports to the Heads of Service and Infection Control at the Trust after each session to keep them informed of progress and highlight the positive feedback we were receiving.

*Feeding back the findings to heads of service was really important to keep them engaged and highlight the need for the training and the positive comments from those attending.*

The results of the questionnaires show that the training was successful. All midwives reported that the training session met the objectives set, that they felt sufficiently knowledgeable about seasonal flu and the vaccine, they would routinely recommend and offer the vaccine to all their pregnant clients and 80% reported they would have the vaccine this year.

**Uptake of seasonal flu vaccine in frontline health care workers**

After the training, uptake of seasonal flu vaccine in frontline health care workers increased from 39% reporting having had the vaccine last year to 80% reporting they will have the vaccine this year.

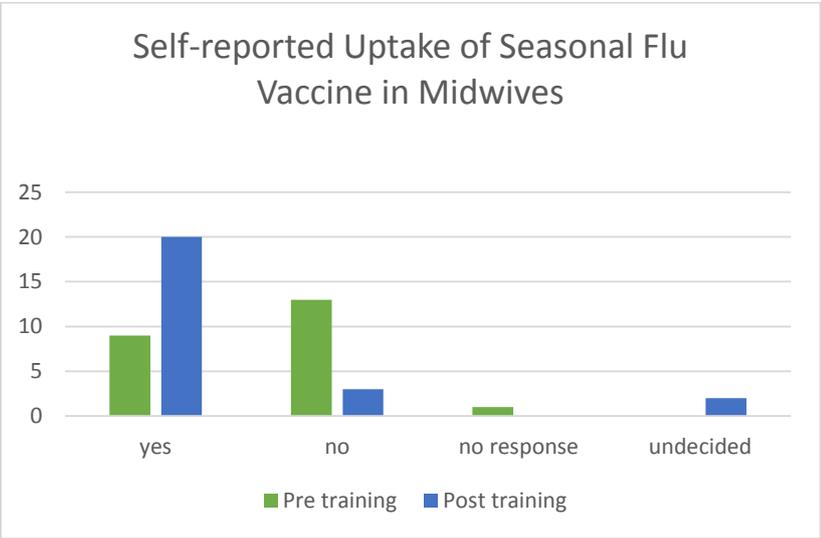


Figure 1 Self-reported uptake of the seasonal flu vaccine by midwives pre and post training

**Routinely offering seasonal flu vaccination to pregnant patients**

After the training 100% (n=25) reported that they would routinely offer the vaccine to their pregnant clients (from 57%).

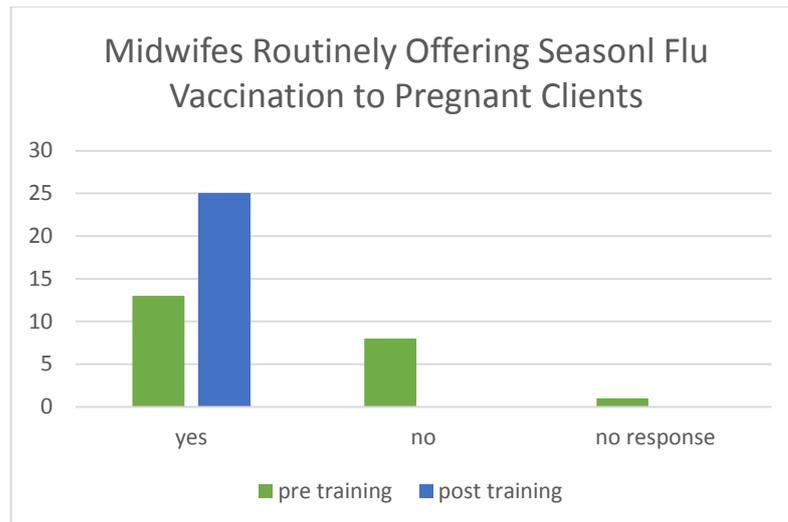


Figure 2 Self-reported offer of seasonal flu vaccine to pregnant women by midwives pre and post training

### **Knowledge**

Before the training session only 5 (22%) midwives reported feeling sufficiently knowledgeable to inform their patients about the vaccine. After the training all (100%) respondents reported that they now felt sufficiently knowledgeable.

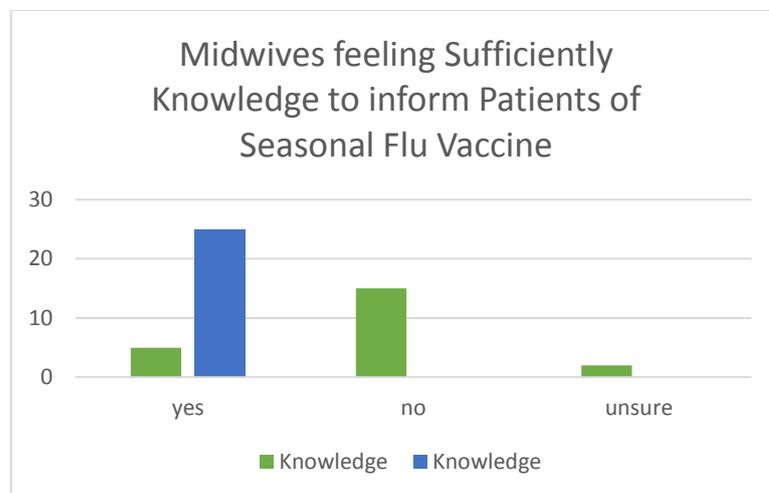


Figure 3 Self-reported level of knowledge about the seasonal flu vaccine by midwives pre and post training

### **Confidence**

Confidence increased from one midwife reporting they felt 'very confident' in answering patient's questions about the vaccine to 96% reporting feeling 'either very confident or quite confident' after the training session.

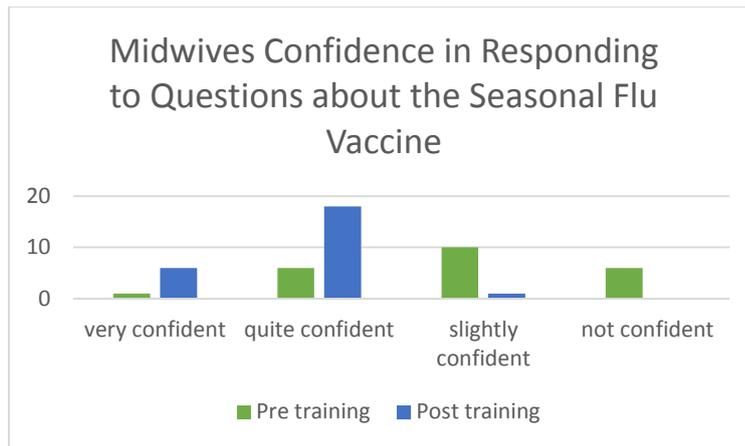


Figure 4 Self-reported levels of confidence in responding to questions about the seasonal flu vaccine by midwives pre and post training

**Concerns about recommending the vaccine**

Before the training six midwives reported having concerns recommending the vaccine. After the training all (100%) reported having no concerns about recommending the vaccine to their patients.

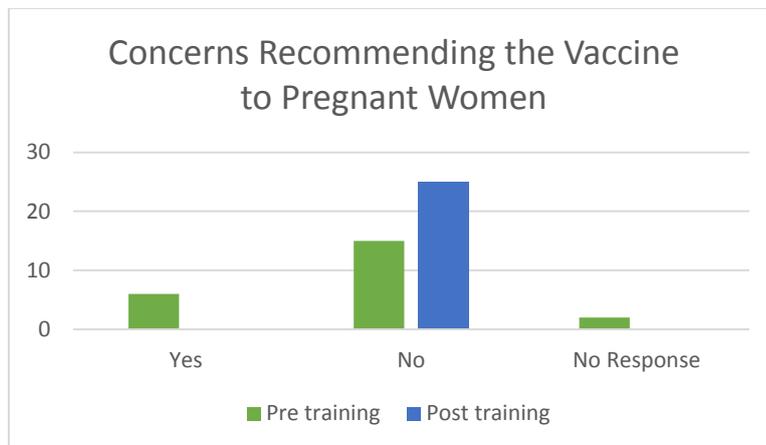


Figure 5 Self-reported levels of concern recommending the vaccine by midwives pre and post training

**Importance of seasonal flu vaccine uptake in pregnant women**

The level of importance rated as 'very important' for pregnant women to have the seasonal flu vaccine increased from 35% in pre training to 72% post training.

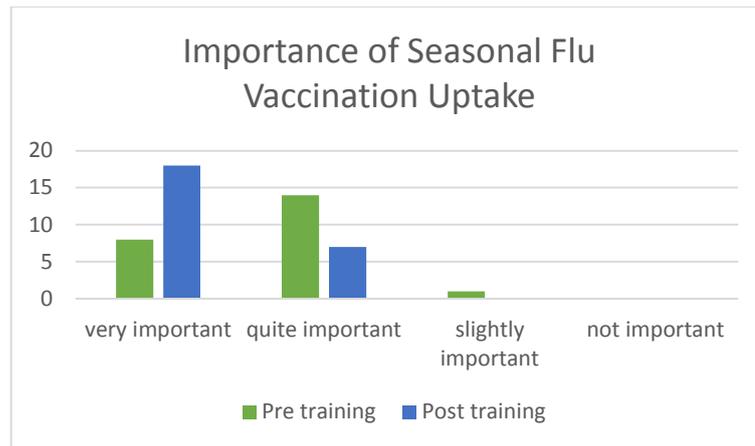


Figure 6 Self-reported level of importance of vaccine uptake by midwives pre and post training

It is not possible to ascertain at this stage whether self-reported intentions have translated into action and therefore await the final results of the seasonal flu immunisation uptake. For further more detailed results please see the evaluation report (appendix 9).

Some challenges remain as despite the Head of Midwifery supporting this training and the positive feedback only 16% of the maternity workforce attended the training.

#### **Implications for future training**

I need to find more ways of engaging with the rest of the maternity workforce. To do this I will need to identify the barriers to attending training and find ways to over-come and address these. This may involve being more creative about how and where I deliver training and materials/ resources I provide for those that are unable to attend.

Having reflected on my training I think it is really important to review what went well and not so well at the end of each session to help inform and prepare for the next session.

Running the training whilst having a colleague from the HPA present was helpful as they could respond to any clinical questions and help make notes on any actions we needed to take following the training. I have realised however, after running a session when they were unable to attend, I was quite confident on my own and from other training I have run I am very mindful that I cannot answer every question. I need to acknowledge my skills and feel

confident in my role as a trainer and a facilitator and if I do not know the answer I will use a 'parking lot' system which may require me to provide the answer after the training.

Achieving the right balance of between being regarded as a professional and building rapport with a group can be a challenge. I found my approach was to identify myself as a facilitator of the learning process supporting their professional development.

*It can be quite daunting training healthcare professionals that are experts in their fields but I found asking about their experience was a good way of developing engagement which is vitally important for the learning process.*

I thoroughly enjoyed delivering the training sessions and gaining an understanding of the challenges midwives experience in delivering the seasonal flu campaign. Health behaviour change training is an area I would like to be more involved in the future particularly as I feel training is key tool in achieving more positive health and wellbeing outcomes.

*I feel I developed as a trainer and facilitator with every training session I delivered, learning more techniques to engage participation and elicit current understand and beliefs. I feel confident now that I am able to design, develop and deliver training that is appropriate to the audience and in supporting them to achieve the required learning outcomes.*

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## Appendix 1 Seasonal Flu Background Information

### Seasonal Flu and Pregnancy Background Information

#### Seasonal Flu

Seasonal Influenza (flu) is an acute viral infection caused by an influenza virus. It is characterized by a sudden onset of high fever, cough (usually dry), headache, muscle and joint pain, severe malaise (feeling unwell), sore throat and runny nose. Most people recover from fever and other symptoms within a week without requiring medical attention however, influenza can cause severe illness or death in people at high risk such as adults aged 65 or older and people of any age with certain medical conditions, such as chronic heart, lung, kidney, liver, blood or metabolic diseases (such as diabetes), or weakened immune systems.

Flu occurs most often in winter and usually peaks between December and March. New strains are constantly emerging and new vaccines are developed annually to target the three most common strains in circulation.

#### Seasonal Flu and Pregnancy

There is good evidence that pregnant women are at increased risk from complications and morbidity if they contract flu, particularly from the H1N1v strain. Pregnant women, particularly in the second half of pregnancy, are more likely than non-pregnant women to develop critical illness associated with 2009 H1N1 influenza. Pregnant women with underlying medical conditions such as asthma are at particularly high risk for influenza-related complications<sup>123</sup>.

Pregnant women with co-existing medical conditions are at even greater risk of influenza related morbidity, in particular asthma and obesity<sup>4</sup>.

A Study in the USA reported during a one month period (April-May 09) 34 confirmed cases, 32% required hospitalisation, pregnant women accounted for 13% of all H1N1 deaths during that time period. Most of the pregnant women who died were healthy prior to their illness<sup>5</sup>.

A study in Australia and New Zealand looked at admissions for pregnant women to ICU with confirmed H1N1 during period 1<sup>st</sup> June 31<sup>st</sup> August 2009. Of 69 women admitted, 69% were mechanically ventilated - 7 women died, all of whom suffered viral pneumonitis or acute respiratory distress syndrome with complications in some women of pulmonary haemorrhage, septic shock and viral encephalitis. Of 60 births after 20 weeks gestation, four were stillborn and three were infant deaths. Twenty two babies were preterm and thirty two were admitted to NICU.

#### Pregnancy and Flu Vaccination

There is good clinical evidence that there are no risks associated with vaccinating pregnant women against seasonal flu<sup>6 7</sup> and there are preventative benefits to both mother and child<sup>8 9</sup>.

A review of studies on the safety of flu vaccine concluded that inactivated flu vaccine can be given safely and effectively during any trimester of pregnancy<sup>10</sup>.

Benowitz et al (2010)<sup>11</sup> conclude that influenza vaccine given to pregnant women is 91.5% effective in preventing hospitalisation of their infants for influenza in the first 6 months of life. Similar findings were reported by Eick (2010)<sup>12</sup>.

Studies, including follow up studies for several years, of children born to mothers who received flu vaccination, show no increase in stillbirths, congenital malformation or cognitive disability<sup>13</sup>.

There is evidence that seasonal flu vaccination given during pregnancy provides passive immunity against flu to neonates in the first few months of life (DH, 2011).

Omer et al (2011)<sup>14</sup> found flu vaccination in pregnancy helps prevent low birth weight and small for gestational age babies.

The seasonal flu vaccine has been given routinely to pregnant women in the U.S.A. and in other European countries for many years. No study to date has demonstrated an increased risk of either maternal complications or untoward fetal outcomes associated with inactivated influenza vaccination (2012).

In conclusion the seasonal flu vaccine can be safely and effectively administered at any stage of pregnancy.

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<sup>4</sup>ANZIC, 2009. Critical illness due to 2009 A/H1N1 influenza in pregnant and postpartum women: population based cohort study. *BMJ* 2010;340:c1279)

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<sup>8</sup>Benowitz I, Esposito DB, Gracey KD et al (2010) Influenza vaccine given to pregnant women reduces hospitalization due to influenza in their infants. *Clin Infect Dis.* 51: 1355-1361.

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<sup>9</sup>Eick AA, Uyeki TM, Klimov A, et al (2010) Maternal Influenza Vaccination and Effect on Influenza Virus Infection in Young Infants. *Arch Pediatr Adolesc Med.* 165: 104-111.

<sup>10</sup>Tamma et al (2009). Safety of influenza vaccination during pregnancy. *Am J Obstet Gynecol.* 547-552

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<sup>12</sup>Eick AA, Uyeki TM, Klimov A, et al. (2010). Maternal Influenza Vaccination and Effect on Influenza Virus Infection in Young Infants. *Arch Pediatr Adolesc Med.* 165: 104-111.

<sup>13</sup>Pranita, D et al. Safety of influenza vaccination during pregnancy. *American Journal of Obstetrics and Gynaecology* 2009; [www.AJOG.org](http://www.AJOG.org)

<sup>14</sup>Omer, S., Goodman, M., Steinhoff, M., Roach, R et al (2011). Influenza Immunisation and Reduced Likelihood of Prematurity and Gestational Age Births: A Retrospective Cohort Study. *PLoS Medicine.* 8 (5): e1000441. doi:10.1371/journal.pmed.1000441

## Appendix 2 – Health Care Professional Survey

### Survey for Health Care Professionals on Seasonal Flu Vaccination Uptake in Pregnant Women

Please complete this short questionnaire which will take no longer than five minutes. The aim of this survey is to explore factors which may affect rates of flu vaccination uptake among pregnant women in the area. Your response will remain anonymous and confidential.

Location: \_\_\_\_\_ Job role: \_\_\_\_\_

1) Do you offer the flu vaccination routinely to all of your pregnant patients? Yes /No

2) Did you have the seasonal flu vaccination last year? Yes/No

2b) If no, please briefly state why:

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3) How important do you feel it is for pregnant women to have the vaccination?

not important at all      not very important      quite important      very important

4) Do pregnant women usually express concern over the safety of the vaccination?  
Yes/No

4b) If yes, please briefly state the most common concerns:

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5) Do you feel sufficiently knowledgeable to inform your patients about the vaccination? Yes/No

5b) If no, please briefly state what you would find useful to increase your knowledge:

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6) How confident do you feel when confronted with patients' questions and concerns about the vaccination?

Not at all confident      not very confident      quite confident      very confident

7) What do you feel are the biggest barriers for you in promoting the vaccination to your patients? Please select all that apply:

I do not have enough time during the appointment to discuss the vaccination.

I do not feel confident in discussing the vaccination.

I personally do not feel the vaccination is effective.

I personally do not feel the vaccination is safe.

Other: \_\_\_\_\_

8) Do you feel responsible for offering the vaccination to your patients? Yes /No

9) Do you think there has been sufficient publicity regarding the vaccination among pregnant women? Yes/No

10) Do you think better publicity could improve vaccination uptake rates among pregnant women in the area? Yes/ No

11) In your opinion, what steps could be taken to improve vaccination uptake in pregnant women? For example: more leaflets and information sources at GPs; one-to-one in depth appointments devoted to the vaccination with patients.

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12) If you have any further comments please write them here:

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## Appendix 3 – Seasonal Flu Training Slides for Midwives



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**Training for Midwives  
Seasonal Flu Campaign  
2012/ 2013**



Amanda Douglas  
Public Health Strategist City and Hackney

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**Aims**

- To provide midwives with sufficient knowledge and confidence to promote and/or offer flu immunisation to pregnant women.
- To raise awareness of the issues influencing vaccine uptake.




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**Overview**

- Seasonal flu and the risks to pregnant women
- Seasonal flu vaccination campaign
- Those most at risk and eligible for the free seasonal flu vaccination
- Safety and efficacy of seasonal flu vaccination during pregnancy
- Benefits of flu immunisation for pregnant women
- Role of the midwife in promoting and delivering the seasonal flu vaccination
- Importance of Front line Health and Social Care workers receiving seasonal flu vaccination



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**What is Seasonal Flu?**

A highly infectious respiratory viral illness

- Sudden onset, symptoms include pyrexia, headache, aching muscles, cough, runny nose, sore throat & feeling very unwell generally
- All age groups affected
- Lasts between 2-7 days
- Can lead to bronchitis & pneumonia, requiring hospital admission
- Deaths occur every year from influenza (approx 5000 per year)



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**Mode of Transmission**

Influenza is transmitted by the spread of airborne droplets and through articles such as handkerchiefs contaminated by nasopharyngeal secretions.

Influenza is also transmitted from surfaces which have been contaminated with infected respiratory secretions.

Transmission of the virus is thought to be facilitated by the indoor crowding that takes place during the winter months.



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**Influenza - the virus**

There are three main types of influenza virus A, B, and C - these are determined by the nuclear material within the viral particle.

Influenza viruses mutate rapidly with new strains being identified each year.



**Virus Mutation**

There are two main ways in which the virus changes

These are

- Antigenic drift** - small changes
- Antigenic shift** - major change and emergence of totally new strains

**Influenza Antigenic Drift**

Minor change in surface antigens, which can occur in all three types of influenza (A, B and C)

Antigenic drift can give rise to epidemics since protection gained from previous exposure to similar influenza viruses or antigens provided by vaccination may be incomplete

Major change in one or both surface antigens and is a characteristic of type A influenza viruses.

Probably due to genetic recombination.

Can result in a worldwide pandemic.



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**Influenza Epidemics in the UK**

An epidemic refers to more cases of the disease than normal

An epidemic is declared when the weekly incidence of reported influenza is greater than a certain number of cases per 100,000 population.

England > 400 cases  
Wales > 400 cases  
Scotland > 1000 cases



**Pandemic**

A Pandemic is a worldwide epidemic (shift) of the disease

Key features;

A pandemic influenza pandemic may occur when a new virus appears against which the human population has no immunity

- The resulting disease can be mild or severe
- Severity of the pandemic can change over of the pandemic



**H1N1**

- First influenza pandemic of this century declared by WHO in June 2009 A-H1N1v
- Characteristic of H1N1v –higher rates of illness in children and young people and pregnant women, lower rates in adults 60 years+
- Highest mortality rates in those with neurological disease, respiratory disease, immunosuppression and pregnant women
- Significant proportion arose in those who were healthy

**Seasonal Flu 2010/11**

During the winter period of 2010, H1N1 was dominant strain.

- Young and middle aged people were disproportionately affected by seasonal influenza
- 602 people died:
  - 70% were young or middle aged (15-64 years)
  - 70% of deaths occurred in clinical 'at risk' groups for seasonal flu vaccination
  - 75% (where recorded) had not received vaccination
  - 9 pregnant women died (1.5%)

**Seasonal Flu 2011/ 12**

- The lowest winter peak rate for flu consultation recorded.
- Flu season started late with cases not peaking until mid-February
- After two years dominated by the pandemic flu strain (H1N1pdm(09)), known as 'swine' flu, which emerged in the summer of 2009, the 2011/12 season's dominant virus was influenza A H3N2.
- Despite the low flu activity, the number of outbreaks was higher than in the previous season predominately in care homes.
- Hospital admissions with laboratory confirmed influenza were still reported in all age groups, but predominately in the over 65 age group.
- A total of 227 people were reported to have been admitted to Intensive Care Units (ICU) across the UK with laboratory confirmed flu infection and 20 influenza-confirmed deaths in ICU were recorded.
- H1N1 is still one of the seasonal flu viruses circulating around the world.

**Pregnant Women & H1N1**  North East London and the City 

Pregnant women are at greater risk from H1N1 flu infection.

Risks include:

- Severe chest infection, due to the flu itself, or to secondary bacterial infection (commonest in the second & third trimesters of pregnancy)
- If they require hospitalisation with H1N1 infection:
  - Pregnant women are three times more likely to deliver preterm
  - Their babies are 5 times more likely to be stillborn or die in the first week of life
- Death - mortality rate from H1N1 infection in pregnant women is several times higher than that for non-pregnant women in the same age group
- Women in later stages of pregnancy and women from ethnic minority groups are particularly badly affected if they contract H1N1 flu

**Pregnant Women and Flu**  North East London and the City 

- Risk increased due to a combination of decreased lung capacity and tidal volume, increased oxygen consumption and suppression of T cell activity
- Pregnant women with underlying medical conditions or obesity are at greater risk - Pregnant women with co-existing medical conditions are at even greater risk of influenza related morbidity, in particular asthma and obesity (ANZIC, 2010).
- Highest risk during 3<sup>rd</sup> trimester - Pregnant women, particularly in the second half of pregnancy, are more likely than non-pregnant women to develop critical illness associated with 2009 H1N1 influenza. Among women who developed critical illness, the outcomes were poor, including death of the mother or baby.

**How can Seasonal Flu be Prevented?**  North East London and the City 

- Flu vaccines provide effective protection against seasonal flu.
- The flu vaccine is free and offered to people who are more at risk of developing serious complications if they catch flu.
- It is important to have the vaccine every year as the strains of flu virus change every season and protection decreases over time.
- Practicing good respiratory and hand hygiene also helps to reduce the chances of catching flu.

**How Effective is the Flu Vaccine?**  North East London and the City 

Influenza vaccines are the most effective preventive tools available for reducing the burden of disease associated with flu, and the risk to individuals of severe adverse outcomes.

Recommended in the UK since the 1960s with the aim of directly protecting those in clinical risk groups who are at a higher risk of influenza associated morbidity and mortality.

- Good years achieve 70-80% efficacy
- Disease is milder in those vaccinated
- Depends on match between vaccine and strains of flu in circulation
- Reduces bronchopneumonia, hospitalisations and mortality

**Influenza Vaccine Annual Vaccination**  North East London and the City 

- Before or at beginning of each influenza season
- Influenza activity usually peaks between late December and early March
- New strain/new composition each year

↓

**Revaccination every year**

**Influenza 2012-13**  North East London and the City 

The WHO has announced the flu strains that should be included in the 2012/13 trivalent seasonal influenza vaccine.

These are:

- an A/California/7/2009 (H1N1)pdm09-like virus;
- an A/Victoria/361/2011 (H3N2)-like virus; and
- a B/Wisconsin/1/2010-like virus (from the B/Yamagata lineage of viruses).

The latter two elements are different strains from those contained in the 2011/12 trivalent vaccine.

### Who Should Have the Flu Vaccine?

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The flu vaccine is given to people who are more at risk of serious illness or death should they develop complications from flu such as:

- Those over 65 years
- People living in long-stay residential care homes or other long-stay facilities
- Those in a clinical risk group
  - Chronic respiratory, heart, kidney, liver, neurological disease
  - Diabetics
  - Immunosuppressed
  - Pregnant women**

Also those who have direct contact with patients and clients

- Front line health and social care workers
- Careers

Complications caused by flu include meningitis, encephalitis, secondary bacterial pneumonia, bronchitis and otitis media in children.

### Pregnant women in the following categories are at even greater risk of complications from flu infection

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Clinical risk groups	Examples (decision based on clinical judgement)
Chronic respiratory disease and asthma that requires continuous or repeated use of inhaled or systemic steroids or with previous exacerbations requiring hospital admission	<ul style="list-style-type: none"> <li>Chronic obstructive pulmonary disease (COPD) including chronic bronchitis and emphysema, bronchiectasis, cystic fibrosis, interstitial lung disease, pneumoconiosis and bronchopulmonary dysplasia (BPD)</li> <li>Children who have previously been admitted to hospital for lower respiratory tract disease</li> </ul>
Chronic heart disease	<ul style="list-style-type: none"> <li>Congenital heart disease</li> <li>Hypertension with cardiac complications</li> <li>Chronic heart failure</li> <li>Individuals requiring regular medication and/or follow-up for ischaemic heart disease</li> </ul>
Chronic renal disease	<ul style="list-style-type: none"> <li>Chronic renal failure</li> <li>Nephrotic syndrome</li> <li>Renal transplantation</li> </ul>
Chronic liver disease	<ul style="list-style-type: none"> <li>Cirrhosis</li> <li>Biliary atresia</li> <li>Chronic hepatitis</li> </ul>

### Pregnant women in the following categories are at even greater risk of complications from flu infection

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Chronic neurological disease	<ul style="list-style-type: none"> <li>Stroke</li> <li>Treatment (ischaemic attack (TIA))</li> </ul>
Diabetes	<ul style="list-style-type: none"> <li>Type 1 diabetes</li> <li>Type 2 diabetes requiring insulin or oral hypoglycaemic drugs</li> <li>Old controlled diabetes</li> </ul>
Immunosuppression	<ul style="list-style-type: none"> <li>Immunosuppression due to disease or treatment</li> <li>Patients undergoing chemotherapy leading to immunosuppression</li> <li>Alphagamma or splenic dysfunction</li> <li>HIV infection</li> <li>Individuals treated with or likely to be treated with systemic steroids for more than 4 weeks at a dose equivalent to prednisolone at 20mg or more per day (long term) or for children under 20kg a dose of 1mg or more per kg per day.</li> <li>Some immunocompromised patients may have a suboptimal immunological response to the vaccine</li> </ul>

### Studies on the risk of influenza and Pregnant Women

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- In USA during 1 month period (April-May 09) 34 confirmed cases, 32% required hospitalisation, pregnant women accounted for 13% of all H1N1 deaths during that time period. Most of the pregnant women who died were healthy prior to their illness (Pranita et al, 2009).
- Study in Australia and New Zealand looked at admissions for pregnant women to ICU with confirmed H1N1 during period 1<sup>st</sup> June 31<sup>st</sup> August 2009. Of 69 women admitted, 69% were mechanically ventilated - 7 women died, all of whom suffered viral pneumonitis or acute respiratory distress syndrome with complications in some women of pulmonary haemorrhage, septic shock and viral encephalitis. Of 60 births after 20 weeks gestation, four were stillborn and three were infant deaths. Twenty two babies were preterm and thirty two were admitted to NICU.

### Is the Vaccine Safe?

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**For the mother:**

- Seasonal flu vaccine can be safely and effectively administered at any **stage** of pregnancy.
- The seasonal flu vaccine has been given routinely to pregnant women in the U.S.A. and in other European countries for many years.
- No study to date has demonstrated an increased risk of either maternal complications or untoward fetal outcomes associated with inactivated influenza vaccination (2012).

**For the baby:**

- It is also important to be aware that vaccination of pregnant women has been shown to provide protection for the first 4-6 months of life of the infant.
- Benowitz *et al* (2010) conclude that influenza vaccine given to pregnant women is 91.5% effective in preventing hospitalisation of their infants for influenza in the first 6 months of life. Similar findings to Eick 2011.
- This is particularly important since only infants over six months are offered the vaccine.

### Benefits of flu vaccination

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Protect mother and baby:

- inactivated flu vaccine can be given safely and effectively during any trimester of pregnancy.
- seasonal flu vaccination given during pregnancy provides passive immunity against flu to neonates in the first few months of life (DH, 2011)
- flu vaccination in pregnancy helps prevent low birth weight and small for gestational age babies (Omer *et al* 2011, Goodman 2009)
- No evidence of risk from vaccinating breastfeeding women with flu vaccines (Plotkin and Orenstein, 2004)

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## Vaccine Uptake

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## Vaccine Uptake

- Research has found that several groups tend to have a low uptake of immunisations including those who:
  - Find it difficult to access immunisations e.g. large families/ethnic minorities
  - Omit immunisation appointments due to a disrupted lifestyle e.g. Homeless/travelling families/sick children/ looked after children
  - Have concerns about immunisation or do not feel that immunisations are of any benefit
- It is important that midwives are able to effectively communicate with families to understand:
  - Any organisational barriers which may be preventing access to immunisation services which they could assist the family to overcome
  - The health beliefs of the family and whether they understand the benefits of vaccines
  - Whether they are under any misapprehensions about vaccination which cause them to fear vaccines

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## National Vaccine Uptake

Group	Uptake %			
	08/09	09/10	10/11	11/12
Patients aged 65 years or older	74.1	72.4	72.8	74.0
Patients under 65 years in risk groups (excluding healthy pregnant women)	47.1	51.6	50.4	51.6
All pregnant women	N/A	N/A	38.0	27.4
Frontline healthcare workers	16.5	26.4	34.7	44.7

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## Seasonal Flu 2011/ 12 Vaccine Uptake

	National Average	London	City and Hackney	Newham	Tower Hamlets
Public over 65 years	74%	72.8%	75.9%	73.4%	76.8%
Public 65-74 years at risk groups	51.6%	51.4%	59.5%	59.0%	55.9%
Pregnant Women	27.4%	23.7%	21.1% (pregnant women at risk 54.7%)	30.8% (pregnant women at risk 44.7%)	28.4% (pregnant women at risk 51%)
Frontline Health Care Workers	44.7%	37.9%	63.21%	37.2%	43.6%

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## Frontline HCW Uptake 2011/ 12

Organisation	All Frontline HCWs
CHELSEA AND WESTMINSTER HOSPITAL NHS FOUNDATION TRUST	69.4
ROYAL BROMPTON AND HAREFIELD NHS FOUNDATION TRUST	57.1
THE HILLINGDON HOSPITAL NHS TRUST	56.1
ROYAL FREE HOSPITAL NHS FOUNDATION TRUST	55.2
ROYAL FREDERIC MENDICINE NHS TRUST	45.4
ST GEORGE'S HOSPITAL NHS TRUST	46
UNIVERSITY COLLEGE LONDON HOSPITALS NHS FOUNDATION TRUST	45.7
THE HORN LAMARCA NHS FOUNDATION TRUST	45.1
GUY'S AND ST THOMAS NHS FOUNDATION TRUST	43.8
BARTS AND THE LONDON NHS TRUST	43.1
GREAT ORMOND STREET HOSPITAL FOR CHILDREN NHS TRUST	42.1
KINGSTON HOSPITAL NHS TRUST	42.1
SOUTH LONDON HEALTHCARE NHS TRUST	41.6
BARNES, HAYES AND BISHOPSTROPES UNIVERSITY HOSPITALS NHS TRUST	40.6
MORRESESS EYE HOSPITAL NHS FOUNDATION TRUST	38.7
NEWHAM UNIVERSITY HOSPITAL NHS TRUST	37.2
WEST MIDDLESEX UNIVERSITY HOSPITALS NHS TRUST	35.9
EPSOM AND ST ANDREW UNIVERSITY HOSPITALS NHS TRUST	31
NORTH WEST LONDON HOSPITALS NHS TRUST	30
BRISBANK COLLEGE HEALTHCARE NHS TRUST	29.8
ROYAL NATIONAL ORTHOPAEDIC HOSPITALS NHS TRUST	29.3
BRISTOL COLLEGE HEALTHCARE NHS TRUST	28.2
BARNET AND CHASE FARMS HOSPITALS NHS TRUST	27.8
THE LEVENS HALL HEALTHCARE NHS TRUST	26.8
NORTH MIDDLESEX UNIVERSITY HOSPITAL NHS TRUST	24.9
MARION HOSPITALS NHS TRUST	23.1
KNIGHTS COLLEGE HOSPITAL NHS FOUNDATION TRUST	23
LEWIS HOSPITAL NHS TRUST	22.5
THE WHITTINGTON HOSPITAL NHS TRUST	22.2
Avon based average general practice	22.8

All staff: 42  
 Support to Clinical staff: 1986  
 Checklist 10/12: 22,222

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## Vaccination Targets

Category	Target
People aged 65 years and over	To exceed 75% uptake
People aged under 65 years with clinical conditions	To exceed 75% uptake
Pregnant Women	To exceed 75% uptake
Frontline Health and Social Care Workers	To exceed 75% uptake

**What influences Pregnant Women's attitudes to the flu vaccine**

Summary of Themes from Literature:

- **Safety of vaccine** – the most commonly mentioned barrier to vaccination. Safety of foetus more commonly identified than self. Strong barrier.
- **Recommendations and knowledge given by health care professional** – the second most common factor in decision making was the behaviour of healthcare professionals. Strong motivator.
- **Knowledge about the risks and importance of vaccination** – the majority of these studies reported that lack of knowledge about the risks and the importance of vaccination was a barrier.
- **Demographics** - younger women, women in lower socioeconomic groups and with lower educational attainment less likely to accept vaccination. Certain ethnic groups (e.g. black women) less likely to accept vaccination.

Increasing influenza immunisation uptake in pregnant women  
Resource pack for NHS organisations in HPA South East Region HPA (2012)

**Barriers and Motivators**

- **Protection for baby** following birth motivator for vaccination.
- Other factors associated with the decisions of pregnant women to accept vaccination were:
  - **Barriers** – lack of knowledge about vaccination, personal experience of health / vaccination, doubts about efficacy of vaccination, a distrust of healthcare system, logistics or lack of knowledge about obtaining vaccination, negative media attention, lack of consideration about failure to intervene and fear of needles
  - **Motivators** – positive media attention, trust in official information, recommendation by government agency and easily accessible vaccination.

**Your Role in Promoting the Seasonal Flu Immunisation**

Health care workers caring for pregnant women play a pivotal role in helping to protect women and new-borns from this vaccine-preventable disease.

- Advise all pregnant women about the risks of flu infection in pregnancy
- Be confident and knowledgeable about flu and the flu vaccine to answer questions from both pregnant women and families
- Recommend flu immunisation to all pregnant women at any stage of their pregnancy

**Health Care Staff & Seasonal Flu Vaccination**

Front line staff are at increased risk of exposure and transmission of the virus to vulnerable patients

Department of Health recommends annual immunisation of healthcare workers (HCWs) against influenza to:

- protect staff (and their families) from infection
- reduce the likelihood of nosocomial influenza transmission
- protect patients (particularly vulnerable pregnant patients) from exposure to infected staff
- facilitate business continuity during winter pressure period

**Seasonal Flu Vaccination and You**

**Low vaccine uptake among HCWs due to:**

- 1) **Individuals' beliefs**
  - misconceptions of influenza
  - its risks
  - the role of HCWs in transmission to patients
  - the role of HCWs in transmission to family members
  - importance and risks of vaccination (including low perceived personal benefits)
  - safety and efficacy concerns
- 2) **Organisational issues**
  - lack of leadership and commitment
  - lack of (or perceived lack of) convenient access to vaccine.



**Flu Vaccine Myths**

**The Seasonal Flu Vaccine Gives you Flu**

NHS  
North East London and the City  
Health Protection Team

- The Seasonal Flu vaccine does not contain live viruses, so it cannot give you seasonal flu.
- The most common side effect is that the arm may feel a bit sore at the site of the injection, some people may get a slight temperature and aching muscles for a day or two after having the flu vaccine.
- Any other side effects are rare and are minor compared with the risks associated with seasonal flu.
- The seasonal flu vaccine will not however protect you from the common cold or other circulating winter viruses.
- It takes approximately two weeks to develop protective antibodies following flu vaccination

**Key Message about Flu**

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North East London and the City  
Health Protection Team

- Flu is not just a cold – it can be a really serious illness for some, and it can even kill
- Get the jab early so you're protected all winter
- The flu vaccine changes every year to fight the latest strains of flu, so even if you had a jab last winter you need another one this year
- The flu jab is safe and can't give you the flu
- The following groups should get the jab – pregnant women; people aged 65 or over; people with health conditions such as severe asthma, chest or heart complaints and diabetes; people with weakened immune systems; and carers
- Flu can knock even healthy people off their feet for a couple of weeks, and can make it impossible to look after the kids or go to work
- Flu is a highly contagious disease which people of any age can catch

**The Seasonal Flu Vaccination could harm my unborn baby**

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Health Protection Team

It is safe to give the flu vaccine at any stage of pregnancy. In some western countries flu vaccine has been given routinely to pregnant women for several years (DH, 2011)

Studies, including follow up studies for several years, of children born to mothers who received flu vaccination, show no increase in stillbirths, congenital malformation or cognitive disability (Pranita et al, 2009).

**Key Messages for: Pregnant Women**

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Health Protection Team



- Flu can lead to complications and more serious illnesses amongst pregnant women
- Pregnant women should be vaccinated against seasonal flu regardless of stage of pregnancy
- The flu vaccine is safe for both mother and baby and reduces admissions to hospital with complications of influenza illness
- The vaccine protects both mother and baby and can protect infants under six months being admitted to hospital with influenza.

**Key Messages**

NHS  
North East London and the City  
Health Protection Team

**Key Messages for: Pregnant Women**

NHS  
North East London and the City  
Health Protection Team



- Flu vaccination is safe to give to pregnant women at any stage during her pregnancy
- You'd do anything to protect your unborn baby, so get the jab and get flu safe
- The seasonal flu campaign will run from September – February every year
- It takes about 2 weeks to develop full immunity so get vaccinated as early as possible.

**Pregnant? Get the jab – Get flu safe**

Speak to your GP or midwife about the flu jab, and book an appointment today.

**What are the local arrangements?**  North East London and the City 



- Raising awareness of the importance of having the seasonal flu vaccination annual for those most at risk and for health and social care workers.
- Promoting access to the free seasonal flu vaccination for pregnant women through their midwife, GP or community pharmacy.
- Encouraging uptake in those most at risk of developing severe complications related to flu.

**Resources**  North East London and the City 

**Useful Websites**

**Health Protection Agency**  
<http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/SeasonalInfluenza/>

**Department of Health**  
[http://www.dh.gov.uk/en/PublicHealth/Immunisation/Keyvaccination/DH\\_194970](http://www.dh.gov.uk/en/PublicHealth/Immunisation/Keyvaccination/DH_194970)  
[http://immunisation.dh.gov.uk/files/2012/2023\\_SEASONAL\\_FLU-GP-PATIENTS\\_201112\\_cumulative\\_data-to-31.01.12\\_FINAL.pdf](http://immunisation.dh.gov.uk/files/2012/2023_SEASONAL_FLU-GP-PATIENTS_201112_cumulative_data-to-31.01.12_FINAL.pdf)  
<http://immunisation.dh.gov.uk/flu-vaccine-uptake-in-pregnant-women-up-to-31-january-2012/>

**The Green Book**  
[http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_079917](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_079917)

**World Health Organisation**  
<http://www.euro.who.int/en/what-we-do/health-topics/disease-prevention/vaccines-and-immunisation/immunisation-resource-centre>

**WHO Influenza Vaccines** (<http://www.who.int/wer/2005/wer8033.pdf>)

Vaccine Update. To get Vaccine Update emailed direct to you each month please email the vaccine supply mailbox at [vaccine.supply@h.nhs.uk](mailto:vaccine.supply@h.nhs.uk)

**Where to get your vaccination**  North East London and the City 

Immunisation sessions will be provided at Homerton Hospital by the Employee Health Management service and at a number of community health location.

You can also receive your free flu vaccination via the community pharmacy scheme.

For more information contact Clive Muteiwa  
 [Redacted]  
 [Redacted]  
 [Redacted]



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Thank you

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**Health care workers and seasonal flu immunisation**

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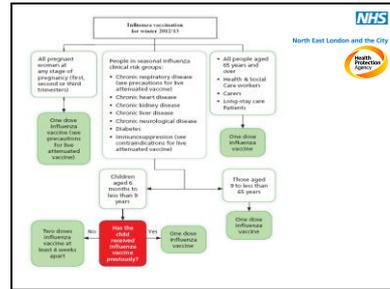
Hallmeyer HC, Hayden F, Poland G, Buchholz U. (2009). Influenza vaccination of health care workers in hospitals – a review of studies on attitudes and predictors. *Vaccine*. 2009 Jun 19; 27(30):3935-44.

Rubin GJ, Potts HW, Michie S. (2011). Likely uptake of swine and seasonal flu vaccines among healthcare workers. A cross-sectional analysis of UK telephone survey data. *Vaccine*. 2011 Mar 16;29(13):2421-8. Epub Jan 28

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Health Protection Agency

# Vaccination

[HTTP://IMMUNISATION.DH.GOV.UK/GREEN-BOOK-CHAPTERS/CHAPTER-19](http://immunisation.dh.gov.uk/green-book-chapters/chapter-19)



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## Types of Vaccine

- The majority of influenza vaccines are inactivated and administered by the intramuscular (IM) route, although one (Intanza) can be given by the intradermal route.
- In 2012/13 a live intranasal influenza vaccine (Fluenz) is being introduced. This vaccine has been shown to provide greater protection for children than inactivated influenza vaccine and is being recommended for children aged 2 to 18 years. However, supplies of this vaccine are likely to be limited in the 2012/13 flu season.

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## Contraindications

There are very few individuals who cannot receive any flu vaccine, however it should not be given to anyone who has had a confirmed anaphylactic reaction to a previous flu vaccine or to any component of the vaccine.

Egg-free or very low ovalbumin content vaccines are available for those with egg allergies

The live attenuated intranasal flu vaccine (Fluenz) should not be given to children or adolescents who are severely immunosuppressed (eg. cancer, untreated HIV infection, steroid treatment, etc).

Check the Green book influenza chapter on line at: <http://immunisation.dh.gov.uk/green-book-chapters/chapter-19/>

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## Precautions

**Pregnancy**

- Data on the use of live attenuated flu vaccines in pregnant women is limited and while there is no evidence of risk with these vaccines, it is preferable to use an inactivated flu vaccine for those aged under 18 years who are pregnant.
- There is no need to specifically test eligible girls for pregnancy or to advise avoidance of pregnancy in those who have been recently vaccinated.

**Asthma**

- The live attenuated intranasal vaccine (Fluenz) is not recommended for children with active wheezing or severe asthma.

**Egg Allergy**

- Influenza vaccines with an Ovalbumin content < 0.12 µg/ml have been shown to be safe in patients with egg allergy.

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## Adverse events

- Advise on common side effects such as pyrexia, fatigue, headache that will usually disappear in 1-2 days
- Rarely reactions such as neuralgia, paraesthesia
- See product info leaflet or summary of product characteristics for full list of side effects
- Complete & return yellow card for serious adverse events on [www.yellowcard.mhra.gov.uk](http://www.yellowcard.mhra.gov.uk)
- If symptoms persist, seek medical advice

### Exclusions



- Patient already fully immunised this year
- Patient has a contraindication
- If excluded, record in notes
- Advise when vaccine can be given
- If patient declines, record in notes & give information about protective effects of vaccine & disease complications

## Appendix 4

**Do I need a flu vaccine if I have had one before?**

Yes. Influenza vaccines are reformulated every year because the flu viruses are constantly changing. This year's vaccine contains the three most likely strains of influenza virus expected to cause most infections this year.

Even if you have had a flu vaccine containing one particular strain of influenza virus in the past you probably will not have received protection against all three strains in this year's vaccine and an additional dose will just boost any existing immunity.

**When can I get the flu vaccine?**

The seasonal influenza immunisation programme runs from September 2011 through to February 2012.

You should receive the vaccine as early as possible to reduce the risk for you and your baby.

**Where can I get the flu vaccine?**

Contact your GP surgery, midwife or community pharmacy to arrange for vaccination.

**For more information:**

Speak to your midwife, community pharmacy, GP or practice nurse.

Contact the Hackney Maternity Helpline on **020 8510 5955**

Contact the Newham Maternity Helpline on **020 8090 9999**

Visit the seasonal flu pages on the Department of Health website at:  
[www.dh.gov.uk/en/PublicHealth/Immunisation](http://www.dh.gov.uk/en/PublicHealth/Immunisation)

Visit the immunisation pages on the NHS Choices website at:  
[www.nhs.uk/Planners/vaccinations/Pages/Adultshub](http://www.nhs.uk/Planners/vaccinations/Pages/Adultshub)

**Acknowledgement:** Content adapted from leaflet produced by Helen Donovan, Immunisation Lead, Haringey (July 2011).

NHSEL11/47



East London and the City



**Are you pregnant?  
Protect yourself and  
your baby.  
Have the flu jab.**

**All pregnant women at any stage of pregnancy are advised to receive the seasonal flu vaccine. You should receive the vaccine as soon as possible to reduce the risk for you and your baby.**

**The seasonal flu immunisation programme runs between September and February.**

**Contact your GP, midwife or community pharmacy to arrange an appointment.**

**What is seasonal flu?**

Seasonal flu (influenza) is a highly infectious disease caused by a virus that occurs every year usually in the winter.

**How can seasonal flu be prevented?**

There is a vaccine to help protect people who are more at risk. The viruses change every year but the most likely viruses can be identified in advance and vaccines are then produced to match them closely. It is important to have the vaccine every year.

**What happens if I have the flu?**

In healthy people, seasonal flu can produce symptoms like a bad cold or cause serious complications such as bronchitis and pneumonia, which may need hospital treatment.

Flu is usually worse than a bad cold: symptoms include fever, malaise, chills, headache, aching muscles, cough and sore throat. As flu is a virus, antibiotics won't help.

People who already have a health condition are at greater risk of developing complications and it can also make their existing condition worse.

Seasonal flu can result in a stay in hospital, and in severe cases can cause death.

**Why should pregnant women get the flu vaccine?**

Pregnant women with flu are four times more likely to develop serious illness and four to five times more likely to be admitted to hospital than the general population.

**Is the vaccine safe and effective in pregnancy?**

Yes. The seasonal flu vaccine has been given routinely to pregnant women in the US and in other European countries for many years. Research has shown the flu vaccine is safe and effective; it can be given at any stage of pregnancy with no evidence of problems for pregnant women or their babies.

**Can the vaccine protect my baby?**

Studies have also shown that having the flu vaccine during pregnancy protect babies against flu during their first few months of life.

**How quickly does the vaccine work?**

It takes 10 to 14 days to develop protection after having the vaccine so there is still a chance of catching flu just after receiving the vaccine.

The vaccine will be available from September and pregnant women are advised to get the vaccine as soon as possible to minimise their risk.

Washing hands regularly also helps to reduce the chances of catching flu.

**Can the flu vaccine actually cause flu?**

No. The vaccine cannot cause flu since it does not contain any live viruses. Some people may get mild 'flu-like symptoms' – you might get a slight temperature and aching muscles for a couple of days. This is a common reaction after any vaccine. Similarly your arm may feel a bit sore where you were injected.

Any other reactions are rare - flu vaccines are very safe and well tested.

## **Seasonal Flu Myth Busters**

### **I never catch influenza.**

Influenza is infectious and can spread rapidly from person to person. Influenza is mostly caught by breathing in air containing the virus when an infected person coughs/sneezes or by touching a surface where the virus has landed and then touching your mouth or nose. Some strains of virus are more infectious than others, or cause more severe illness.

### **Who catches influenza?**

Anyone can catch flu; the highest rates of infection are usually in school age children. Most influenza infections occur during the winter months. Some influenza viruses cause more severe illness than others so the amount of illness occurring each year varies, depending on the circulating strains. Hence in some winters people may be more unwell with flu than in other years.

### **What is influenza like?**

Influenza is worse than an ordinary cold. It usually starts suddenly with a high fever over 38.0°C which can last for 3-4 days. A dry cough, headaches and chills are common as are general muscle aches and pains. A stuffy nose, sneezing and a sore throat can also be present. The fever tends to decrease after the second day when a stuffy nose and a sore throat become more noticeable. Tiredness can last 2-3 weeks.

### **Only older people or those in at risk groups can get flu.**

Anyone can get seasonal flu, but people who are aged 65 or over and those under 65 who have various conditions including diabetes and heart disease are more at risk of developing serious complications from the virus.

### **The seasonal Flu vaccine gives you flu.**

The Seasonal Flu vaccine does not contain live viruses, so it cannot give you seasonal flu. The most common side effect is that the arm may feel a bit sore at the site of the injection, some people may get a slight temperature and aching muscles for a day or two after having the flu vaccine. Any other side effects are rare and are minor compared with the risks associated with

seasonal flu. The seasonal flu vaccine will not however protect you from the common cold or other circulating winter viruses.

**❌ I had the Seasonal Flu vaccine last year so I don't need it this year.**

The seasonal flu viruses change every year as does the vaccine. So you will need the current seasonal flu vaccine even though you had one last year. It is best to be immunised against seasonal flu annually in the autumn before any outbreak of seasonal flu. This year the seasonal flu vaccine includes the H1N1 (swine flu) strain which is the predominant circulating strain. If you were vaccinated against seasonal flu last year you will not be protected against the H1N1 strain.

**Having the seasonal flu vaccine will protect you from catching the flu and passing it to your clients or members of your family, some of whom may be vulnerable.**



## Appendix 7 – Pre Training Questionnaire

Seasonal Flu Campaign 2012/13

Training for Midwives  
Pre Training Questionnaire

Please complete this short questionnaire answering the questions as honestly and accurately as you can. Your responses will remain anonymous and confidential.

1.	What do you hope to achieve by attending this session today?  _____  _____  _____
2.	Did you have the seasonal flu vaccination last year? (please circle your response) Yes/ No Please briefly explain why: _____  _____  _____
3.	Do you offer the flu vaccination routinely to all your pregnant patients/ clients? (please circle your response) Yes/ No If no, please briefly explain why: _____  _____

4.	<p>How important do you feel it is for pregnant women to have the seasonal flu vaccine? (please circle your response)</p> <p>Not at all important      slightly important      quite important      very important</p>
5.	<p>Do you have any concerns about recommending the seasonal flu vaccine to your patients? (please circle your response)    Yes/ No</p> <p>If yes, please briefly explain your concerns:</p> <hr/> <hr/> <hr/>
6.	<p>Do you feel sufficiently knowledgeable to inform your patients about the vaccine? (please circle your response)    Yes/ No</p> <p>If no, please briefly state what information/ training you would find useful:</p> <hr/> <hr/>
7.	<p>How confident do you feel answering patient's questions about the vaccine? (please circle your response)</p> <p>not at all confident      slightly confident      quite confident      very confident</p>
8.	<p>Do you think that the flu vaccination is safe for patients and their babies?</p>

	<p>(please circle your response) Yes/ No</p> <p>If no, please briefly explain your concerns:</p> <hr/> <hr/> <hr/>
9.	<p>Do you think that the vaccination is effective in protecting pregnant women from catching flu and developing complications?</p> <p>(please circle your response) Yes/ No</p> <p>If no, please briefly explain why: _____</p> <hr/> <hr/>
10.	<p>Have you experienced any issues promoting the seasonal flu vaccination to your patients?</p> <p>(please circle your response) Yes/ No</p> <p>If yes, please give brief details:</p> <hr/> <hr/> <hr/>
11.	<p>What do you feel are the biggest barrier for you in promoting the vaccination to your patients? (please tick the relevant boxes)</p>

	<input type="checkbox"/> I wasn't aware that pregnant women are advised to have the seasonal flu vaccination.  <input type="checkbox"/> I do not have enough time during the appointment to discuss the vaccination  <input type="checkbox"/> I do not feel confident in discussing the vaccination  <input type="checkbox"/> I do not feel the vaccination is effective  <input type="checkbox"/> I do not feel the vaccination is safe  <input type="checkbox"/> Other please describe  <hr/> <hr/>
12.	Do you think there has been sufficient publicity about the importance of pregnant women receiving the seasonal flu vaccination? (please circle your response) Yes/ No  If no, please indicate what further publicity you think is needed:  <hr/> <hr/> <hr/> <hr/>

Thank you for completing this questionnaire.

## Appendix 8 – Post Training Questionnaire

### Seasonal Flu Campaign 2012/13

#### Training for Midwives Post Training Questionnaire

Please complete this short questionnaire answering the questions as honestly and accurately as you can. Your responses will remain anonymous and confidential.

1.	<p>Did the session meet the objectives set? (please circle your response)    Yes/ No</p> <p>If no, please briefly explain why:</p> <hr/> <hr/> <hr/>
2.	<p>Will you have the seasonal flu vaccination this year? (please circle your response)    Yes/ No</p> <p>If no, please briefly explain why:</p> <hr/> <hr/> <hr/>
3.	<p>Will you routinely offer the seasonal flu vaccination to all your pregnant patients/ clients?</p> <p>(please circle your response)    Yes/ No</p> <p>If no, please briefly explain why: _____</p>

	<hr/> <hr/> <hr/>
4.	<p>How important do you feel it is for pregnant women to have the seasonal flu vaccine? (please circle your response)</p> <p>not important                  slightly important                  quite important                  very important</p>
5.	<p>Do you have any concerns about recommending the seasonal flu vaccine to your patients? (please circle your response)    Yes/ No</p> <p>If yes, please briefly explain your concerns: _____</p> <hr/> <hr/> <hr/>
6.	<p>Do you feel sufficiently knowledgeable to inform your patients about the vaccine? (please circle your response)    Yes/ No</p> <p>If no, please briefly state what further information/ training you would find useful:</p> <hr/> <hr/> <hr/>

7.	<p>How confident do you feel answering patient's questions about the vaccination? (please circle your response)</p> <p>not confident                  slightly confident                  quite confident                  very confident</p>
8.	<p>Do you think that the flu vaccination is safe for patients and their babies?</p> <p>(please circle your response)    Yes/ No</p> <p>If no, please briefly explain your concerns:</p> <hr/> <hr/> <hr/>
9.	<p>Do you think that the vaccination is effective in protecting pregnant women from catching flu and developing complications?</p> <p>(please circle your response)    Yes/ No</p> <p>If no, please briefly explain why:</p> <hr/> <hr/> <hr/>
10.	<p>In your opinion what steps could be taken to improve vaccination uptake in pregnant women?</p> <hr/>

	<hr/> <hr/>
11.	<p>In your opinion what steps could be taken to improve vaccination uptake in front health care workers?</p> <hr/> <hr/> <hr/>
12.	<p>What did you find the most interesting/ useful feature of the session?</p> <hr/> <hr/> <hr/>
13.	<p>Are there any ways this session could be improved?</p> <hr/> <hr/> <hr/> <hr/>

14.	Any further comments <hr/> <hr/> <hr/> <hr/> <hr/>
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Thank you for completing this questionnaire.

## **Appendix 9 – Evaluation of Training Delivered**

### Seasonal Flu Campaign 2012/ 13 Training for Midwives

Evaluation November 2012

#### Overview

Training for midwives on seasonal flu and the vaccine was delivered by City and Hackney Public Health Department in collaboration with the North East and North Central Health Protection Unit.

The training covered;

- the increased risks associated with seasonal flu during pregnancy
- the safety and efficacy of seasonal flu vaccine
- the importance of seasonal flu vaccine for pregnant women
- importance of increased uptake in front line health and social care workers
- the role of the midwife in advising the uptake of the seasonal flu vaccine.

Four sessions were delivered from mid-August to late October 2012.

26 Homerton University Hospital Foundation Trust employees working in Maternity services attended.

Attendees were asked to complete anonymous pre and post training questionnaires.

23 pre training questionnaires were returned and 25 post questionnaires.

#### Results of the Questionnaires

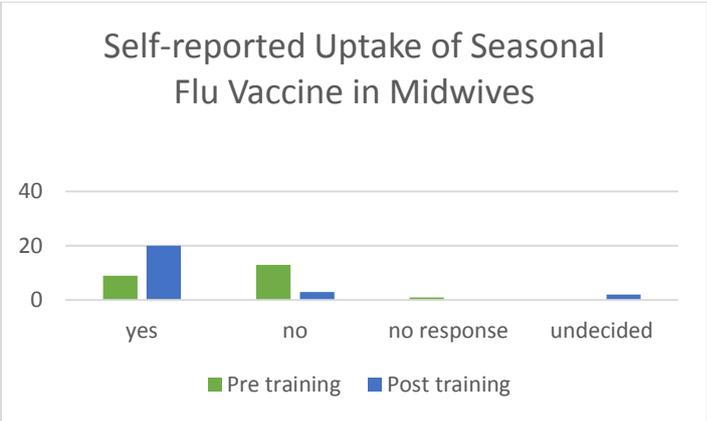
After the training, uptake of seasonal flu vaccine in frontline health care workers increased from 39% reporting having had the vaccine last year to 80% reporting they will have the vaccine this year. After the training 100% reported that they would routinely offer the vaccine to their pregnant clients (from 57%). Feeling sufficiently knowledgeable about seasonal flu and the vaccine increased from five midwives (22%) pre training to 100% post training. Confidence increased from one midwife reporting they felt 'very confident' in answering patient's questions about the vaccine to 96% reporting feeling 'either very confident or quite confident' after the training session. Before the training six midwives reported having concerns recommending the vaccine. After the training 100% reported having no concerns about recommending the vaccine to their patients.

It is not possible to ascertain at this stage whether intention has translated into action and await the final results of the seasonal flu immunisation uptake. Some challenges remain as despite the Head of Midwifery supporting this training and the positive feedback only 16% of the maternity workforce attended the training.

**Uptake of seasonal flu vaccine in frontline health care workers**

Before the training **39%** of those who responded reported having the seasonal flu vaccine last year. After the training **80%** reported they will have the vaccine this year.

Vaccine uptake	Pre training	Post training
Yes	9 reported having had the vaccine last year	20 reported they will have the vaccine this year
No	13 reported not having the vaccine	3 reported they will not have the vaccine as they are not convinced they need it
	1 did not respond	1 reported they might have the vaccine and 1 reported they were not yet decided

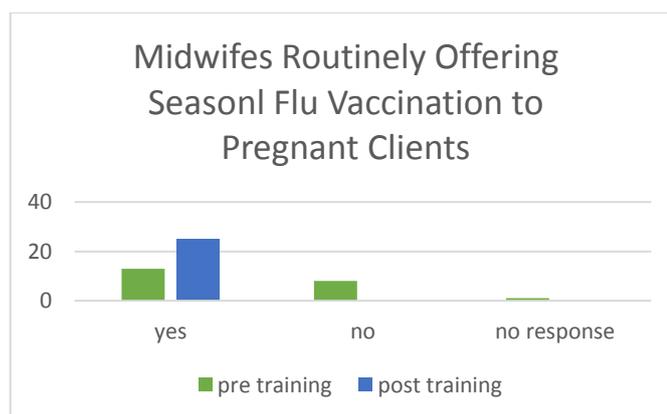


**Routinely offering seasonal flu vaccination to pregnant patients**

Before the training **57%** stated they routinely offered the seasonal flu vaccination to pregnant patients. After the training **all** stated they would routinely offer the vaccine.

Routinely offer to all	Pre training	Post training

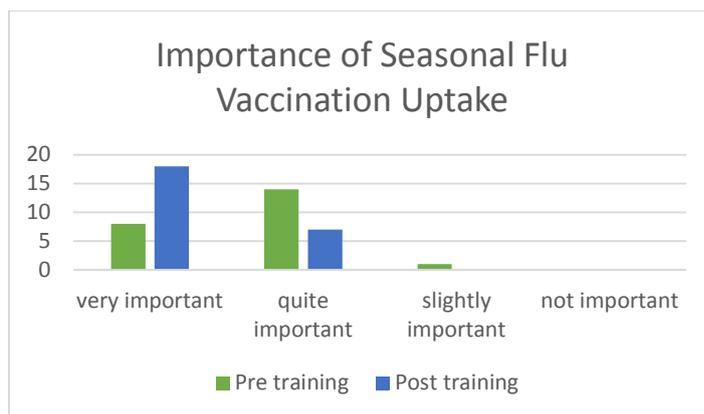
Yes	13	All
No	8 (1 of these stated they were not a midwife so could not offer)	
	1 did not respond	



### Importance of seasonal flu vaccine uptake in pregnant women

The level of importance rated as 'very important' for pregnant women to have the seasonal flu vaccine increased from **35%** in pre training to **72%** post training.

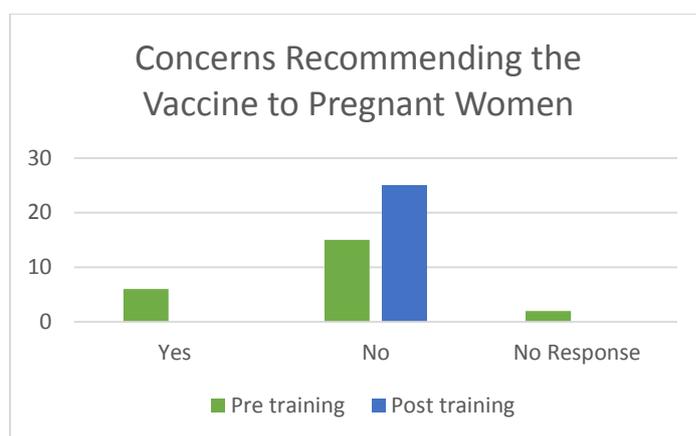
Level of Importance	Pre Training	Post Training
Very important	8 (35%)	18 (72%)
Quite important	14 (61%)	7 (28%)
Slightly important	1 (4%)	0
Not important	0	0



### Concerns about recommending the vaccine

Before the training **6** midwives responded as having concerns recommending the vaccine. After the training **all** reported having no concerns about recommending the vaccine to their patients.

Concerns	Pre training	Post training
Yes	6 (26%)	0
No	15 (65%)	25 (100%)
	2 no response	0

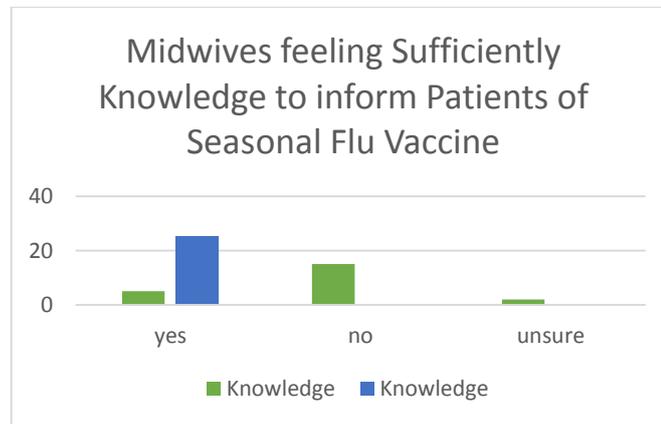


### Knowledge

Before the training session only **5** midwives reported feeling sufficiently knowledgeable to inform their patients about the vaccine. Additional comments included wanting more information on the risks associated with flu, the risks of having/ not having the vaccine and

increased ability to answer technical/ pharmaceutical questions. After the training **all** respondents reported that they now felt sufficiently knowledgeable.

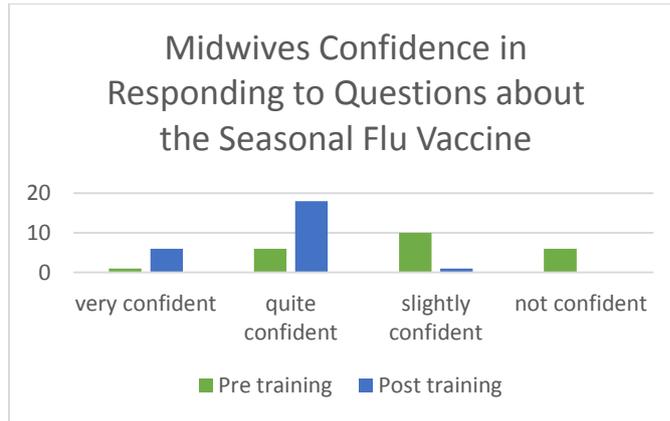
Knowledge	Pre training	Post training
Yes	5 (22%)	25 (100%)
No	15 (60%)	
	2 reported as being unsure and 1 no response	



### Confidence

Before the training session only **1** person reported that they felt 'very confident' in answering patient's questions about the vaccine. After the training **96%** reported feeling 'very confident or quite confident'.

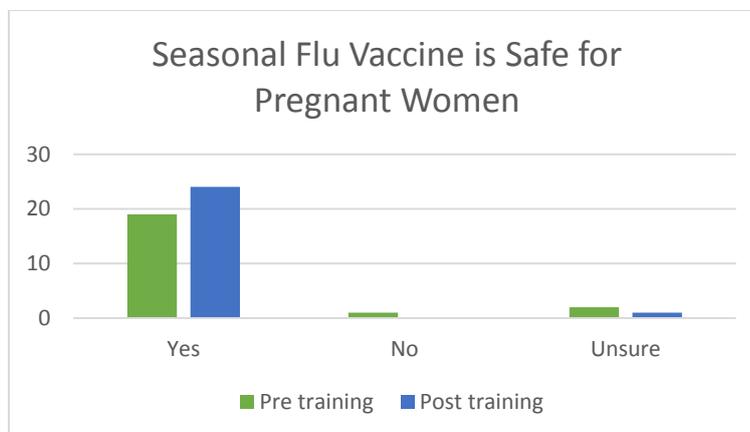
Confidence	Pre training	Post training
Very confident	1 (4%)	6 (24%)
Quite confident	6 (26%)	18 (72%)
Slightly confident	10 (43%)	1 (4%)
Not at all confident	6 (26%)	0



### Safety of Vaccine

Interestingly the majority of midwives reported thinking that the flu vaccine was safe for patients and their babies before and after the training. There was an increase with all but one reporting thinking the flu vaccine was safe. 1 midwife reported that they thought there was not enough data for babies or children.

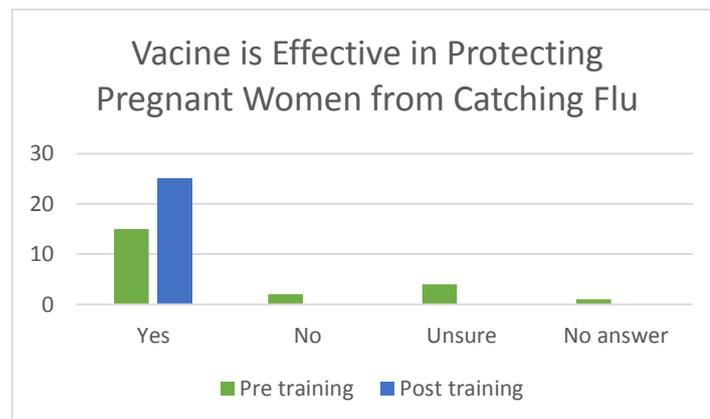
Safe	Pre training	Post training
Yes	19 (83%)	24 (96%)
No	1 (4%)	0
	2 reported being unsure and 1 no answer	1 no answer – not enough data for babies/ children



### Efficacy of Vaccine

Before the training 65% reporting believing that the vaccine is effective in protecting pregnant women from catching flu and developing complications this increased to 100% after the training session.

Effective	Pre training	Post training
Yes	15 (65%)	25 (100%)
No	2 (9%)	0
	4 answered not sure	0
	1 did not answer	0



### Other information

Four reported having experienced issues promoting the vaccine feeling that they didn't know very much about it.

The biggest barriers reported to promoting the vaccination were reported as time constraints and confidence in discussing the vaccination.

Less than half of the midwives (48%) reported feeling that there was sufficient publicity about the importance of pregnant women receiving the seasonal flu vaccine. Many reported there should be more leaflets and posters displayed in healthcare and community settings.

One respondent commented that a GP told them that they felt it wasn't safe for clients to have the vaccine as 3 women who had been given the vaccine had miscarriages.

### **What steps could be taken to improve vaccination uptake in pregnant women**

The most commonly reported response focused around more community based information giving and utilising existing opportunities of health care contacts with pregnant women to promote and provide more evidence based information. Responses included;

*“More community based information giving - community antenatal clinics or children centre antenatal clinics”. “Leaflet in blue book at booking”.*

*“GP’s need to be offering it also at their booking appointment with clients and more leaflets available in GP surgeries. These sessions help us feel more confident in giving information”.*

The use media and social media techniques and texting service to promote the seasonal flu vaccination were also reported;

*“more promotion in the media”, “Media and good advertisement in clinics”, “texting women”.*

*“adverts, facebook, Homerton website”.*

Accessible well-advertised vaccination clinics was also reported as a step to improve uptake;

*“immediate access to vaccine following antenatal consultations”,*

*“as already planned - instant access if attending antenatal appointment”.*

*“Offer the service and provide information where it can be obtained”.*

There does however appear to be a discrepancy between midwives wanting to provide instant access to the vaccine and their work load and time constraints of an appointment.

### **What steps could be taken to improve vaccination uptake in frontline health care workers?**

More promotion and targeted yearly promotion campaigns;

*“more promotion”. “keep doing your yearly information giving and getting midwives that have taken the giving and getting midwives that have taken the vaccination to give their*

*experience of the previous year affect”.*

*“reminding each department each year on the importance of staff being vaccinated”.*

Improve knowledge of flu and the vaccine through information giving, education and training;

*“More teaching/ discussion groups”. “Information.”*

*“More circulation of information and sessions like this”.*

Improving accessibility and availability of vaccine for staff and supporting staff to make the time;

*“Same as last year - in canteen. People coming to wards.”*

*“More accessible drop in sessions/ coming to clinical area”.*

#### **What did you find the most interesting/ useful feature of the session?**

Many responded that they found the whole session interesting and useful. Quotes included:

*“All of it”, “All session”, “All useful”, “All of it was useful. The interaction of the group makes it more useful.”*

Myth Busting was a popular response to this question;

*“Just to allay a few myths”. “Myth busters”.*

*“The myths. The fact that there are no disadvantages to having the vaccine. Also the fact that the baby will be covered in the vaccine”.*

Safety of the vaccine was reported as most interesting/ useful feature;

*“Safety of vaccine to pregnant women”. “Safety of the vaccine to the woman and pregnancy”.*

The risks of flu and pregnancy;

*“How harmful flu is to mother and baby”.*

And the provision and discussion of research papers around the safety and efficacy of the vaccine:

*“Updated information and journals”, “research papers”, “research information”. “To get update of the occurrence of the flu in 2011 gives us an account of the outcome of the flu epidemic”.*

**Any further comments**

*“These sessions help us feel more confident in giving information”.*

*“It was a really informative session.” “Was helpful”. “I enjoyed the discussions”.*

*“It is very useful to have these annual update sessions”.*

*“Feeling a bit more knowledge thank you”.*

*“None, excellent information”. “continue good work”.*

All reported that the training session met the objectives set.

## **Teaching and Training Case Study 2 – MSc Health Psychology Students**

### **Guest Lecturer on MSc Health Psychology Health Promotion Module**

#### **City University, London**

#### **Context**

Whilst working as a Public Health Strategist for the London Borough of Hackney and City of London, I was approached by the Course Director for the Health Psychology Masters at City University, London about an opportunity to lecture on the MSc Health Psychology Course.

I met with the Course Director in December 2011 to discuss the programme outline and my potential involvement. We agreed that my experience in designing, implementing and evaluating community level health promotion interventions would enable me to facilitate both the Applied Health Promotion and the Health Evaluation units of the Health Promotion Module for the MSc in Health Psychology course.

#### **Planning and Designing Lectures**

I supported the Course Director in finalising the programme for the modules (Appendix 1) and then I was tasked with developing the content and delivering two lectures scheduled for 24<sup>th</sup> February and 22<sup>nd</sup> March 2012.

#### **Assessing training needs**

I reviewed the City University MSc Health Psychology Course Handbook for the 2011 cohort along with previous lecturer's plans and module outlines, to ensure the content I developed was appropriate for the students in terms of relevance to their assignments and The British Psychological Society's accreditation standards.

I conducted a brief literature review on adult learning styles and effective teaching approaches to help inform my planning for the delivery of the lectures. A useful framework for understanding the learning processes is the experiential learning cycle (Kolb, 1984). This learning cycle comprises of four stages; concrete experience (having an experience), reflective observation (reflecting on the experience), abstract conceptualisation (reflection on experience) and active experimentation (putting into action). Kolb's learning theory (1976), presents four distinct learning styles which are based on this four staged learning cycle; diverging (feeling and watching), assimilating (watching and thinking), converging (doing and thinking) and accommodation (doing and feeling). People vary in their learning preference styles on how they approach a task and their emotional response (Kolb, 1976).

*Acknowledging that people have different preferential learning styles and are motivated by different means led me to adopt an approach which drew on each stage of the learning cycle and utilised both experiential and didactic methods to support different learning processes, styles and optimise engagement (McLeod, 2013).*

### **Lecture structure and content**

The key aims and objectives of the lectures I was due to deliver were agreed with the course Director. I then developed lesson plans outlining the structure and content of the lectures to meet the aims and objectives which were approved by the Course Director (Appendix 2a, 3a, 4a & 5a). I subsequently developed the content, teaching materials and a recommended reading list which were uploaded on Moodle (the student online learning resource) for the students to access in advance of the lectures.

Through the lectures I highlighted useful tools and frameworks grounded in health psychological theory and provided examples of how these are applied in practice whilst acknowledging the importance of context and the changing health and social care

landscape (Department of Health, 2010). These included Beattie's (1991) Model of Behaviour Change, Nutbeam's (1998) Model for Health Promotion and Wimbush and Watson's (2000) evaluation framework for health promotion.

### **Training approaches and methods**

I adopted Kaufman's learning and teaching principles which aim to converge theory into practice, to guide my teaching practice (Kaufman, 2003). These incorporate self-directed learning whereby the learner is an active contributor to the educational process. My role as a teacher is to provide opportunities for the learners to develop and practice their skills through asking questions, critically appraising new information, identifying their own knowledge and skills gaps, and reflecting critically on their learning process and outcomes (Kaufman, 2003). I therefore dedicated time for questions and discussions ensuring, as a learning collective, we were always working towards meeting the objectives set at the beginning of the session. I developed and set tasks which required individual, pair and group work, providing opportunities for students to contribute with examples from their own experiences and apply their learning to solving real life problems.

My teaching was focused on increasing knowledge and understanding about Health Promotion and how to conduct and integrate robust evaluation. It also focused on encouraging the students to reflect on their own journey developing their skills as Health Psychologists within the field of health promotion and evaluation through creating an interactive, shared learning environment. Developing skills in critical reflection on experience and practice is key for a health psychologist's professional development (Boud, Keogh & Walker, 1985).

*As a teacher and trainer being aware of the impact of different teaching and learning styles I believe I have learnt to be able to adapt my teaching style to the audience's learning style*

*needs to elicit motivation and engagement. I believe my teaching style is consistent with the learner centred model (Lambert & McCombs, 1998), where the trainer acts as a facilitator of learning, which involves valuing the experiences the participants bring to the training and working in a collaborative way to support their learning needs and meeting their objectives. However I also believe I adopt an approach consistent with action focused learning as I require participation from the students to actively engage agreeing shared learning aims and objectives to maintain a focus of the teaching sessions.*

My lectures were supported by a power point presentation, handouts, examples of health promotion materials, academic papers and posters. Before each lecture I would consult my lesson plan to familiarise myself with the teaching and learning objectives and the timings for each section (i.e. when to have a break and how long to run the practical activities for). I would also read through my presentation to ensure I was comfortable with the content and examples I had prepared in advance. I would also ensure that I had enough copies of the materials to be distributed during the lecture and that these were organised in order of when I would need to refer to these. I always arranged to arrive approximately 10 minutes ahead of the scheduled lecture to ensure the room was in order, to make sure the resources I had requested were available and the interactive white board was in working order.

*This helped me to collect my thoughts, feel calm and prepared when the students arrived ready to deliver the lecture.*

## **Delivery of Training**

I delivered four lectures on the MSc Health Psychology Health Promotion Module over two MSc year groups at City University;

1. Applied Health Promotion – Feb 2012 – 22 Students (Appendix 2)

2. Health Promotion Evaluation – March 2012 – 18 Students (Appendix 3)
3. Social Marketing and Community Level Interventions – March 2013 - 22 Students (Appendix 4)
4. Health Promotion Evaluation – March 2013 - 22 Students (Appendix 5)

After delivering the first two lectures (Applied Health Promotion and Health Promotion Evaluation) in February and March 2012, I spent time reviewing the student feedback and reflecting on what went well and in what ways I would change my delivery or the content of the lectures to better meet the student's needs. It was agreed with the Course Director that I would run the two sessions again the following year as an opportunity to further my teaching and training skills and implement the planned improvements in my teaching style and methods.

At the start of the new academic year there was a change in Course Director and a BPS accreditation visit took place. As soon as I became aware of this I contacted the new Course Director about continuing to lecture on the Health Promotion course. She was keen for me to do so and I shared the adapted lecture content.

I met with the new Course Director in February 2012, to discuss the lectures I was due to deliver. As a result of the BPS visit, changes had been made to the course and the content that was now required. The Applied Health Promotion Module became Social Marketing and Community Level Health Promotion Interventions, incorporating; social capital and health, social marketing theory and campaigns, and settings based health promotion. The content of the Health Promotion Evaluation module was required to include more content on research and evaluation models; identifying and applying appropriate research design for health promotion and measuring outcomes including Patient Reported Outcome

Measures (PROMs) and Quality Adjusted Life Years (QALYs). I amended the presentations I had prepared to reflect these changes and shared with the new Course Director.

The new Course Director had also agreed for another guest lecturer to speak on the Health Promotion Evaluation module from Cancer Research UK, about the work of their Health Evaluation team. I arranged to meet with this other guest lecturer and we shared our provisional content to ensure our lectures complimented each other, that our messages were clear and consistent, and that there was no duplication.

**Training Challenges** - Too much content, too little time.

I found there was too much content to cover in two of the modules despite raising concerns about this with the new Course Director. I also had a reduced amount of time for the second Health Promotion Evaluation lecture as there was another guest lecturer speaking. As a result the content I would usually cover in a 3 hour session needed to be condensed into one hour and 30 minutes. I did however manage to negotiate a slightly longer time of two hours.

*I felt that the two lectures I delivered in 2012 ran well in relation to the amount of content I needed to cover and the time in which to do so. However, I do feel the lectures in 2013 suffered from an increase in the content I was required to cover therefore resulting in the pace of the session feeling rushed. Interestingly this was reflected in the feedback from the students. Due to the addition of another guest lecturer on the Health Promotion Evaluation module I was allocated less time despite an increase in content. The contribution, however to the lecture on evaluation in practice, from a large charity, complimented the content I was required to deliver very well, providing another perspective of the challenges of evaluation in practice. In retrospect I do think this reflects my ability to be flexible as a*

*teacher as I found other ways to deliver the content through hand outs and setting practical tasks.*

### **Assessing Learning Outcomes**

The learning outcomes of the course had been discussed and agreed with the course Director and are set out in the course handbook. The lesson plans I developed for each lecture stated the learning aims and objectives and at the beginning of each lecture I would ask the students to identify any additional learning aims or objectives. We would agree these shared learning goals that we would be working towards as a collective. These were visually displayed on a white board or flip chart and I referred back to these during the lecture to make sure we had addressed these before reviewing at the end.

*I find this a particularly useful tool to create shared goals bringing the students together as a collective group and to maintain focus on the learning objectives during discussions and break-out sessions. I now use this at the beginning of all teaching or training I deliver.*

*In future, I would like to build time into the course for students to identify their own preferred learning style as this may help them to be more aware of their own learning needs and how best to meet these.*

Both cohorts of students were required to complete an assignment based on developing and evaluating a health promotion campaign and the lectures were geared towards facilitating learning to be able to approach this task competently.

I developed anonymous evaluation questionnaires (Appendix 2d, 3d, 4d & 5d)] for the students to complete at the end of the training to assess how well the lectures met the aims and objectives set. As part of this, the students were required to rate their level of understanding of the topic after having attended the session. After each session I collated

this feedback to provide me with an understanding of which areas the students responded positively to and which areas I needed to work on to improve for the next session.

*In future I would consider using a pre and post questionnaire to assess whether there has been an increase in knowledge and understanding of the topic area.*

### Evaluation of Lectures (Appendix 6)

I delivered four lectures on the Health Promotion Course over two years to two cohorts of students. The results of the evaluation questionnaire show that for all the areas the majority of students rated the lectures as good or excellent. The organisation of the session, the speaker’s communication skills and the relevance of the session to the MSc Health Psychology training were all rated very highly. The areas that showed the most need for attention were the pace of the session and the relevance of the group tasks set.

All students (n=84) rated the organisation of the session as either good (46%) or excellent (53%). 99% of students rated the speakers communication skills as good (17%) or excellent (82%). 98% of students rated the relevance of the lectures to the MSc Health Psych training as good (30%) or excellent (68%). For the pace of the session 45% rated this as good and 40% rated this as excellent with 12% rating this as satisfactory. Please see figure 1 below.

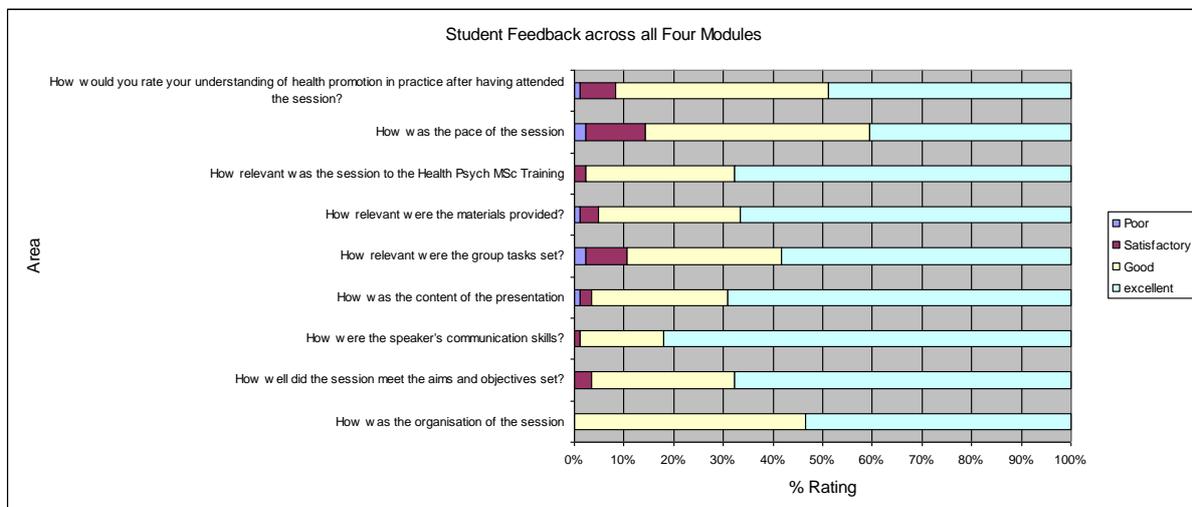


Figure 1. A bar chart showing the results of the data from all the student feedback forms for all four modules delivered

I received some great written feedback from the students which I found incredibly motivating and quite moving.

*“Amanda is a great teacher very engaging! She answers all questions and addresses issues more in depth if students ask”. “Great teaching - wish she could teach all of our classes!”*

*“...thought it was great! Best Session this year!”. “Content was varied I enjoyed that”, “great teacher; very motivated I enjoyed her class a lot and I've learnt a lot”, “very dynamic speaker”, “ One of the best sessions of the MSc Course so far, extremely useful and interesting”. “You should teach the whole module!”*

*I thoroughly enjoyed teaching on the MSc course and reading comments such as these really made me feel confident about my ability to teach students.*

Please see the evaluation report (appendix 6) for more details of the feedback on individual lectures.

### **Implications for Future Teaching and Training**

I thoroughly enjoyed the experience of guest lecturing and would be delighted if there was an opportunity to lecture again. I learnt that I need to be clear on what content I can comfortably cover within a given timeframe. If there is no way to increase the time I have allocated, then I will need to consider asking students to read materials in advance of the lecture. If I was delivering a series of lectures I would be keen to use an initial lecture to introduce some key topic areas with some proposed readings to support more self-directed learning which would require students to spend time reading around the topic area. I would also be keen to run some drop in tutorials either face to face or via the web which students with questions could utilise and we could dedicate more time to practically applying some of the theories and frameworks in smaller groups. I have recommended that for future

courses the content for the Health Promotion Evaluation module should be divided between two lectures to allow for adequate teaching time, application of the tools and frameworks and student reflection.

*I really enjoyed delivering the lectures, engaging and encouraging the students to reflect on their own knowledge and experience developing their ability to apply theory and frameworks to their work and MSc projects. I felt like I was delivering key information and tools but guiding the students with their own learning.*

*It provided a great opportunity for me to reflect on my own practice as a Health Psychologist working in public health. It led me to reflect on health promotion interventions and evaluations that I had been involved in prior to my DPsych training helping me to identify where I had missed opportunities to utilise relevant health psychological theories or frameworks to support behaviour change. It has also highlighted the challenges experienced during a transitional period in relation to the NHS reforms where public health work has become more reactive than planned.*

*During my planning, delivery and evaluation of my training on the MSc course I have realised I was previously working as a Public Health strategist having completed a Masters in Health Psychology. Now as a result of my commitment to the DPsych training I have started to see myself as a Health Psychologist working within the sphere of Public Health.*

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**Appendix 1a – Course Outline Spring 2011/12**

**Spring Term – Thursday (9am-12 noon and 1pm-4pm) 2011-12**

	<b>Behavioural Medicine (DLG19)</b>		<b>Lifespan, Gender &amp; Culture (DLG19)</b>	
		John Barry		Dr Paula Corcoran
26/1	1	Introduction to Behavioural Medicine	1	PC Introduction to the module
02/2	2	Workplace stress (Mia Soderberg)	2	PC Community Empowerment
09/2	3	Cognitive Behavioural Therapy - Interventions	3	PC Female circumcision I
16/2	4	Fertility	4	PC Female circumcision II
23/2	5	Women's Health	5	PC Issues of HIV & AIDS
01/3	6	Smoking (Henna Ali)	6	PC DVD - Afrikids
08/3	7	Obesity	7	PC Health of Older Persons
15/3	8	Diabetes	8	PC Children's Health issues
22/3	9	Somatisation & Chronic Fatigue Syndrome (CFS) (Catherine Hurt)	9	PC Gender health issues

29/3	10	Psycho-oncology	10	PC	Poster presentations
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**Spring Term – Friday (9am-12pm and 2pm-5pm)**

<b>Research Design and Statistics II (C336)</b>				<b>Health Promotion (TBC)</b>		
		Dr Paul Flaxman				Dr Renata Pires-Yfantouda
27/1	1	CB	Qualitative Research Methods - Introduction	1	RP	Introduction to health promotion
03/2	2	CB	Qualitative Research Methods – Grounded Theory	2	RP	Inequalities in health promotion
10/2	3	CB	Qualitative Research Methods - IPA	3	GL	Health Promotion in Transplant patients
17/2	4	PF	Statistics – NHST	4	RP	Health Promotion intervention for Drug & Alcohol
24/2	5	PF	Statistics – ANOVA I	5	GL	Applied health promotion
02/3	6	PF	Statistics – ANOVA II	6	RP	Health promotion initiatives with type 2 diabetes.
09/3	7	PF	Statistics – Regression I	7	GL	Adherence to treatment - patients with Renal Disease
16/3	8	PF	Statistics – Regression II	8	RP	Social Marketing & Presentations (students)
23/3	9	RL	Questionnaire Design & Factor Analysis	9	GL	Presentations (students) & Feedback
30/3	10	PF	Statistics – SPSS workshops	10	GL	Evaluating Health Promotion

## Appendix 1b – Course Outline 2012/13

### Course outline: PSM404 Health Promotion (15 credits)

**Module Leader: Dr Alice Simon**

**Other core staff: Dr Catherine Hurt**

#### Aims

The aim of this course is to introduce students to the theory and application of health promotion. The course builds on knowledge gained in PSM401 (theoretical foundations) and illustrates how theory can be applied to develop and design health promotion materials and activities. An historical perspective will be used to aid students' understanding of the evolution of the health promotion field.

#### Objectives

At the end of this course students will:

- Understand the theoretical underpinnings of health promotion and be able to apply this knowledge at a variety of levels and in a variety of settings.
- Have worked collaboratively to develop an evidence-based health promotion campaign and be able to propose appropriate methods of evaluation.
- Have gained up-to-date knowledge of the role of health promotion in changing health behaviours and understand the UK government stance on promoting healthy lifestyles.
- Understand the wider impact of socio-cultural factors, especially health inequalities, on health promotion activities.
- Have explored some psychological variables which shape the interpretation and efficacy of health promotion materials (e.g. risk perception, message framing).

#### Module Content 2012/2013 Spring Term: Friday 2-5 pm

<i>Week/date</i>	<i>Title</i>	<i>Presenter</i>
Week 1/Feb 1 <sup>st</sup>	Introduction to health promotion models	Alice Simon
Week 2/ Feb 8 <sup>th</sup>	Health inequalities	Catherine Hurt
Week 3/ Feb 15 <sup>th</sup>	Individual-level interventions	Alice Simon
Week 4/ Feb 22 <sup>nd</sup>	Informed decision making and ethics	Catherine Hurt
Week 5/ Mar 1 <sup>st</sup>	Risk perception	Catherine Hurt
Week 6 / Mar 8 <sup>th</sup>	Social marketing and Community-level interventions	Amanda Douglas
Week 7/ Mar 15 <sup>th</sup>	Health Promotion Evaluation	Amanda Douglas Emily Power
Week 8 / Mar 22 <sup>nd</sup>	Government/Policy-level interventions	Alice Simon

	EASTER	
Week 9/ Apr 5 <sup>th</sup>	Tobacco control – interventions across individuals, communities and populations	Andy McEwen
Week 10/ Apr 12 <sup>th</sup>	Group Presentations	Alice Simon Catherine Hurt

### *Teaching and Learning Methods*

The module will consist of lectures and group activities. Visiting expert lecturers will provide working examples of health promotion to encourage depth of understanding. Half hour sessions each week will be devoted to student-led topics posted on Moodle. A course review to promote consolidation of the learning materials will take place in Week 9.

### **Assessment:**

*Students must complete two pieces of coursework for this module. Students are expected to pass each piece of coursework with a pass mark of at least 50%.*

Coursework 1 : Essay (2,000 words) = 60% of module mark (Minimum component pass mark = 50%)

**Submission date: April 5<sup>th</sup> 2013 2pm**

Coursework 2: Group work = 40% of module mark (Minimum component pass mark = 50%)

**Submission date: April 12<sup>th</sup> 2013 2pm**

### **Recommended Reading :**

1. The Ottawa Charter for Health Promotion: First International Conference on Health Promotion, Ottawa. World Health Organisation; 1986.  
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2. The Bangkok Charter for Health Promotion in a Globalized World. World Health Organisation; 2005.  
[http://www.who.int/healthpromotion/conferences/6gchp/hpr\\_050829\\_%20BCHP.pdf](http://www.who.int/healthpromotion/conferences/6gchp/hpr_050829_%20BCHP.pdf)
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10. Wimbush E, Watson J. An evaluation framework for health promotion: theory, quality and effectiveness. *Evaluation* 2000;5:341-50.

**Further details:**

*Week 1: Introduction to Health Promotion models*

- i) Outline structure, manage expectations
- ii) Recap modifiable causes of morbidity/mortality
- iii) Definitions of health promotion – Ottawa Charter 1986/Don Nutbeam
- iv) Models of health promotion: Beattie, Precede-Proceed, Behavioural Ecological Model, Nudge
- v) Current government policy and implications for health promotion in UK
- vi) Set coursework

*Week 2: Health inequalities*

- i) Dahlgren-Whitehead Model
- ii) Whitehall studies
- iii) Marmot review
- iv) Efficacy of government policies
- v) Demonstration of how SES affects health promotion efficacy and determines targets of campaigns
- vi) Review other socio-cultural factors that determine health promotion efficacy/targets e.g. gender

*Week 3: Individual-level interventions*

- i) Intervention types and use of health psychology theory
- ii) Behavioural change techniques? (S.Michie)
- iii) Examples from cancer control – early diagnosis
- iv) Symptom perception and models of delay
- v) Screening uptake ( or different if done by CH)

*Week 4: Informed decision-making and ethics*

- i) What is informed-decision making (& difference from 'informed consent' or 'informed choice')
- ii) Why is it important – ethical considerations in health promotion, public health vs individual choice, working example e.g. vaccination uptake
- iii) Models of informed-decision making (Entwistle 'consider an offer', work by Marteau)
- iv) Factors that affect ability to make an 'informed decision'. Information processing, fear, threat and control – Extended parallel processing model.

- v) Current research in the field – public preferences, interventions to increase informed-decision making

*Week 5: Risk perception*

- i) What is risk perception and how it affects decision-making/ efficacy of health promotion
- ii) Biases (e.g unrealistic/comparative optimism) and heuristics (inc Kahneman & Tversky loss aversion)
- iii) Communicating risk, message framing
- iv) Role of emotion in risk perception/communicating risk
- v) Working examples/current research

\*NB INCLUDE A REVIEW OF COURSEWORK PROGRESS

*Week 6: Social marketing and community-level interventions*

- Social capital & health promotion
- Settings' based health promotion – e.g. schools workplaces etc (cross-over with individual-level health promo) Week 5
- Social marketing theory
- Social marketing campaigns/ Media campaigns

*Week 7: Health Promotion Evaluation*

*AMANDA DOUGLAS 90 mins*

- Evaluation model
- Research designs appropriate for health promotion (ie not RCTs!)
- Measuring outcomes: objective disease outcomes, PROMS, QALYs
- Working examples

*EMILY POWER 45 mins*

- Evaluation in practice : the work of the CR-UK Health Evaluation Team

*Week 8: Government/policy level interventions*

- Current govt policies on health promotion/ impact of change in govt. Change 4 life Nudge etc
- Paternalism vs free choice vs 'liberatarian paternalism'
- Policy-level tools e.g. taxation
- Efficacy of government policies: 'lifestyle' diseases & health promotion – alcohol, obesity, diet (drugs?)

*Week 9: Tobacco control – interventions across individuals, communities and populations*

- Invited speaker – Andy McEwen (2 hours)
- Course review (1 hour): reflections on health psychologists doing health promotion, coursework preparation, identify good and bad parts of the course.

\*NB ESSAY DEADLINE THIS WEEK

*Week 10: Group presentations*

**BPS Mapping exercise**

*Additional content required following BPS visit:*

- Risk perception
- Symptom perception/perception of pain
- Sociocultural factors
- Decision making by patients/clients & health psychologists

*What we are already supposed to cover:*

- Causes of mortality/morbidity
- Inequalities in health
- Theoretical models
- Protective/promotional behaviour
- Behavioural risk factors
- Efficacy and control beliefs
- Attributions X
- Designing interventions and evaluating processes and outcomes
- Health education/promotion a) worksite intervention; b) community based interventions ; c) public health/media campaigns
- Specific applications/interventions e.g. in the management of CVD, cancer, HIV etc
- Theoretical background to interventions: e.g. cognitive behavioural approaches, motivational interviewing
- Behavioural change techniques
- Health Services Research

## Appendix 1c – Assignment



**CITY UNIVERSITY  
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**PSM404 Health Promotion 2012/13**

**Dr Alice Simon/Dr Catherine Hurt**

**Term 2: Assignment 1**

**Deadline for submission:** 12<sup>th</sup> April 2012

**Assignment 1: Development of a health promotion campaign to encourage healthy lifestyles in University students**

**Assessment value:** This assessment is worth 40% of the final mark for the module. *NB Each student must pass **this** assignment with a mark of at least 50%.*

**Assessment overview:**

For this assessment you will be working with the Occupational Health Department at City University to develop a health promotion campaign aimed at improving the health of students. This is a group task. You will need to organise yourselves into groups of 4-5 people.

Choose one of these topics as the target of your campaign:

- Diet (food choice)
- Exercise
- Alcohol consumption
- Smoking

In your groups, you will need to:

- Agree what topic you will cover and who your target group are
- Draw on theories of health promotion and behaviour change techniques to produce a variety of media including e.g. leaflets, promotional materials, posters.

You will have 15 minutes to present your campaign on April 12<sup>th</sup>. Each member of the group must speak. You will need to justify your choice of topic citing evidence from the literature. You will need to be explicit about who your target audience is and provide an evidence-based rationale for targeting this group. You should be able to demonstrate how theories/techniques are operationalised in your materials.

At the end of your presentation there will be 5 minutes for questions. You will receive feedback, as a group, at the end of your presentation. A group mark will be awarded, but individual contributions will be peer assessed by other members of your group. This will lead to variations in marks across the group (see 'peer assessment criteria' below).

**Module learning outcomes met by this assessment:**

- Demonstrate an understanding of the theoretical underpinnings of health promotion and be able to apply this knowledge.
- Have worked collaboratively to develop an evidence-based health promotion campaign
- Demonstrate up-to-date knowledge of the role of health promotion in changing health behaviours
- Have explored some psychological variables which shape the interpretation and efficacy of health promotion materials

**Key stages of the assessment:**

Week 1 Assessment is explained to students

Week 5 Session to discuss group progress and receive formative feedback

Week 10 Presentation deadline

**Assessment criteria:**

1. Clearly communicated (orally and visually) health promotion campaign that demons

- understanding of the chosen topic and target group (35%)
- 2. Evident use of health promotion theories and behaviour change techniques (35%)
- 3. Presentation and quality of health promotion materials (10%)
- 4. Clear explanations and answers to questions about the health promotion campaign
- 5. Peer assessment of individual contribution (10%)

**Peer assessment:**

Each member of the group will provide a confidential assessment of individual contributions. Please Use the grid below. submit one assessment for each member of your group in a sealed envelope at the end of the presentation session (Week 10).

Student..... has contributed to the group’s work in the following ways:

	Major contribution	Some contribution	Little contribution
Organisation and management	2	1	0
Ideas and suggestions	2	1	0
Writing the presentation	2	1	0
Developing the materials	2	1	0
Researching/reviewing evidence	2	1	0

The individual mark will be calculated by averaging these scores.

Please approach this assessment in a professional and objective manner.



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**PSM404 Health Promotion 2012/13**

**Dr Alice Simon/Dr Catherine Hurt**

**Term 2: Assignment 2**

**Deadline for submission:** 26<sup>th</sup> April 2012

**Assignment 2: Evaluation plan for a health promotion campaign aimed at encouraging a healthy lifestyle in University students**

**Assessment value:** This assessment is worth 60% of the final mark for the module. *NB Student must pass **this** assignment with a mark of at least 50%.*

**Assessment overview:**

For this assessment you will be working **individually** to write an essay (2000 words) which describes how you would evaluate the health promotion campaign that you developed in Assignment 1.

The aim of this essay is for you to demonstrate a clear grasp of how health promotion campaigns can be evaluated and what the criteria for success are.

You should write this essay in two parts:

*Part 1:* (500 words) Provide a short rationale and description of your health promotion campaign. Include key elements such as the target group and which theories/techniques you have used. Although you developed this as a group, this piece of writing should be your own work and you should be careful not to plagiarise each other.

*Part 2: (1500 words)* Describe how you would evaluate this campaign. You will need to describe what your primary outcome is, any secondary outcomes and what intermediary (e.g. psychological) variables you expected to change as a result of your campaign. You will need to describe your approach to measuring and analysing these variables and define your criteria for success or failure of the campaign. Bear in mind the practical aspects of how you would carry out such an evaluation, and ask yourself if your approach is feasible. Consider and describe any limitations in the design or evaluation of your campaign.

There will be a 10% word limit tolerance above or below the specified amount.

**Module learning outcomes met by this assessment:**

- Display an understanding of the theoretical underpinnings of health promotion and be able to apply this knowledge
- Demonstrate up-to-date knowledge of the role of health promotion in changing health behaviours
- Understand the wider impact of socio-cultural factors on health promotion activities
- Have explored some psychological variables which shape the interpretation and efficacy of health promotion materials

**Key stages of the assessment:**

Week 1 Assessment is explained to students

Week 9 Question and answer session

April 26th Essay deadline

**Assessment criteria:**

1. Rationale and description of a health promotion campaign demonstrating use of the relevant literature and theories (25%)
2. Description of primary and secondary outcomes and target psychological variables (20%)
3. Design of evaluation activities, including proposed measurements and definition of success criteria (20%)
4. Critical assessment of any limitations associated with carrying out the campaign and evaluation (25%)
5. Clear presentation with coherent and fully referenced writing (10%)

This essay will need to be submitted via Moodle.

**Appendix 2a – Lecture Plan for Health Promotion Module**

<p><b>Lecture Plan</b></p> <p><b>Health Promotion Module PSM404</b></p> <p><b>Applied Health Promotion: Health Psychology in Practice</b></p> <p><b>24<sup>th</sup> February 2012</b></p> <p><b>2pm – 5pm</b></p>	
<p><b>Aims and Objectives</b></p> <ul style="list-style-type: none"> <li>• Increase understanding and knowledge of Health Promotion in Practice.</li> <li>• Better understand the role of the Health Psychologist in Health Promotion.</li> <li>• Be able to link Health Psychological theories and frameworks to practice.</li> <li>• Revisit Health Promotion learning to date.</li> <li>• Provide insight into the experience of a Health Psychologist in Practice.</li> <li>• Demonstrate role of Health Promotion in Public Health.</li> <li>• Present a framework to develop an effective Health Promotion intervention.</li> </ul>	
<p>Sign Attendance Sheet</p> <p><b>Introduction</b></p> <p>Agree group Aims and Objectives</p> <p>Parking Lot – questions to be address at a later time</p> <p>Hand out</p> <ul style="list-style-type: none"> <li>• Smith, B., Tang, K., &amp; Nutbeam,D. (2006). <i>WHO Health Promotion Glossary: new terms</i>. Health Promotion International, 21 (4), 340 - 345.</li> </ul>	<p>2pm</p>
<p><b>Reviewing Learning to date</b></p> <ul style="list-style-type: none"> <li>• Different types of health Promotion</li> <li>• Behaviour Change</li> <li>• The role of the Health Psychologist</li> </ul> <p>Hand outs</p> <ul style="list-style-type: none"> <li>• Nutbeam, D. (2000). <i>Health Literacy as a Public Health goal: a challenge for contemporary health education and communication strategies into the 21<sup>st</sup> century</i>. Health Promotion International, 15 (3), 259-267.</li> <li>• NICE Public Health Guidance 6 (2007) Behaviour Change at population, community and individual levels</li> </ul>	<p>2.10pm</p>

<ul style="list-style-type: none"> <li>Article from Hackney Gazette on smoking cessation (23<sup>rd</sup> Feb 2012)</li> </ul>	
<p><b>Group Work</b></p> <p>Brainstorm about health promotion campaigns</p> <ul style="list-style-type: none"> <li>Key messages</li> <li>Key aims and objectives</li> <li>Effectiveness of Campaign</li> </ul> <p>Hand out:</p> <ul style="list-style-type: none"> <li>Nutbeam, D. (1996). <i>Achieving 'best practice' in health promotion: improving the fit between research and practice</i>. Health Education Research: Theory and Practice, 11(3), 317-326.</li> </ul>	<p>2.30pm</p> <p>5 min brainstorm in pairs</p> <p>5 min feedback</p>
<b>National and Local Campaigns</b>	2.40pm
<p><b>Break</b> (10 mins)</p> <p>Opportunity to look at Public Health Promotion Campaign Materials.</p>	2.50pm – 3pm
<b>Developing an Effective Health Promotion Intervention</b> – a real life example	3pm
<p><b>Group Work</b> (30 mins)</p> <p>Develop a proposal for a health promotion campaign in response to a Public Health need.</p> <p>Hand outs</p> <ol style="list-style-type: none"> <li>UCL Institute of Health Equity Proposed criteria for selection and prioritisation of Interventions.</li> <li>Extract on Immunisation from City and Hackney JSNA 2011.</li> </ol>	3.45pm
<b>Group Presentation</b>	4.15pm
<b>Summary of key steps</b>	4.45pm
<p><b>Finish</b></p> <p>Complete Evaluation Forms</p>	5pm

### Additional Materials

N.B. Bring along examples of different types of Health Promotional Materials from Public Health campaigns.

### Additional References

1. Beattie, A. (1991). Knowledge and control in health promotion: a test case for social policy and social theory. In, *The Sociology of the health service*. London: Routledge.
2. French, J. (1990). Boundaries and Horizons, the role of health education within health promotion. *Health Education Journal* March 1990 49: 7-10.
3. I&DeA (2010). A glass half-full: how an asset approach can improve community health and well-being.
4. Lalonde, M.(1974). *A New Perspective on the Health of Canadians*. Government of Canada, Ottawa.
5. Marmot, M. (2010). *Fair Society, Healthy Lives. The Marmot Review*.
6. Jackson C (1997). Behavioural science and principles for practice in health education. *Health Education Research*, 12(1), 143-50.

## Appendix 2b – Slides for Health Promotion Lecture

MSc Health Psychology City University London  
Health Promotion Module  
24<sup>th</sup> February 2012

### Applied Health Promotion Health Psychology in Practice

Amanda Douglas BSc MSc DipHEP  
DPsych Health Psychologist Trainee working as a Public Health Strategist

### Introduction

- Set aims and objectives of session
- Review learning to date
- Experience of a Health Psychologist in Practice
- Health Promotion and Public Health
- Group Work

### Overview

- What is Health Promotion?
- Types of Health Promotion
- Effective Health Promotion
- Health Promotion & Behaviour Change
- The role of the Health Psychologist in Health Promotion
- Health Promotion and Public Health
- Designing, planning and implementing a health promotion initiative
- A case study of a Health Promotion initiative in Sexual Health
- Group Presentation

### Health Promotion

- WHO definition - Health promotion is the process of enabling people to increase control over, and to improve, their health.

It moves beyond a focus on individual behaviour towards a wide range of social and environmental interventions.

### What is Health Promotion?

- Improving health and wellbeing
- Reducing ill health and inequalities
- Process driven & activity directed
- Not done to people – developed with people
- Involving and empowering people and communities
- Capacity building - strengthen the skills and capabilities of individuals to take action and capacity of groups /communities to act collectively to exert control over the determinants of their health.
- Working across boundaries and partnerships

### Models of Health Promotion

- Medical
- Behaviour Change
- Educational
- Empowerment
- Social change

Underpinned by:

- Meaning of health
- Locus of control
- Nature of knowledge
- Nature of society

## Types of Health Improvement

- Community Action
  - Environmental Interventions
  - Behavioural Interventions
- 
- Community empowerment – community development, create active participating communities – bring about change through a programme of action

## Typology adapted from French (1990)



## Effective Health Promotion

Based on 4 basic assumptions;

1. Planned – on the basis of a thorough analysis of the problem
2. Informed – by established theory
3. Implementation – create necessary conditions for successful implementation
4. Detectable – sufficient size

## Health Promotion & Behaviour Change

- Lalonde 'Health Field concept' identifies health behaviour as one of the key determinants of health and disease.
- Social Determinants of Health – Marmot Review.
- Lifestyle choices and behaviour impact on health and wellbeing.
- Behaviour changes approaches can be made and an individual, group or population level.

## Principles to Guide Behavioural Approaches to Health Promotion

- Acquiring new behaviours/ changing pre-existing behaviours is a process, not an event.
- Psychological factors; beliefs, attitudes, and values, physical and social environmental factors; housing, education, work, socioeconomic status and our experiences all influence how we behave.
- The more rewarding a behaviour the more likely it is to be repeated the more unpleasant the less likely.

## Theories of Behaviour Change

- Social Learning Theory – Bandura
- The Health Belief Model – Becker
- Health Action Model – Tones
- Stages of Change Model – Prochaska and DiClemente
- Theory of Reasoned Action – Ajensen & Fishbien

### Beattie's Model of Behaviour Change (1991)



### The role of the Health Psychologist in Health Promotion

- ▶ Support people and communities to improve their health and wellbeing.
- ▶ Support people to make changes to their lifestyle and their behaviour
- ▶ Help people make healthier choices
- ▶ Inform public policy and environmental planning
- ▶ Engage with a range of stakeholders and partner organisations.

### Working as a Health Psychologist in Public Health

- ▶ Health Promotion, Health Improvement & Health Protection
- ▶ Improve the health and wellbeing of our local population
- ▶ Work with the local community to improve health outcomes
- ▶ Reduce health inequalities – address social determinants of health
- ▶ Protect the health of the local population from hazards or threats
- ▶ Work with health and social care providers; Primary, Community and Acute.

### Health Promotion Campaigns in Public Health

- Local and National Campaigns
- Based on need of local population
- Public Health Intelligence
- Health Needs Assessments & Local Intelligence
- Commissioning Strategy Plans – sets out commissioning intentions - areas to invest
- Evidence based & Outcome focused.

### Group Work

- Brainstorm health promotion campaigns you are aware of.
1. What were the key messages?
  2. What do you think the key aims and objectives were?
  3. What is memorable about the campaign?
  4. Do you think the campaign was effective?
  5. Would you do anything differently?

### National Health Promotion Campaigns

- Change for Life
- Healthy Start
- Smoke Free
- Flu - Catch It Bin It Kill It
- Health Checks



### Effective Local Public Health Promotion Campaigns

- Hands up for Max - hand washing for children to reduce spread of infections
- Watch out Measles About – ‘Spotty Bus’
- Who loves Chlamydia – Valentine Sexual Health Campaign
- SHO-me – Sexual Health Online
- NHS Health Checks
- Breast Awareness – ‘pink bus’, The small C campaign



Approaches to health promotion which emphasize general empowerment through health education, community development, organisational development and change, together with health promotion effects aimed at social, administrative and political change have been shown to be most effective.  
(Jeff French, 2004)

10 minute Break

### Stages of Developing an Effective Health Promotion Intervention

- **Problem definition**
  - Epidemiological and Demographic Information
  - Behavioural and social research on determinants of health
  - Community needs and perceived priorities
- **Solution generation**
  - Theory and intervention models
  - Evidence from past programmes
  - Experience from practitioners
- **Capacity Building**
  - Mobilising resources
  - Building capacity
  - Raising public and political awareness
- **Implementation**
  - Education, Social mobilisation, Advocacy
- **Process, impact and outcome evaluation**
  - Monitoring, health and social outcomes, impact measures, programme evaluation

### Health Promotion in Sexual Health

- The population of Hackney is very young with more than one in four (27%) residents aged under 20 years.
- It is an ethnically diverse borough with a mobile population and high numbers of hard to reach groups.
- Hackney has a high rate of teenage conception (although this has reduced markedly) and high rates of sexually transmitted infections.
- The most commonly sexually transmitted infection diagnosed in Hackney and the City is Chlamydia.
- 1 in 10 sexually active women under the age of 25 are thought to have Chlamydia and men aged between 20 and 30 are most at risk.
- Nationally it is estimated that one third of people with HIV are not diagnosed.
- It is estimated that 15% of the population in Hackney are HIV positive and undiagnosed.

**SHO-me**  
nhs.uk

### SHO-me- Sexual Health Online

Identifying the issue;

- High rates of STIs and low screening rates
- Young highly mobile population
- Need to increase Chlamydia & HIV testing
- Need to increase education around sexual health
- Need to improve access to information
- Need to improve accessibility to services
- Need to address sex as a 'taboo' subject in discrete communities
- Promote access to free condoms for under 25s

**SHO-me**  
nhs.uk

### Solution Generation

- Engagement and Consultation
- Key stakeholder buy in
- Consultation identified Website as a good portal for information and identification of services available.
- Effective use of mobile units for previous public campaigns targeting hard to reach groups
- Educating community about healthy sexual choices

**SHO-me**  
nhs.uk

### Capacity Building

- **Involving stakeholders**
  - Partner organisation, Local Authority, primary and secondary care services in pathway, voluntary organisations, local community – young people
- **Sourcing funding**
  - PCT priority reduce STIs and increase testing/ screening rates
- **Sustainability of programme**
  - Involvement of providers and service users

**SHO-me**  
nhs.uk

### Implementation

Website

- Out to tender for web designer
- Discovery Day – to agree look and functionality of site involvement of key stakeholders
- Content written by professionals and reviewed by professionals and lay people
- Test dummy site
- Launch coincide with SHO-me road-show

Road-show

- Promotional Materials designed in collaboration with key stakeholders
- Training volunteers – key health promotion messages

**SHO-me**  
nhs.uk

### Sexual Health On Line

Aims;

- To engage with the North East London population increasing awareness and education about sexual health
- To drive awareness of the sexual health services in the area
- To encourage the community to act responsibly and be aware of the sexual health risks that could be associated with their lifestyle choices
- To be culturally sensitive and accessible to all

The screenshot displays the SHO-me website interface. At the top, there is a navigation bar with the SHO-me logo and the text 'nhs.uk'. Below the navigation bar, there are several sections: 'HOME & ABOUT', 'ABOUT US', 'CONTACT US', and 'FAQ'. The main content area features a large image of a condom and text describing the service. The website is designed to be user-friendly and accessible, with clear navigation and informative content.

## SHO-me Sexual Health Road-show

**SHO-me**  
nhs.uk

**Aims:**

- To promote the new Sexual Health Website 'SHO-me.nhs.uk'.
- To promote local Sexual Health Services and support groups.
- To encourage people to have regular sexual health checks and to advise them what is good sexual health.
- To encourage condom use and promote other forms of contraception

**For people under the age of 25:**

- Raise awareness of Chlamydia (and other STIs) and encourage screening.
- Promote the condom distribution scheme.

**For people over the age 25:**

- Raise awareness of the importance of early HIV diagnosis
- Encourage HIV testing (POCT: Oraquick)
- Raise awareness of STIs

**SHO-me**  
nhs.uk

Whatever you do, we've got you covered. SHO-me nhs.uk

From the 22nd September 2008 to the 11th December 2008

On tour we have happy sex and the world of the following services available to you during our 24 day tour:

- Health Fair, 10.00
- Play 2 Stop - 10.00 per Park

## Outcomes

- Website received 8,000 unique hits in the first 3 months.
- Over 7,000 interactions took place during the 24 day tour and over 500 tests were conducted.
- 4,711 people had direct contact with a health advisor.
- On average 1151 people visit clinics over a typical month.
- 30% increase in STI screens in the borough during the period of the tour.
- The cost of the unit was £69,231 – the cost of performing the same number of screens in a GU clinic at £184 per new patient under (PBR) would have been £93,795.

## Group Work - 30 minutes

NHS City and Hackney are looking to commission a health promotion initiative to increase childhood immunisation uptake in the Orthodox Jewish Community in Hackney and are looking for tenders of up to £50,000.

Your task is to work in groups of 3 or 4 to develop a proposal and deliver a 10 minute presentation.

Consider; structure, rationale, theoretical framework/ model, define aims and objectives consider how you would measure outcomes and demonstrate effectiveness of intervention, practicalities of delivery and sustainability.

## Group Pitch Presentation

## Key steps to think about in designing a health promotion initiative

- Clear evidence based rationale
- Identify and understand need - utilise demographic and prevalence data
- Understand field - literature, best practice, NICE guidance
- Clear and measureable aims and objectives
- How will you measure Outcomes and Demonstrate Effectiveness?
- Practicalities of delivery and sustainability
- Who are the key partners, agencies, stakeholders?
- Consultations and Engagement
- Relevance to other areas – policy informing.

## References

- Beattie, A. (1991). Knowledge and control in health promotion: a test case for social policy and social theory. In, *The Sociology of the health service*. London: Routledge.
- French, J. (1990). Boundaries and Horizons, the role of health education within health promotion. *Health Education Journal* March 1990 49: 7-10.
- I&DeA (2010). A glass half-full: how an asset approach can improve community health and well-being.
- Lalonde, M. (1974). *A New Perspective on the Health of Canadians*. Government of Canada, Ottawa.
- Marmot, M. (2010). *Fair Society, Healthy Lives. The Marmot Review*.
- Jackson C (1997). Behavioural science and principles for practice in health education. *Health Education Research*, 12(1), 143-50.

## Finally...

- Please complete the evaluation form

Thank you!

**Appendix 2c – Attendance List**

MSc Health Psychology City University

Applied Health Promotion workshop

24.02.2013

Attendance List

	<b>Name</b>	<b>Signature</b>
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## Appendix 2d - Evaluation Sheet

MSc Health Psychology City University

Applied Health Promotion Workshop

### Evaluation Sheet

Please could you rate the following areas of the teaching session by putting a cross X in the box to indicate your response.

Area	Poor	Satisfactory	Good	Excellent
How was the organisation of the session?				
How well did the session meet the aims and objectives set?				
How were the speaker's communication skills?				
How was the content of the presentation?				
How were the relevance of the group tasks set?				
How were the materials provided?				
How was the relevance of the session to the Health Psych MSc training?				
How was the pace of the session?				
How would you rate your				

understanding of Applied Health Promotion after having attended this session?				
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PTO

What did you find the most interesting/ useful feature of the session?

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Are there any ways this session could be improved?

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Any further comments

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Many thanks for your time!

## Appendix 3a – Lecture Plan for Health Promotion Evaluation Lecture

<p><b>Lecture Plan</b></p> <p><b>Health Promotion Module PSM404</b></p> <p><b>Health Promotion Evaluation</b></p> <p><b>30<sup>th</sup> March 2012</b></p> <p><b>2pm – 5pm</b></p>	
<p><b>Lecture Aims</b></p> <ul style="list-style-type: none"> <li>• Present an Evaluation Framework to Evaluate Health Promotion Initiatives</li> <li>• Develop an understanding of Process and Outcomes Evaluation</li> <li>• Set Public Health Policy Context - NHS Transition and New Public Health Outcomes Framework</li> <li>• Understand key agendas and develop an understanding of Health Economics</li> <li>• Examples of Evaluation in Practice               <ol style="list-style-type: none"> <li>1. Evaluation of SHO-me a local Sexual Health Promotion Campaign</li> <li>2. Evaluating a Health Promotion Campaign in a response to a Hepatitis A Outbreak</li> </ol> </li> </ul> <p><b>Learning Objectives</b></p> <ul style="list-style-type: none"> <li>• Increase knowledge and understanding of the challenges associated with evaluating health promotion.</li> <li>• Increase knowledge and understanding of appropriate health promotion evaluation methods and models.</li> <li>• Develop an understanding of how to measure the effectiveness of a health promotion campaign.</li> <li>• Increase knowledge and understanding on measuring and evaluating the process and outcomes.</li> <li>• Understand the context of health promotion activities and evaluation.</li> </ul>	
<p>Sign Attendance Sheet</p> <p><b>Introduction</b></p> <p>Set Aims and Objectives – learning outcomes</p> <p>Parking Lot</p>	<p>2pm</p>
<p>Reviewing Learning to date</p> <p><b>What do we mean by effectiveness in Health Promotion and how do we measure it?</b></p>	<p>2.10pm</p>
<p><b>Evaluation Model Framework</b> (Don Nutbeam, 1998)</p> <p>Work through stages of developing an effective intervention</p>	<p>2:20pm</p>

<p>Process and Measuring Outcomes</p> <p>Hand outs:</p> <ul style="list-style-type: none"> <li>• Nutbeam, D. (1998). Evaluating Health Promotion – progress, problems and solutions. <i>Health Promotion International</i>, <b>13</b>(1), 27-44.</li> <li>• Nutbeam, D. (1999). <i>The Challenge to provide ‘evidence’ in health promotion</i>. <i>Health Promotion International</i>, 14 (2), 99 – 101.</li> </ul>	
<p><b>Whose agenda?</b></p> <p>Measuring Health Status</p> <p>Health Economics and NICE</p> <p>Hand outs</p> <ul style="list-style-type: none"> <li>• Owen, L., Morgan, A., Fischer, A., Ellis, S., Hoy, A., &amp; Kelly, M. (2011). <i>The cost effectiveness of public health interventions</i>. <i>Journal of Public Health</i>, 1-9.</li> <li>• Summary of cost effectiveness of Public Health Interventions hand out.</li> </ul>	2:40pm
<p><b>Break</b> – 15 minutes</p>	3.15pm – 3.30pm
<p><b>Public Health Policy and Context</b></p> <p>New Outcomes Framework</p> <p>Marmot – Social Determinants Approach</p> <p>Handouts</p> <ul style="list-style-type: none"> <li>• The Public Health Outcomes Framework for England, 2013-2016</li> <li>• Nutbeam, D. (2004). <i>Getting evidence into policy and practice to address health inequalities</i>. <i>Health Promotion International</i>, 19(2), 137-140.</li> </ul>	3.30pm
<p><b>Example in Practice</b></p> <p>SHO-me Public Health Promotion Campaign Evaluation – Process and outcomes mapped to outcomes frameworks</p>	4pm
<p><b>Group Work</b></p> <p>Example in Practice</p> <p>Hepatitis A Outbreak</p> <ul style="list-style-type: none"> <li>• What outcomes would you expect</li> <li>• How would you develop an evidence base?</li> </ul>	4.30pm  10 min discuss in small groups 10 min group feedback

<ul style="list-style-type: none"> <li>• What data would you collect and when?</li> <li>• How would you evaluate if the health promotion campaign was a success?</li> <li>• What challenges would you anticipate?</li> </ul> <p><b>Importance of dissemination of evaluation materials</b></p> <p>Hand outs:</p> <ul style="list-style-type: none"> <li>• A Mobile Sexual Health Unit Academic Poster</li> <li>• Containment of a Hepatitis A Outbreak in the Orthodox Jewish Community in Hackney Academic Poster</li> </ul>	
<b>Evaluation Summary</b>	4.50pm
<b>Finish</b>	5pm
Complete Evaluation Forms	

### Additional Materials

N.B. Bring along examples of academic posters and papers of local Public Health Promotion Campaigns which have been evaluated.

### Additional References

- I&DeA (2010). *A glass half-full: how an asset approach can improve community health and well-being*.
- Lucke, J., Donald, M., & Raphael, B. (2001). Considerations in the design of a mixed method cluster evaluation of a community programme for 'At-Risk' Young People, *Evaluation*, 7, 110-131.
- Marmot, M. (2010). *Fair Society, Healthy Lives. The Marmot Review*.
- Nutbeam, D. (1998). Evaluating Health Promotion – progress, problems and solutions. *Health Promotion International*, 13(1), 27-44.
- Jackson, C. (1997). Behavioural science and principles for practice in health education. *Health Education Research*, 12(1), 143-50.

## Appendix 3b – Slides for Health Promotion Evaluation Lecture

# HEALTH PROMOTION EVALUATION

MSc Health Psychology City University  
Health Promotion Module  
30<sup>th</sup> March 2012

Amanda Douglas  
DPsych Health Psychology Trainee working as a Public Health Strategist

## OUTLINE

- Evaluating Health Promotion Initiatives
- Outcomes and Process
- Public Health Policy Context
- Health Economics
- New Public Health Outcomes Framework
- Evaluation of SHO-me a Sexual Health Campaign
- Evaluating a Health Promotion Campaign in a response to a Hepatitis A Outbreak

- Why do we need to evaluate health promotion programmes?

## Group Task

- What are the challenges with evaluating health promotion interventions?

- What do we mean by effectiveness in health promotion?
- What represents 'value' from a health promotion programme?
- How do we determine success or failure in health promotion?
- What research methods should be used to evaluate effectiveness?

## Definition of Health Promotion

- WHO definition - Health promotion is the process of enabling people to increase control over, and to improve, their health.

It moves beyond a focus on individual behaviour towards a wide range of social and environmental interventions.

## The Purpose of Health Promotion

- Is to strengthen skills and capabilities of;
- ① individuals to take action over their health and
  - ② groups or communities to act collectively to exert control over the determinants of their health.

Actions which support people to adopt and maintain healthy lifestyles, and which create supportive living conditions for health are key elements of effective health promotion.

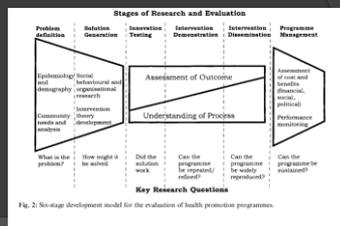
## Evaluating Health Promotion

Evaluation is an assessment of the extent to which an action achieves a valued outcome.

In Health Promotion we are interested in;

- ① Achieving identified outcomes &
- ② The process by which the outcomes are achieved.

## Evaluation Model Don Nutbeam (1998)



## Stages of Developing an Effective Health Promotion Intervention

- ① **Problem definition**
  - Epidemiological and Demographic information
  - Behavioural and social research on determinants of health
  - Community needs and perceived priorities
- ② **Solution generation**
  - Theory and intervention models
  - Evidence from past programmes
  - Experience from practitioners
- ③ **Capacity Building**
  - Mobilising resources
  - Building capacity
  - Raising public and political awareness
- ④ **Implementation**
  - Education
  - Social mobilisation
  - Advocacy
- ⑤ **Process, impact and outcome evaluation**
  - Monitoring
  - Health and social outcomes
  - Impact measures
  - Programme evaluation

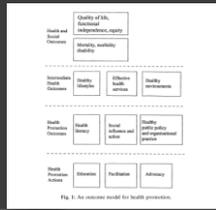
## Problem definition – Starting at the End

- ① Identify long term goals and short term targets
- ② Priorities for an intervention
- ③ Identify priority health and social outcomes
- ④ Defined population
- ⑤ Modifiable determinants of priorities
- ⑥ Definition of outcomes to be achieved
- ⑦ Target population/ group/ geographical area of intervention

## Implementation

- ① Monitoring and recording of intervention
- ② Understanding the process of implementation
- ③ Provides guidance for best practice
- ④ Understand the conditions which allow the intervention to take place
- ⑤ Key stakeholders
- ⑥ Evidence for Process Evaluation
- ⑦ Replicability - Best Practice

## An Outcome Model for Health Promotion Don Nutbeam (1998)



## Health Promotion Outcomes

### Intervention Impact Measures

- Health Literacy – health-related knowledge, attitudes, motivation, behavioural intentions, self efficacy
- Social Action and Influence – community participation, community empowerment, social norms, public opinion
- Healthy Public Policy and Organisational Practice – policy statements, legislation, regulation, resource allocation

## Intermediate Health Outcomes

### Modifiable determinants of health

- Healthy Lifestyles – tobacco use, food choice, physical activity, alcohol and drug use
- Effective Health Services – provision of and accessibility of appropriate services and preventative services
- Health Environments – safe physical environment, supportive economic and social conditions, restricted access to alcohol and tobacco products.

## Health and Social Outcomes

- Social Outcomes – quality of life, functional independence, equity
- Health Outcomes – reduced morbidity, disability, avoidable mortality

## Outcome Indicators

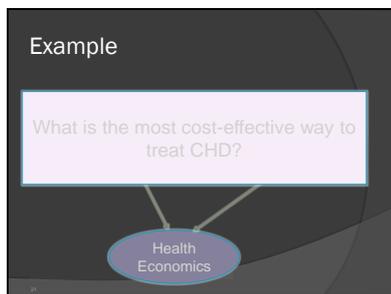
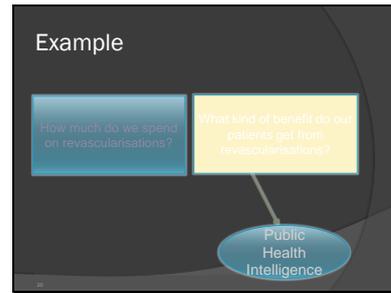
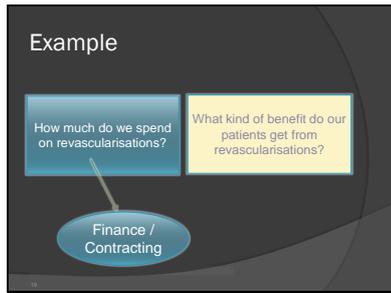
Health literacy:  
 knowledge relevant to the problem of tobacco  
 self-confidence in relation to defined tasks  
 self-efficacy  
 self-empowerment  
 attitudes and behavioural intentions  
 future orientation  
 participation in health promotion programmes.

Social mobilisation:  
 community competency  
 community empowerment  
 social capital  
 social connectedness  
 peer and community norms  
 public opinion and public models for policy action  
 community ownership of health promotion programmes.

Public policy and organisational practice:  
 policy statements  
 legislation and regulations  
 organisational procedures, rules and administrative structures  
 management practices  
 funding and resource allocation  
 transnationalisation of health promotion programmes.

## Whose Agenda?

- Commissioner / Provider
- Local Government
- Central Government
- Policy Makers
- Health Promotion Practitioners



- ### Measuring Health Status
- ◉ Mortality rates
  - ◉ Morbidity rates
  - ◉ Measures of functioning
  - ◉ Subjectivity health status
  - ◉ Quality of life measures

- ### Health Economics
- ◉ Health economics is concerned with understanding individuals' and society's preferences about health, and how best to use scarce resources in healthcare systems.
  - ◉ Health economics supports:
    - Economic evaluation of programmes and interventions
    - Modelling the impact of new pathways and interventions
    - Support for prioritisation and choosing most cost effective options
    - Understanding the interaction between social and economic factors and health outcomes

- ### Specific Issues related to Public Health Economics
- ◉ Multi sector effects – i.e. Teenage pregnancy interventions – benefits do not all fall to health system so are harder to measure
  - ◉ Effects of interventions are often measured at an individual level (although often aggregated and/or averaged out) while public health interventions may increase community cohesion or resilience which is not easily measured at an individual level
  - ◉ Public health interventions often evolve or are applied differently across populations, so can be hard to evaluate or compare like with like

## NICE Guidance

- Since 2006 NICE (National Institute for Health and Clinical Excellence) have produced Public Health Guidance, alongside their other functions of producing clinical guidance and technology appraisals.

## NICE Rationing

- NICE was formed in 1999 – this was to stop postcode lottery e.g. for beta interferon, IVF, varicose veins surgery etc.
- NICE mainly look at new interventions.
- NICE recommends treatments to the NHS or refuses to recommend treatments if they are too expensive, for instance usually if the ICER (incremental cost effectiveness ratio) is greater than £30,000 per QALY.
- Since 2006, NICE have also produced public health guidance.

## What are QALYs?

- Used for **cost utility analysis**
- QALYs = utility (or quality of life) \* years
- Utility is typically measured using standard quality of life questionnaires e.g. EQ5D
- These life states are then converted to utility scores using population value sets derived using three main methods: time trade off, visual analogue scale and standard gamble.

## EQ-5D Questionnaire

By choosing a tick to each box, or each group below, please indicate which statement best describes your usual state today:

<b>Mobility</b>	
Have no problems in walking about	<input type="checkbox"/>
Have some problems in walking about	<input type="checkbox"/>
Can't walk at all	<input type="checkbox"/>
<b>Self-Care</b>	
Have no problems with self-care	<input type="checkbox"/>
Have some problems washing or dressing myself	<input type="checkbox"/>
Can't wash or dress myself	<input type="checkbox"/>
<b>Usual Activities (e.g. work, study, housework, family or social activities)</b>	
Have no problems with performing my usual activities	<input type="checkbox"/>
Have some problems with performing my usual activities	<input type="checkbox"/>
Can't perform my usual activities	<input type="checkbox"/>
<b>Pain/Discomfort</b>	
Have no pain or discomfort	<input type="checkbox"/>
Have moderate pain or discomfort	<input type="checkbox"/>
Have extreme pain or discomfort	<input type="checkbox"/>
<b>Anxiety/Depression</b>	
Can't think of anything to do	<input type="checkbox"/>
Can't remember anyone or depressed	<input type="checkbox"/>
Can't remember anyone or depressed	<input type="checkbox"/>

## How a QALY is calculated

- Patient x has a serious, life-threatening condition.
- With standard treatment he will live for 1 year and his quality of life will be 0.4 (0 or below = worst possible health, 1 = best possible health)
- If he receives a new drug he will live for 1 year 3 months (1.25 years), with a quality of life of 0.6.

## How a QALY is calculated

The new treatment is compared with standard care in terms of the QALYs gained:

Standard treatment: 1 (year's extra life) x 0.4 = 0.4 QALY

New treatment: 1.25 (1 year, 3 months) x 0.6 = 0.75 QALY

Difference = 0.35 QALYs



## How cost per QALY is calculated

Difference in QALYs = 0.35 QALYs  
Lets say additional cost of treatment is £7,000

$$\text{ICER} = \frac{\text{Difference in costs between treatments}}{\text{Difference in QALYs between treatments}}$$

ICER is (£7,000 / 0.35) = £20,000 per QALY

( If there is no comparator treatment then ICER is the same as cost per QALY. )

## DALYs

- DALYs are disability adjusted life years
- DALYs = Years of Life Lost (YLL) + Years Lived in Disability (YLD)
- They are used by the WHO and the World Bank as part of Global Burden of Disease (GBD) Project
- Used more often for measuring health in developing countries
- DALYs are controversial, accused of valuing life differently in different countries
- We talk about 'QALYs gained' from an intervention, or 'DALYs saved'

## Randomised Control Trials

- NICE Gold Standard
- Compare effectiveness of different interventions
- Participants are randomly assigned to either a control group or an intervention group
- Allows inferences of cause and effect – the design aims to rule out other explanations to detect change
- Weaknesses – top down, expensive, time consuming do not examine subjective experience

15 minute break

## NEW OUTCOMES FRAMEWORK FOR PUBLIC HEALTH

## Public Health Promotion Cycle



## Public Health Policy and Context

- Marmot Review (2008) reducing health inequalities in England
- 6 policy objectives;
  1. Give every child the best start in life
  2. Enable all children, young people and adults to maximise their capabilities and have control over their lives
  3. Create fair employment and good work for all
  4. Ensure healthy standard of living for all
  5. Create and develop healthy and sustainable places and communities
  6. Strengthen the role and impact of ill-health prevention

## Marmot Review (2010)

The wider determinants of health (income, education, poverty, quality of housing, physical environment, community cohesion) are profoundly linked to people's health and wellbeing.

- These same conditions determine our access to services and influence our lifestyle choices.
- Our lifestyle and behaviour has an impact on our health and wellbeing.
- Many chronic diseases are largely preventable.
- Clear gaps in health status and access to services between different groups of the populations.
- Stark inequalities exist along the social gradient.
- The economic climate and public spending cuts will have an impact on these wider determinants.
- Health outcomes are achieved by our local population. Service provision and design based on needs assessment provide the tools to allow for improvements to occur.



## Healthy Lives, Healthy People Government White Paper



## Outcomes Frameworks

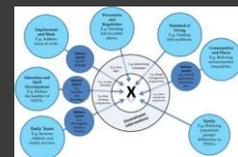
1. Adult Social Care Outcomes Framework
2. NHS Outcomes Framework
3. Public Health Outcomes Framework
4. Every Child Matters Outcomes Framework



## Social Determinants Approach

- Social determinants of health – approach to reducing health inequalities and increasing health equity in traditional public health concerns
- Need – the need is greater the more disadvantaged the community is
- Proportionate universalism – universal services however proportionate to need - more intense further down the gradient

## Social Determinants Approach



UCL Institute of Health Equity

## SHO-ME HEALTH PROMOTION CAMPAIGN EVALUATION

## Aims of SHO-me Road Show

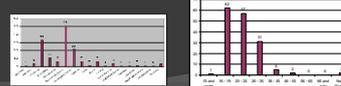
- To promote the new Sexual Health Website 'SHO-me.nhs.uk'.
- To promote local Sexual Health Services and support groups.
- To encourage people to have regular sexual health checks and to advise them what is good sexual health.
- To encourage condom use and promote other forms of contraception
- For people under the age of 25:
  - Raise awareness of Chlamydia (and other STIs) and encourage screening.
  - Promote the condom distribution scheme
- For people over the age 25:
  - To raise awareness of the importance of early HIV diagnosis
  - Encourage HIV testing (POCT: Oraquick)
  - To raise awareness of STIs.

## Methods

- A 8.5 metre mobile unit was commissioned from Event Marketing Systems.
  - The vehicle included:
    - a soft seating area
    - displays of information on safe sex, HIV, contraception and STIs
    - a private consultation room for testing
    - two on-board laptops
    - Touch screen evaluation – incentivised with a daily prize
  - For each location demographic data captured:
    - Age
    - Gender
    - Ethnicity
    - Postcode
  - Providing a snapshot into local communities, including hard to reach populations.

## Hackney Marshes: Case Study

- Sunday 30/11/8
- 'Little league' Football matches
- Over 60 teams play
- 357 people on board the unit
- 99% of attendees were male
- Able to target males, under the age of 25 from multiple ethnic groups 32% from the Turkish community, 21% White British



## HIV testing

- POCT with Oraquick
- Result available in 20mins
- Pre and post test counselling given
- 106 tests performed
- <1% positivity
- 54% of population tested Male
- Raised awareness of importance of early diagnosis

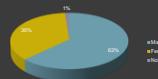


## Chlamydia Screening

- 291 screens
- 53% were male
- 23 positive results
- One diagnosis of Chlamydia saves £1,000/ person (saving of £23,000).



## Condom Distribution



TOTAL SAMPLE = 1321

- People were given packs of condoms
- Data was recorded for approx 1/3 of people who boarded the bus
- This included age, gender, postcode and ethnicity
- 42% of the total were eligible to Condom Distribution Scheme

## Comments from public

### Qualitative Feedback;

"Can I take the test today"

"These buses should be here 24/7"

"This is such a great way to get people screened"

"Amazing idea"

"I can't believe how easy being tested is"

## Aims of SHO-me Website



- To engage with the North East London population increasing awareness and education about sexual health
- To drive awareness of the sexual health services in the area
- To encourage the community to act responsibly and be aware of the sexual health risks that could be associated with their lifestyle choices
- To be culturally sensitive and accessible to all

## www.SHO-me.nhs.uk

- Website developed by Merchant Healthcare marketing
- Website officially launched on 24/11/8
- This coincided with a 4 week London based bus campaign:



## Google Analytics

- 8,168 unique visits were made to the SHO-me website in the first 3 months.
- average time on the site is 2:16

### Top 5 words

- Thrush
- Genital Warts
- Pregnancy
- Chlamydia
- Discharge

## Ask Dr Sarah

- Approx 50 questions asked
- Variety of questions
  - Erectile Dysfunction
  - What to expect at a Sexual Health clinic
  - I have Chlamydia, what should my partner do?
  - Can I get contraception if I am under 16?
- Feedback from users:
  - "Really useful way of getting direct medical advice"

## Multi Perspective Outcomes

- Website received 8,000 unique hits in the first 3 months.
- Over 7,000 interactions took place during the 24 day tour and over 500 tests were conducted.
- 4,711 people had direct contact with a health advisor.
- On average 1151 people visit clinics over a typical month.
- 30% increase in STI screens in the borough during the period of the tour.
- The cost of the unit was £69,231 – the cost of performing the same number of screens in a GU clinic at £184 per new patient under (PBR) would have been £93,795.

## Public Health Outcomes

- Contributed to reaching Chlamydia Screening Target
- Raised awareness and accessibility of sexual health services
- Increased knowledge of sexual health
- Increased accessibility to free condom scheme
- Increased awareness of importance of early diagnosis for HIV
- Contributed to rise in screens across Borough

## Targeted Health Promotion Campaign in Hackney

A Hepatitis A Outbreak in Hackney's Charedi Community

The Health Promotion Campaign aimed to;

- Promote awareness of infection in the community
- Encourage GPs to report cases to the HPU
- Promote good hand hygiene practices in schools
- Encourage uptake of free Hepatitis A immunisation in children

## Group Work

- What outcomes would you expect?
- How would you develop an evidence base?
- What data would you collect and when?
- How would you evaluate if the health promotion campaign was a success?
- What challenges do you anticipate?

## Hands up for Max



## Targeted Health Promotion Campaign

- Communications plan; press releases, adverts and posters
- Utilised previous campaign Hands up for Max
- Involvement of faith leaders and rabbinate through Orthodox Health Forum
- Targeted immunisation campaign within schools (1- 11 year olds)
- Additional immunisation session available within community setting
- Local enhanced services developed with GPs and Walk in Centres

## Outcomes

- 29 reported cases
- 17 sampled
- 14 confirmed cases
- Immunised
  - 120 household or family contacts
  - 60 contacts at yeshivas
  - 300 children attending same school/ nursery as case
  - 470 children who attended a day camp
- Difficult to evaluate the impact of targeted health promotion campaign in controlling the outbreak.

## Evaluation Overview

- |  |  |
|--|--|
| <p><b>Outcome Evaluation</b></p> <ul style="list-style-type: none"> <li>• Cost of doing nothing</li> <li>• Define the 'value'</li> <li>• Define expected/ anticipated outcomes</li> <li>• Cost benefit</li> <li>• Cost effectiveness – danger emphasis is on the short term</li> </ul> <p><b>Process Evaluation</b></p> <ul style="list-style-type: none"> <li>• Monitor process of implementation</li> <li>• Understand conditions</li> <li>• Assets needed for implementation</li> </ul> | <p><b>Mixed Method Evaluation</b></p> <ul style="list-style-type: none"> <li>• Benefit of qualitative and quantitative data</li> <li>• Understand experience</li> <li>• Patient centred approach</li> </ul> <p><b>Influence Investment, programme adoption and policy making</b></p> <ul style="list-style-type: none"> <li>• Disseminate findings</li> <li>• Understand key stakeholders agendas/ priorities</li> <li>• Prevention = investment</li> <li>• Investment in social determinants = long term health benefits</li> </ul> |
|--|--|

## Finally....

- Please complete the evaluation form

Thank you!

## References

- I&DeA (2010). *A glass half-full: how an asset approach can improve community health and well-being.*
- Lucke, J., Donald, M., & Raphael, B. (2001). Considerations in the design of a mixed method cluster evaluation of a community programme for 'At-Risk' Young People. *Evaluation, 7*, 110-131.
- Marmot, M. (2010). *Fair Society, Healthy Lives. The Marmot Review.*
- Nutbeam, D. (1998). Evaluating Health Promotion – progress, problems and solutions. *Health Promotion International, 13*(1), 27-44.
- Jackson C (1997). Behavioural science and principles for practice in health education. *Health Education Research, 12*(1), 143-50.

**Appendix 3c – Attendance List**

MSc Health Psychology City University

Health Promotion Evaluation workshop

15.03.2013

Attendance List

	<b>Name</b>	<b>Signature</b>
1.		
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## Appendix 3d – Health Promotion Evaluation Workshop Evaluation Sheet

MSc Health Psychology City University

Health Promotion Evaluation Workshop

### Evaluation Sheet

Please could you rate the following areas of the teaching session by putting a cross X in the box to indicate your response.

Area	Poor	Satisfactory	Good	Excellent
How was the organisation of the session?				
How well did the session meet the aims and objectives set?				
How were the speaker's communication skills?				
How was the content of the presentation?				
How were the relevance of the group tasks?				
How were materials provided?				
How was the				

relevance of the session to the Health Psych MSc training?				
How was the pace of the session?				
Your understanding of Health Promotion in Practice after having attended this session is?				

What did you find the most interesting/ useful feature of the session?

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Are there any ways this session could be improved?

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Any further comments

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Many thanks for your time!

## Appendix 4a – Lecture Plan for Health Promotion Lecture

<p style="text-align: center;"><b>Lecture Plan</b></p> <p style="text-align: center;"><b>Health Promotion Module PSM404</b></p> <p style="text-align: center;"><b>Social Marketing and Community Level Interventions</b></p> <p style="text-align: center;"><b>Health Psychology in Practice</b></p> <p style="text-align: center;"><b>8<sup>th</sup> March 2013</b></p> <p style="text-align: center;"><b>2pm – 5pm</b></p>
<p><b>Aims and Objectives</b></p> <p><b>Aims</b></p> <p>The aim of this course is to introduce students to the theory and application of health promotion. The course builds on knowledge gained in PSM401 (theoretical foundations) and illustrates how theory can be applied to develop and design health promotion materials and activities. An historical perspective will be used to aid students' understanding of the evolution of the health promotion field.</p> <p><b>Objectives</b></p> <p>At the end of this course students will:</p> <ul style="list-style-type: none"><li>• Understand the theoretical underpinnings of health promotion and be able to apply this knowledge at a variety of levels and in a variety of settings.</li><li>• Have worked collaboratively to develop an evidence-based health promotion campaign and be able to propose appropriate methods of evaluation.</li><li>• Have gained up-to-date knowledge of the role of health promotion in changing health behaviours and understand the UK government stance on promoting healthy lifestyles.</li><li>• Understand the wider impact of socio-cultural factors, especially health inequalities, on health promotion activities.</li><li>• Have explored some psychological variables which shape the interpretation and efficacy of health promotion materials (e.g. risk perception, message framing).</li></ul> <p><i>Teaching and Learning Methods</i></p> <p>The module will consist of lectures and group activities. Visiting expert lecturers will provide working examples of health promotion to encourage depth of understanding. Half hour sessions each week will be devoted to student-led topics posted on Moodle. A course review to promote consolidation of the learning materials will take place in Week 9.</p> <p><b>This lecture will focus on</b></p> <ul style="list-style-type: none"><li>- Social capital &amp; health promotion</li><li>- Settings' based health promotion – e.g. schools workplaces etc (cross-over with</li></ul>

<p>individual-level health promo) Week 5</p> <ul style="list-style-type: none"> <li>- Social marketing theory</li> <li>- Social marketing campaigns/ Media campaigns</li> </ul>	
<p>Sign Attendance Sheet</p> <p><b>Introduction</b></p> <p>Safe learning environment</p> <p>Set Aims and Objectives</p> <p>Parking Lot – Qs issues to come back to</p> <p>Hand out</p> <ul style="list-style-type: none"> <li>• Smith, B., Tang, K., &amp; Nutbeam, D. (2006). <i>WHO Health Promotion Glossary: new terms</i>. Health Promotion International, 21 (4), 340 -345.</li> </ul>	<p>2pm</p>
<p><b>Reviewing Learning to date</b></p> <p><b>Get to know group</b> – ask if anyone would like to share their experiences of health promotion.</p> <p>Focus on Health Promotion at a community level.</p> <p>Example – Smoking cessation</p> <p>Individual – 1:1 stop smoking advice</p> <p>Community – Smoke Free Children’s Play areas in parks, Student Tobacco Control Ambassadors scheme across schools</p> <p>Policy – Tobacco Control, Smoke Free legislation</p> <p><b>Health Promotion and Behaviour change</b></p> <ul style="list-style-type: none"> <li>- Marmot – behaviour product of our lifestyle which is affected by a number of social factors</li> <li>- Wider determinants of health resulting in inequalities</li> <li>- Social determinants approach</li> <li>- Importance of Social Capital &amp; how to increase levels</li> </ul> <p><b>Community Level Interventions</b></p> <ul style="list-style-type: none"> <li>- Local examples</li> </ul> <p>Hand outs</p> <ul style="list-style-type: none"> <li>• Nutbeam, D. (2000). <i>Health Literacy as a Public Health goal: a challenge for contemporary health education and communication strategies into the 21<sup>st</sup> century</i>. Health Promotion International, 15 (3), 259-267.</li> <li>• NICE Public Health Guidance 6 (2007) Behaviour Change at</li> </ul>	<p>2.10pm</p>

<p>population, community and individual levels</p> <ul style="list-style-type: none"> <li>Article from Hackney Gazette on smoking cessation (23<sup>rd</sup> Feb 2012)</li> </ul>	
<p><b>Social Marketing</b></p> <p><b>Interactive session</b></p> <p>Explore knowledge and experience through discussion around student's experience of social marketing.</p>	2.40pm
<p><b>Break (10 mins)</b></p> <p>Opportunity to look at Public Health Promotion Campaign Materials.</p>	3pm
<p><b>Context of Health Promotion in Practice in Public Health</b></p> <p><b>Health Care Reforms</b></p> <p>Health Promotion in Public Health</p> <p>Hand out:</p> <ul style="list-style-type: none"> <li>Nutbeam, D. (1996). <i>Achieving 'best practice' in health promotion: improving the fit between research and practice.</i> Health Education Research: Theory and Practice, 11(3), 317-326.</li> </ul>	3.10pm
<p><b>Settings Based Approach</b></p> <p>Example of settings based approach in practice – 'Burn Calories Not Electricity' Campaign</p> <p>Show students the bright green motivational signage stair prompts</p> <p>Challenges</p> <p>Hand outs:</p> <p>Lee, K., Perry, A., Wolf., S., Agarwal, R., Rosenblum, R., et al (2012). <i>Promoting Routine Stair Use. Evaluating the impact of a stair prompt across buildings.</i> American Journal of Preventative Medicine, 42 (2), 136-141.</p>	3.20pm
<p><b>Group Work – Health Promotion Campaigns</b></p> <p>Brainstorm about health promotion campaigns</p> <ul style="list-style-type: none"> <li>Key messages</li> <li>Who was the campaign targeting</li> <li>What were the key aims and objectives</li> <li>What approach was used</li> <li>Effectiveness of Campaign</li> </ul>	<p>3.30pm</p> <p>5 min brainstorm in pairs</p> <p>5 min feedback</p>
<p><b>Developing an Effective Health Promotion Intervention – a real life example</b></p>	3:40pm

<b>Group Work (20 mins)</b> Develop a proposal for a health promotion campaign in response to a Public Health need. Hand outs 3. UCL Institute of Health Equity Proposed criteria for selection and prioritisation of Interventions. 4. Extract on Immunisation from City and Hackney JSNA 2011.	4.10pm
<b>Group Presentation</b>	4.30pm
<b>Summary of key steps</b>	4.50pm
<b>Finish</b> Complete Evaluation Form	5pm

### Additional Materials

N.B. Bring along examples of different types of Health Promotional Materials from Public Health campaigns.

### Additional References

1. Beattie, A. (1991). *Knowledge and control in health promotion: a test case for social policy and social theory*. In, *The Sociology of the health service*. London: Routledge.
2. Cropper, S. & Ong, P. (2002). *How did 'social capital' translate in Salford and Nottingham? Social Action Research Project: findings of the process evaluation*. Unpublished presentation at the Social Action for Health and Wellbeing Conference, London, 20–21 June 2002.
3. French, J. (1990). *Boundaries and Horizons, the role of health education within health promotion*. *Health Education Journal*. 49: 7-10.
4. French, J., Blair-Stevens, C., McVey, D., & Merritt, R. (2010). *Social Marketing and Public Health Theory and Practice*. Oxford University Press.
5. Gillies, P. (1998). *The effectiveness of Alliances and Partnerships for Health Promotion*. *Health Promotion International*. 13(2): 99-120.
6. Griffiths, J. Blair-Stevens, C. & Thorpe, A. (2008). *Social Marketing for health and specialised health promotion. Strong together- weaker apart. A paper for debate*, Royal Society for Public Health. National Marketing Centre.
7. Halpern, D. (2004). *Social Capital*. Cambridge: Polity Press.
8. I&DeA. (2010). *A glass half-full: how an asset approach can improve community health and well-being*.

9. Jackson, C. (1997). *Behavioural science and principles for practice in health education*. Health Education Research, 12(1), 143-50.
10. Lalonde, M.(1974). *A New Perspective on the Health of Canadians*. Government of Canada, Ottawa.
11. Lee, K., Perry, A., Wolf, S., Agarwal, R., Rosenblum, R., et. al (2012). *Promoting routine stair use. Evaluating the impact of a stair prompt across buildings*. American Journal of Preventive Medicine; 42(2): 136 –141).
12. Marmot, M. (2010). *Fair Society, Healthy Lives*. The Marmot Review.
13. Whitelaw, S., Baxendale, A., Bryce, C., Machardy, L., Young, I., & Witney, E. (2001). *Settings base health promotion: a review*. Health Promotion International,16 (4), 339-353.

### **Useful Websites**

#### Health Promotion

<http://www.who.int/healthpromotion/conferences/previous/ottawa/en/index1.html>

[http://www.who.int/healthy\\_settings/en/](http://www.who.int/healthy_settings/en/)

#### Health Care Reforms

<http://healthandcare.dh.gov.uk/category/public-health/phe/>

<http://healthandcare.dh.gov.uk/system>

#### Social Marketing

<http://makingitcount.org.uk/files/MiC-briefing-6-SocialMarketing.pdf>

#### Active Design

<http://www.designcouncil.org.uk/our-work/CABE/Localism-and-planning/Health-/Health-events/Active-Design-Briefing/>

[http://www.nyc.gov/html/ddc/html/design/active\\_design.shtml](http://www.nyc.gov/html/ddc/html/design/active_design.shtml)

## Appendix 4b – Slides for Social Marketing and Community Interventions Lecture

MSc Health Psychology City University London  
Health Promotion Module  
8<sup>th</sup> March 2013

### Social Marketing and Community Level Interventions Health Psychology in Practice

Amanda Bunten BSc MSc DipHEP  
DPsych Health Psychologist Trainee working as a Public Health Strategist

### Introduction

- Review learning to date
- Set aims and objectives of session
- Community Level Interventions
- Settings Based Approach
- Social Marketing and Health Promotion
- Health Promotion and Public Health
- Experience of a Health Psychologist in Practice
- Group Work

### Overview

- Health Promotion and Behaviour Change
- Health Inequalities & Social Determinants
- Social Capital and Health
- Community Level Health Promotion
- Behaviour Change & Social Marketing
- The role of the Health Psychologist in Health Promotion
- Public Health Policy and Context: Health Care Reforms
- Health Promotion and Public Health
- Settings Based Approach to Health Promotion
- Developing an effective health promotion intervention
- A Community Level Health Promotion case study
- Group Task

### Health Promotion

- WHO definition - Health promotion is the process of enabling people to increase control over, and to improve, their health.

It moves beyond a focus on individual behaviour towards a wide range of social and environmental interventions.

### Models of Health Promotion

Naidoo and Wills (2000)

- Medical
- Behaviour Change
- Educational
- Empowerment
- Social change

Underpinned by:

- Meaning of health
- Locus of control
- Nature of knowledge
- Nature of society

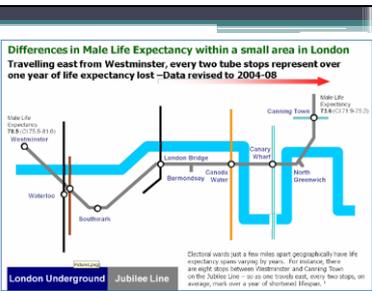
### Typology adapted from French (1990)

	<p><b>DISEASE MANAGEMENT</b></p> <ul style="list-style-type: none"> <li>• Curative services</li> <li>• Management Services</li> <li>• Caring services</li> </ul>	
<p><b>DISEASE PREVENTION</b></p> <ul style="list-style-type: none"> <li>• Preventative services</li> <li>• Medical services</li> <li>• Behaviour change</li> </ul>		<p><b>HEALTH EDUCATION</b></p> <ul style="list-style-type: none"> <li>• Agenda setting</li> <li>• Empowerment and support</li> <li>• Information flow</li> </ul>
	<p><b>POLITICS OF HEALTH</b></p> <ul style="list-style-type: none"> <li>• Social action</li> <li>• Policy development</li> <li>• Economic and fiscal policy</li> </ul>	

## Health Promotion & Behaviour Change

- Lalonde 'Health Field concept' identifies health behaviour as one of the key determinants of health and disease.
- Lifestyle choices and behaviour impact on health and wellbeing.
- Behaviour changes approaches can be made and an individual, group or population level.
- Need to tackle social determinants to achieve improvements in health (Marmot Review).

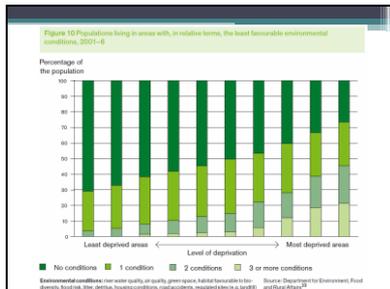
*"People with higher socioeconomic position in society have a greater array of life chances and more opportunities to lead a flourishing life. They also have better health. The two are linked: the more favoured people are, socially and economically, the better their health. This link between social conditions and health is not a footnote to the 'real' concerns with health – health care and unhealthy behaviours – it should become the main focus". (Marmot, 2008)*



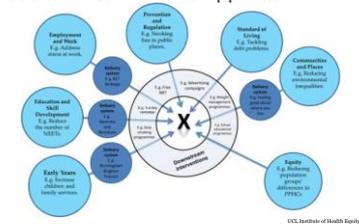
## Marmot Review (2010)

The wider determinants of health (income, education, poverty, quality of housing, physical environment, community cohesion) are profoundly linked to people's health and wellbeing.

- These same conditions determine our access to services and influence our lifestyle choices.
- Our lifestyle and behaviour has an impact on our health and wellbeing.
- Many chronic diseases are largely preventable.
- Clear gaps in health status and access to services between different groups of the population.
- Stark inequalities exist along the social gradient.
- The economic climate and public spending cuts will have an impact on these wider determinants.
- Health outcomes are achieved by our local population. Service provision and design based on needs assessment provide the tools to allow for improvements to occur.



## Social Determinants Approach



## Addressing Community Inequalities

- 'People with good social networks live longer than those with poor networks'.  
(The Acheson Report, 1998, Marmot 2010, Wilkinson 2006)
- The National Strategy for Neighbourhood Renewal explicitly identifies the failure to tackle the erosion of social capital as a key reason for the failure of previous regeneration initiatives.

## What is Social Capital?

- Refers to the processes between people that establish networks, norms and social trust, and facilitate coordination and cooperation for mutual benefit (WHO, 1998).
- Social capital represents the degree of social cohesion in communities. The links between individuals, within and between communities
  - Provides a source of resilience against risks of poor health and physical and mental wellbeing.
  - Key elements of social capital include:
    - Social resources – informal arrangements between neighbours or within a faith community
    - Collective resources – self-help groups, credit unions, community safety schemes
    - Economic resources – levels of employment; access to green, open spaces
    - Cultural resources – libraries, art centres, local schools.

## Social Capital (Putnam, 1993)

- Putnam defines social capital in terms of 4 characteristics;
  - The existence of community networks
  - Civic engagement (participation in these community networks)
  - Local identity and a sense of solidarity and equality with other community members
  - Norms of trust and reciprocal help and support.

Dimensions of social capital (Source: Cropper and Ong, 2002)



## Social Capital & Health Promotion

- Types of Health Promotion;
- Community Action
  - Environmental Interventions
  - Behavioural Interventions
- Community empowerment – community development, create active participating communities – bring about change through a programme of action

## What is Community based Health Promotion?

- Process driven & activity directed
- Not done to people – developed with people – appreciative enquiry
- Involving, engaging and empowering people and communities
- Capacity & Resilience building - strengthen the skills and capabilities of groups/communities to act collectively to exert control over the determinants of their health.
- Working across boundaries and partnerships. Improving health and wellbeing.
- Supporting communities to achieve better health outcomes by making healthier choices and making healthier choices easier.

### Community Based Approaches

- A large review of social interventions carried out in 1997 (Gillies, 1998) found that community-based approaches have had a significant impact on:
  - Individual behaviours
  - Access to services and information
  - Service use
  - Education
  - Physical environment
  - Health status.
- Implications for urban planning and design:
  - Design and Planning - Active design principles and active travel
  - Regeneration of public realm
  - Place shaping - Availability of green spaces
  - London Legacy Commitments
- Local Examples:
  - Community Kitchens - developing estate based health champions and sharing skills for healthy cultural cooking
  - Estate to Plate initiative - reduction in social isolation

<http://www.planning.london.gov.uk/2016/06/06/>

### Principles to Guide Behavioural Approaches to Health Promotion

- Acquiring new behaviours/ changing pre-existing behaviours is a process, not an event.
- Psychological factors; beliefs, attitudes, and values, physical and social environmental factors; housing, education, work, socioeconomic status and our experiences all influence how we behave.
- The more rewarding a behaviour the more likely it is to be repeated the more unpleasant the less likely.

### Beattie's Model of Behaviour Change (1991)

### Social Marketing

**Who would we like to do what, and how can we best encourage them to do it?**

- Social marketing is a behavioural approach that is increasingly being used to achieve positive impacts on the lives of individuals and groups and to help sustain these.
- Social marketing has been used to influence :
  - breast feeding, hand washing, healthy eating, cervical screening, environmental impact, smoking cessation and increased physical activity.
- Examples:
  - 'Talk to Frank' - an intervention to reduce drug use among young people
  - 'Give up before you clog up' - an intervention to raise awareness about the impact of smoking on heart disease in order to bring about a reduction in the number of smokers
  - 'If you knew about flu you'd get the jab' - an intervention to encourage uptake of free flu vaccination among people over 65.
- Research suggests that a health-related social marketing intervention stands the greatest chance of success when the behaviour is a unitary choice (e.g. smoke/ not smoke) rather than multiple choices (e.g. no sex/ non-penetrative sex/ condom use/ withdrawal).

Adapted from French and Blair-Stevens, 2010

Social Marketing is: the systematic application of marketing, alongside other concepts and techniques, to achieve specific behavioural goals, for a social good.

French and Blair-Stevens (2007)

### Differences between social marketing and health promotion

SOCIAL MARKETING	HEALTH PROMOTION
Behavioural impact is the main goal	Main goal is to improve health and reduce inequalities, including support for behaviour change
Works with the commercial sector and private sector	Focus has generally been on absence for official communities as well as engagement with public health priorities
Tends to focus on short- and medium-term success	Views success in medium- to long-term time frames
Utilises evidence from commercial marketing and market research as well as social science research	Tends to only utilise social science research but is implemented across range of health and social care and clinical environments
Sees social capital as a factor in achieving behavioural goals	Sees social capital as a legitimate goal in its own right
Segmentes populations according to demographics, behaviour and psychographics (beliefs, attitudes, opinions)	Targets populations according to demographics (age, gender, ethnicity etc.)
Sees personal motivations and barriers to behaviour change as particularly important to understand	Takes account of wider social barriers to behaviour change (eg. Stigma, homophobia etc.) as well as personal motivations
Usually starts by the social marketers defining which behaviour they would like to change and why	Begins by identifying unmet need and then works to empower individuals to make their own decisions about behaviour change

- ### Social Marketing Approach
- (French and Blair-Stevens, 2006)
1. **Customer orientation** - robust understanding of the audience
  2. **Behaviour and Behavioural Goals** – specific behaviour goals
  3. **Theory Based** – behavioural theory
  4. **Insight** – based on work to develop a deeper insight into peoples lives with strong focus on what will motivate and move people
  5. **Exchange** – perceived and actual cost vs perceived and actual benefits
  6. **Competition** – internal and external
  7. **Segmentation** - utilises what motivates the relevant audience and directly tailors intervention
  8. **Methods mix** – intervention or marketing mix – design, inform, control, educate, service provision

- ### Health Promotion and Social Marketing
- Common desire to encourage healthy behaviour
  - Explores the needs, attitudes and experiences of their target populations
  - Seeks to understand the context in which behaviour occurs
  - Develop tailored interventions to meet the needs of the target population
  - Social marketing attempts to change behaviour by influencing the real and perceived benefits and costs that may result from a behaviour, and people's perceptions of how likely those benefits and costs are to arise.
  - Social marketing attempts to persuade the audience that there is more to gain than lose by adopting a positive health behaviour.

- ### The role of the Health Psychologist in Health Promotion
- ▶ Support people and communities to improve their health and wellbeing.
  - ▶ Support people and communities to make positive changes to their lifestyle and behaviour.
  - ▶ Provide guidance on behaviour change interventions utilising existing theories and frameworks.
  - ▶ Engage with a range of stakeholders and partner organisations.
  - ▶ Contribute to the health promotion evidence base through rigorous evaluation and dissemination of findings and best practice.
  - ▶ Inform and influence public policy and environmental planning.

### 10 minute Break

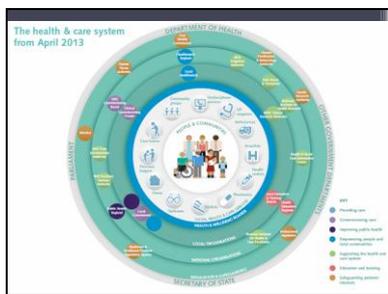
- ### Working as a Health Psychologist in Public Health
- ▶ Health Promotion, Health Improvement & Health Protection
  - ▶ Improve the health and wellbeing of our local population
  - ▶ Work with the local community to improve health outcomes
  - ▶ Reduce health inequalities – address social determinants of health
  - ▶ Protect the health of the local population from hazards or threats
  - ▶ Work with health and social care providers; Primary, Community and Acute.

## Health Care Reforms

- **Health and Social Care Act (March 2012)**
  - establishes an independent NHS Board to allocate resources and provide commissioning guidance
  - increases GPs' powers to commission services on behalf of their patients
  - strengthens the role of the Care Quality Commission
  - develops Monitor, the body that currently regulates NHS foundation trusts, into an economic regulator to oversee aspects of access and competition in the NHS
  - abolition of Primary Care Trusts and Strategic Health Authorities to help meet the Government's commitment to cut NHS administration costs by 1/3.

## New Health System from April 2013

- **NHS Commissioning Board**
  - accountable for Clinical Commissioning Groups and will, itself, oversee specialised services commissioning and the commissioning of primary care services
  - 4 Regional Teams, 27 Local Area Teams
- **Clinical Commissioning Groups**
  - responsible for commissioning of secondary and community-based health care
- **Public Health England**
  - will encompass the NTA, HPA and be responsible for a number of health intelligence functions including the cancer registries and Regional observatories, former government office functions
  - 4 regions, 15 centres
- **Move of Public Health into Local Authorities**
  - Ring fenced budgets
  - Establishment of local Health and Wellbeing Boards to oversee the delivery of strategy locally



## Commitment to Public Health

- **Vision:** To improve and protect the nation's health and wellbeing, and improve the health of the poorest fastest
- **Outcome 1:** Increased healthy life expectancy
- **Outcome 2:** Reduced difference in life expectancy and healthy life expectancy between communities

## Health Promotion Campaigns in Public Health

- Develop local and translate National Campaigns
- Based on need of local population and specific communities – targeted, tailored interventions
- Conduct Health Needs Assessments & utilise local intelligence
- Linked to Outcomes Framework
- Commissioning Strategy Plans – sets out commissioning intentions - areas to invest
- Evidence based & Outcome focused.

Approaches to health promotion which emphasize general empowerment through health education, community development, organisational development and change, together with health promotion effects aimed at social, administrative and political change have been shown to be most effective.  
(Jeff French, 2004)

## Settings Based Approach

"Health is created and lived by people within the settings of their everyday life; where they learn, work, play, and love." The Ottawa Charter (1986)

- Holistic
- Multi-disciplinary
- "Whole systems" approach
- Schools, universities, workplaces, cities, homes, NHS facilities, prisons etc...
- Community participation, partnership, empowerment and equity
- Integration of health promotion and sustainable development.
- Examples; Healthy Cities Programmes; Healthy Workplace Charter; Healthy Schools

## Settings Based Campaign

- **Aim:**
  - To increase daily physical activity and improve the health and wellbeing of the workforce / population of City and Hackney
- **Objectives:**
  - To introduce measures to make stairs more visible in the workplace / housing estate
  - To increase daily physical activity among staff and visitors / residents through increased use of stairs and reduced use of lifts
  - To increase awareness of the synergy between the health and sustainability agendas among stakeholders and the public
  - To improve the health and wellbeing of the workforce and population of City and Hackney

## Burn Calories Not Electricity

- Settings based approach health promotion campaign based on increasing physical activity by encouraging people to use the stairs rather than the lift.
- Utilises bright green motivational prompts through posters and signage
- Pre and post intervention observational survey & self reported surveys.



## Initial Findings

- Location 1 - saw a 3% increase overall however this was not statistically significant
- Location 2 - saw a 13% increase which was consistent among men and women
- Next Steps
  - Analyse data collected from location 3
  - Collect base line data from location 4 - which is a housing estate and then roll out intervention
  - 6 month follow up
  - Write up findings to submit to a peer review journal for publication

## Challenges Settings Based Approach

- Consistency in adopting settings based approaches.
- Up scaling individual approaches
- Assumption one size fits all
  - doesn't take into consideration individual differences; motivation, values/ beliefs, cognitions, experiences, circumstances
  - Danger of settings work exacerbating health inequalities
- Need to consider;
  - What is to be implemented (expected outcomes)
  - How this will be done
  - How long it will take
  - Nature of setting
  - Skills of the health promoter
  - Associated expectations
- Need for more critical analysis

## Group Work

- Brainstorm health promotion campaigns you are aware of.
1. What is memorable about the campaign?
  2. What were the key messages?
  3. Who was the campaign targeting?
  4. What do you think the key aims and objectives were?
  5. What approach was used?
  6. Do you think the campaign was effective?
  7. Would you do anything differently?

### Health Promotion Campaigns

- Change for Life
- Healthy Start
- Smoke Free
- Flu - Catch It Bin It Kill It
- Health Checks

### Effective Local Public Health Promotion Campaigns

- Hands up for Max - hand washing for children to reduce spread of infections
- Watch out Measles About - 'Spotty Bus'
- Who loves Chlamydia - Valentine Sexual Health Campaign
- SHO-me - Sexual Health Online
- NHS Health Checks
- Breast Awareness - 'pink bus', The small C campaign

**It's good to know.**

### Effective Health Promotion

Based on 4 basic assumptions;

1. Planned - on the basis of a thorough analysis of the problem
2. Informed - by established theory or framework
3. Implementation - create necessary conditions for successful implementation
4. Detectable - sufficient size

### Stages of Developing an Effective Health Promotion Intervention

- **Problem definition (Needs Assessment)**
  - Epidemiological and Demographic Information
  - Behavioural and social research on determinants of health
  - Community needs and perceived priorities
- **Solution generation (Planning)**
  - Theory and intervention models
  - Evidence from past programmes
  - Experience from practitioners
- **Capacity Building (Planning)**
  - Mobilising resources
  - Building capacity
  - Raising public and political awareness
- **Implementation (Doing)**
  - Education, Social mobilisation, Advocacy
- **Process, impact and outcome evaluation (Evaluation)**
  - Monitoring, health and social outcomes, impact measures, programme evaluation

### Health Promotion in Sexual Health a Community Level Approach

- The population of Hackney is very young with more than one in four (27%) residents aged under 20 years.
- It is an ethnically diverse borough with a mobile population and high numbers of hard to reach groups.
- Hackney has a high rate of teenage conception (although this has reduced markedly) and high rates of sexually transmitted infections.
- The most commonly sexually transmitted infection diagnosed in Hackney and the City is Chlamydia.
- 1 in 10 sexually active women under the age of 25 are thought to have Chlamydia and men aged between 20 and 30 are most at risk.
- Nationally it is estimated that one third of people with HIV are not diagnosed.
- It is estimated that 15% of the population in Hackney are HIV positive and undiagnosed.

**SHO-me**  
nhs.uk

### SHO-me- Sexual Health Online

Identifying the issue:

- High rates of STIs and low screening rates
- Young highly mobile population
- Need to increase Chlamydia & HIV testing
- Need to increase education around sexual health
- Need to improve access to information
- Need to improve accessibility to services
- Need to address sex as a 'taboo' subject in discrete communities
- Promote access to free condoms for under 25s

**SHO-me**  
nhs.uk

### Solution Generation (Planning)

- Engagement and Consultation
- Key stakeholder buy in
- Consultation identified Website as a good portal for information and identification of services available.
- Effective use of mobile units for previous public campaigns targeting hard to reach groups
- Educating the community about healthy sexual choices using an innovative social marketing campaign.

**SHO-me**  
nhs.uk

### Capacity Building (Planning)

- Involving stakeholders
  - Partner organisation, Local Authority, primary and secondary care services in pathway, voluntary organisations, local community – young people
- Sourcing funding
  - PCT priority reduce STIs and increase testing/ screening rates
- Sustainability of programme
  - Involvement of providers and service users

**SHO-me**  
nhs.uk

### Implementation (doing)

Website

- Out to tender for web designer
- Discovery Day – to agree look and functionality of site involvement of key stakeholders
- Content written by professionals, reviewed by health care professionals and members of the community and a young persons group
- Test dummy site
- Press releases and advertising
- Launch coincide with SHO-me road-show

Road-show

- Promotional Materials designed in collaboration with key stakeholders
- Training volunteers – key health promotion messages

**SHO-me**  
nhs.uk

### Sexual Health On Line

Aims;

- To engage with the North East London population increasing awareness and education about sexual health
- To drive awareness of the sexual health services in the area
- To encourage the community to act responsibly and be aware of the sexual health risks that could be associated with their lifestyle choices
- To be culturally sensitive and accessible to all

The screenshot shows the SHO-me website interface. At the top, there is a navigation bar with the SHO-me logo and 'nhs.uk'. Below the navigation bar, there are several sections: 'Home', 'About Us', 'Services', 'Contact Us', and 'Help & Support'. The main content area features a large image of a condom and text describing the website's purpose. There are also links to 'Home', 'About Us', 'Services', and 'Contact Us'.

## SHO-me Sexual Health Road-show

**SHO-me**.nhs.uk

**Aims:**

- To promote the new Sexual Health Website 'SHO-me.nhs.uk'.
- To promote local Sexual Health Services and support groups.
- To encourage people to have regular sexual health checks and to advise them what is good sexual health.
- To encourage condom use and promote other forms of contraception

**For people under the age of 25:**

- Raise awareness of Chlamydia (and other STIs) and encourage screening.
- Promote the condom distribution scheme

**For people over the age 25:**

- To raise awareness of the importance of early HIV diagnosis
- Encourage HIV testing (POCT: Oraquick)
- To raise awareness of STIs

## Social Marketing Approach SHO-me

**SHO-me**.nhs.uk

## Outcomes

- Website received 8,000 unique hits in the first 3 months.
- Over 7,000 interactions took place during the 24 day tour and over 500 tests were conducted.
- 4,711 people had direct contact with a health advisor.
- On average 1151 people visit clinics over a typical month.
- 30% increase in STI screens in the borough during the period of the tour.
- The cost of the unit was £69,231 – the cost of performing the same number of screens in a GU clinic at £184 per new patient under (PBR) would have been £93,795.

## Group Work - 20 minutes

NHS City and Hackney are looking to commission a health promotion initiative to increase childhood immunisation uptake in the Orthodox Jewish Community in Hackney and are looking for tenders of up to £50,000.

Your task is to work in groups of 3 or 4 to develop a proposal and deliver a 10 minute presentation.

Consider: structure, rationale, theoretical framework/ model, define aims and objectives, consider how you would measure outcomes and demonstrate effectiveness of intervention, practicalities of delivery and sustainability.

## Group Pitch Presentation

## Key steps to think about in designing a health promotion initiative

- Clear evidence based rationale
- Identify and understand need - utilise demographic and prevalence data
- Understand field - literature, best practice, NICE guidance
- Clear and measurable aims and objectives
- How will you measure Outcomes and Demonstrate Effectiveness?
- Practicalities of delivery and sustainability
- Who are the key partners, agencies, stakeholders?
- Consultation and Engagement – don't miss the 'community' out of community health promotion
- Relevance to other areas – policy informing.

Finally...

- Please complete the evaluation form

Thank you!

## References

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- Whitelaw, S., Baxendale, A., Bryce, C., Machardy, L., Young, I., & Witney, E. (2001). Settings based health promotion: a review. *Health Promotion International*, 16 (4), 339-353.

## Useful websites

- Health Promotion**  
<http://www.who.int/healthpromotion/conferences/previous/ottawa/en/index.html>  
[http://www.who.int/healthy\\_settings/en/](http://www.who.int/healthy_settings/en/)
- Health Care Reforms**  
<http://healthandcare.db.gov.uk/category/public-health/pbe/>  
<http://healthandcare.db.gov.uk/system>
- Social Marketing**  
<http://makingitcount.org.uk/files/MIC-briefing-6-SocialMarketing.pdf>
- Active Design**  
<http://www.designcouncil.org.uk/our-work/CABE/Localism-and-planning/Health-Events/Active-Design-Briefing/>  
[http://www.nyc.gov/html/ddc/html/design/active\\_design.shtml](http://www.nyc.gov/html/ddc/html/design/active_design.shtml)

**Appendix 4c – Attendance List**

MSc Health Psychology City University

Social Marketing and community level interventions workshop  
Attendance List

	<b>Name</b>	<b>Signature</b>
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**Appendix 4d**

MSc Health Psychology City University

Social Marketing and Community Level Interventions  
Workshop

Evaluation Sheet

Please could you rate the following areas of the teaching session by putting a cross X in the box to indicate your response.

Area	Poor	Satisfactory	Good	Excellent
How was the organisation of the session?				
How well did the session meet the aims and objectives set?				
How were the speaker's communication skills?				
How was the content of the presentation?				
How relevant were the group tasks set?				
How relevant were the materials provided?				
How relevant was the session to the Health Psych MSc training?				
How was the pace of the				

session?				
How would you rate your understanding of Social Marketing and Community Level Interventions after having attended this session?				

PTO

What did you find the most interesting/ useful feature of the session?

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Are there any ways this session could be improved?

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Any further comments

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Many thanks for your time!

## Appendix 5a – Lecture Plan for Health Promotion Evaluation Lecture

### Lecture Plan

#### Health Promotion Module PSM404

#### Health Promotion Evaluation

15<sup>th</sup> March 2013

2pm – 5pm

#### Aims and Objectives

##### Aims

The aim of this course is to introduce students to the theory and application of health promotion. The course builds on knowledge gained in PSM401 (theoretical foundations) and illustrates how theory can be applied to develop and design health promotion materials and activities. An historical perspective will be used to aid students' understanding of the evolution of the health promotion field.

##### Objectives

At the end of this course students will:

- Understand the theoretical underpinnings of health promotion and be able to apply this knowledge at a variety of levels and in a variety of settings.
- Have worked collaboratively to develop an evidence-based health promotion campaign and be able to propose appropriate methods of evaluation.
- Have gained up-to-date knowledge of the role of health promotion in changing health behaviours and understand the UK government stance on promoting healthy lifestyles.
- Understand the wider impact of socio-cultural factors, especially health inequalities, on health promotion activities.
- Have explored some psychological variables which shape the interpretation and efficacy of health promotion materials (e.g. risk perception, message framing).

##### *Teaching and Learning Methods*

The module will consist of lectures and group activities. Visiting expert lecturers will provide working examples of health promotion to encourage depth of understanding. Half hour sessions each week will be devoted to student-led topics posted on Moodle. A course review to promote consolidation of the learning materials will take place in Week 9.

##### **This lecture will focus on**

- Presenting an Evaluation model
- Identifying Process and Outcome Evaluation
- Research designs appropriate for health promotion

<ul style="list-style-type: none"> <li>- NHS Transition and New Public Health Outcomes Framework</li> <li>- Providing an overview of Health Economics</li> <li>- Measuring outcomes: objective disease outcomes, PROMS, QALYs</li> <li>• Examples of Evaluation in Practice <ul style="list-style-type: none"> <li>3. Evaluation of SHO-me a local Sexual Health Promotion Campaign</li> <li>4. Evaluating a Health Promotion Campaign in a response to a Hepatitis A Outbreak</li> </ul> </li> </ul>	
<p>Sign Attendance Sheet</p> <p><b>Introduction</b></p> <p>Safe learning environment</p> <p>Set Aims and Objectives – learning outcomes</p> <p>Parking Lot – questions to come back to</p> <p>Reviewing Learning to date</p> <p>Hand outs:</p> <ul style="list-style-type: none"> <li>• Health Promotion Evaluation Definitions sheet</li> </ul>	2pm
<p><b>Evaluating Health Promotion</b></p> <p>What do we mean by effectiveness in Health Promotion and how do we measure it?</p> <p><b>Evaluation Model Framework</b> (Don Nutbeam, 1998)</p> <p>Work through stages of developing an effective intervention</p> <p>Process and Measuring Outcomes</p> <p>Primary and secondary outcomes</p> <p>Assignment considerations</p> <p>Process, Impact and Outcome Evaluation</p> <p>Hand outs:</p> <ul style="list-style-type: none"> <li>• HEBS Evaluation Framework print out</li> <li>• Outcomes Framework Model print out</li> <li>• Nutbeam, D. (1998). Evaluating Health Promotion – progress, problems and solutions. <i>Health Promotion International</i>, <b>13</b>(1), 27-44.</li> <li>• Nutbeam, D. (1999). <i>The Challenge to provide ‘evidence’ in health promotion</i>. <i>Health Promotion International</i>, 14 (2), 99 – 101.</li> </ul>	2.10pm
<p><b>Whose agenda?</b></p> <p>Health and Social Care Act (2012)</p> <p>Public Health Policy and Context</p>	2:40pm

<p>New Outcomes Framework</p> <p>Measuring Health Status</p> <p>Health Economics and NICE</p> <p>QALY, DALYs and PROMs</p> <p>Hand outs</p> <ul style="list-style-type: none"> <li>• Owen, L., Morgan, A., Fischer, A., Ellis, S., Hoy, A., &amp; Kelly, M. (2011). <i>The cost effectiveness of public health interventions</i>. Journal of Public Health, 1-9.</li> <li>• Summary of cost effectiveness of Public Health Interventions hand out.</li> <li>• The Public Health Outcomes Framework for England, 2013-2016</li> <li>• Nutbeam, D. (2004). <i>Getting evidence into policy and practice to address health inequalities</i>. Health Promotion International, 19(2), 137-140.</li> </ul>	
<p><b>Example in Practice</b></p> <p>SHO-me Public Health Promotion Campaign Evaluation – Process and outcomes mapped to outcomes frameworks</p> <p>– mixed methods approach to evaluation</p>	3pm
<p><b>Group Work</b></p> <p>Example in Practice</p> <p>Hepatitis A Outbreak</p> <ul style="list-style-type: none"> <li>• What outcomes would you expect</li> <li>• How would you develop an evidence base?</li> <li>• What data would you collect and when?</li> <li>• How would you evaluate if the health promotion campaign was a success?</li> <li>• What challenges would you anticipate?</li> </ul> <p><b>Importance of dissemination of evaluation materials</b></p> <p>Hand outs:</p> <ul style="list-style-type: none"> <li>• A Mobile Sexual Health Unit Academic Poster (2010)</li> <li>• Containment of a Hepatitis A Outbreak in the Orthodox Jewish Community in Hackney Academic Poster (2012)</li> <li>• Nursery meningococcal disease cluster in the Orthodox Jewish Community in Hackney (2013)</li> </ul>	<p>3.30pm</p> <p>10 min discuss in small groups</p> <p>10 min group feedback</p>
<p><b>Evaluation Summary</b></p>	3.50pm
<p><b>Finish</b></p> <p>Complete Evaluation Forms</p>	4pm

<b>Break – 15 minutes</b>	4pm – 4.15pm
Emily Power – CRUK	4.15pm – 5pm

### **Additional Materials**

N.B. Bring along examples of academic posters and papers of local Public Health Promotion Campaigns which have been evaluated.

### **Additional References**

- I&DeA (2010). *A glass half-full: how an asset approach can improve community health and well-being*.
- Lucke, J., Donald, M., & Raphael, B. (2001). Considerations in the design of a mixed method cluster evaluation of a community programme for 'At-Risk' Young People, *Evaluation*, 7, 110-131.
- Marmot, M. (2010). *Fair Society, Healthy Lives. The Marmot Review*.
- Nutbeam, D. (1998). Evaluating Health Promotion – progress, problems and solutions. *Health Promotion International*, 13(1), 27-44.
- Jackson, C. (1997). Behavioural science and principles for practice in health education. *Health Education Research*, 12(1), 143-50.



## The Purpose of Health Promotion

- To strengthen skills and capabilities of;
- individuals to take action over their health and
  - groups or communities to act collectively to exert control over the determinants of their health.

"Actions which support people to adopt and maintain healthy lifestyles, and which create supportive living conditions for health are key elements of effective health promotion".

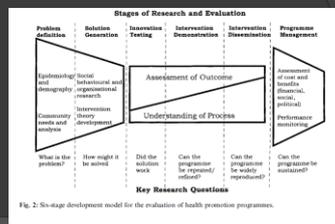
## Evaluating Health Promotion

Evaluation is an assessment of the extent to which an action achieves a valued outcome.

In Health Promotion we are interested in;

1. The process by which the outcomes are achieved.
2. The impact of the intervention/ campaign.
3. Achieving identified outcomes (primary and secondary).

## Evaluation Model Don Nutbeam (1998)



## Check list

- Effectiveness – the extent to which aims and objectives are met
- Appropriateness – the relevance of the intervention to needs
- Acceptability – whether it is carried out in a sensitive way
- Efficiency – whether time, money and resources are well spent, given the benefits
- Equity – equal provision for equal need

## Stages of Developing an Effective Health Promotion Intervention

- Problem definition (needs assessment)
  - Epidemiological and Demographic information
  - Behavioural and social research on determinants of health
  - Community needs and perceived priorities
- Solution generation (planning)
  - Theory and intervention models
  - Evidence from past programmes
  - Experience from practitioners
- Capacity Building (planning)
  - Mobilising resources
  - Building capacity
  - Raising public and political awareness
- Implementation (doing)
  - Education
  - Social mobilisation
  - Advocacy
- Process, impact and outcome evaluation (evaluation)
  - Monitoring
  - Health and social outcomes
  - Impact measures
  - Programme evaluation

## Problem definition – Starting at the End

- Identify long term goals and short term targets
- Priorities for an intervention – link to health and social outcomes frameworks
- Defined population – target group/geographical area for intervention
- Modifiable determinants of priorities
- Define outcomes to be achieved

## Implementation

- Monitoring and recording of intervention
- Understanding the process of implementation
- Understand the conditions which allow the intervention to take place
- Key stakeholders
- Evidence for Process Evaluation
- Replicability - Provides guidance for best practice

## An Outcome Model for Health Promotion Don Nutbeam (1998)

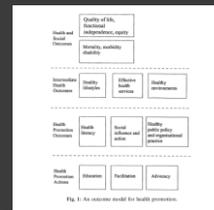


Fig. 8. An outcome model for health promotion.

## Health Promotion Outcomes

### Intervention Impact Measures/ Outcome Indicators

- Health Literacy** – health-related knowledge, attitudes, motivation, behavioural intentions, self efficacy
- Social Action and Influence** – community participation, community empowerment, social capital, social norms, public opinion, community ownership
- Healthy Public Policy and Organisational Practice** – policy statements, legislation, regulation, funding and resource allocation

## Intermediate Health Outcomes

### Modifiable determinants of health

- Healthy Lifestyles** – tobacco use, food choice, physical activity, alcohol and drug use
- Effective Health Services** – provision of and accessibility of appropriate services and preventative services
- Health Environments** – safe physical environment, supportive economic and social conditions, restricted access to alcohol and tobacco products.

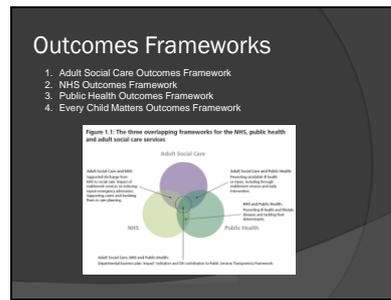
## Health and Social Outcomes

- Social Outcomes** – quality of life, functional independence, equity
- Health Outcomes** – reduced morbidity, disability, avoidable mortality

## Assignment considerations

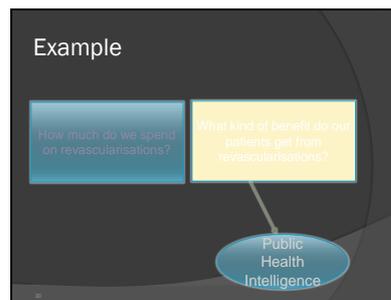
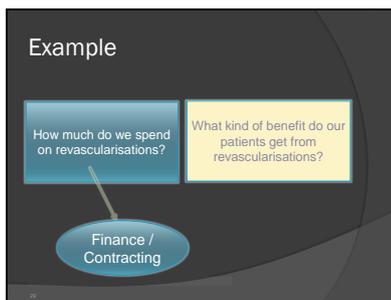
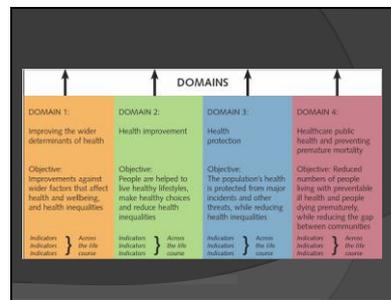
- Evidence-based rationale for target population
- Theoretical model/ frameworks, behaviour change techniques
- Psychological variables – utilise standardised measures where available
- Efficacy of health promotion materials
- Anticipated primary & secondary outcomes
- Anticipated changes in psychological variables
- Defined approach to measuring and analysing variables
- Define criteria for success or failure of the campaign
- Practicalities of evaluation approach
- Limitations in design or evaluation





### Public Health Outcomes Framework

- Vision: To improve and protect the nation's health and wellbeing, and improve the health of the poorest fastest
- Outcome 1: Increased healthy life expectancy
- Outcome 2: Reduced difference in life expectancy and healthy life expectancy between communities



## Example

What is the most cost-effective way to treat CHD?

Health Economics

## Measuring Health Status

- Mortality rates
- Morbidity rates
- Measures of functioning
- Subjectivity health status
- Quality of life measures

## Health Economics

- Health economics is concerned with understanding individuals' and society's preferences about health, and how best to use scarce resources in healthcare systems.
- Health economics supports:
  - Economic evaluation of programmes and interventions
  - Modelling the impact of new pathways and interventions
  - Support for prioritisation and choosing most cost effective options
  - Understanding the interaction between social and economic factors and health outcomes

## Specific Issues related to Public Health Economics

- Multi sector effects – i.e. Teenage pregnancy interventions – benefits do not all fall to health system so are harder to measure
- Effects of interventions are often measured at an individual level (although often aggregated and/or averaged out) while public health interventions may increase community cohesion or resilience which is not easily measured at an individual level
- Public health interventions often evolve or are applied differently across populations, so can be hard to evaluate or compare like with like.

## NICE Guidance and Rationing

- NICE was formed in 1999 – this was to stop postcode lottery e.g. for beta interferon, IVF, varicose veins surgery etc.
- NICE mainly review new interventions.
- NICE recommend treatments to the NHS or refuse to recommend treatments if they are too expensive, for instance usually if the Incremental Cost Effectiveness Ratio (ICER) is greater than £30,000 per QALY.
- Since 2006 NICE also produce public health guidance.

## QALYS (quality-adjusted life years)

- The QALY is a measure of disease burden
- It is used to measure the clinical and cost effectiveness
- Cost effectiveness is expressed as '£ per QALY'
- Used for cost utility analysis
- $QALYs = \text{utility (or quality of life)} \times \text{years}$
- Utility is typically measured using standard quality of life questionnaires e.g. EQ5D
- These life states are then converted to utility scores using population value sets.

### EQ-5D Questionnaire

By picking a tick in each group below, please indicate which statement best describes your own health state today:

**Mobility**

- Have no problems in walking about
- Have some problems in walking about
- Can't walk at all

**Self-Care**

- Have no problems with self-care
- Have some problems with self-care or dressing/makeup
- Can't perform at all or almost none at all

**Usual Activities (e.g. work, study, housework, family or other activities)**

- Have no problems with performing my usual activities
- Have some problems with performing my usual activities
- Can't perform at all or almost none at all

**Pain/Discomfort**

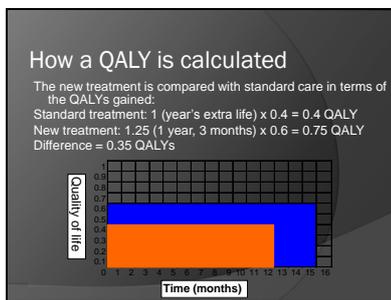
- Have no pain or discomfort
- Have moderate pain or discomfort
- Have severe pain or discomfort

**Anxiety/Depression**

- Have no anxiety or depression
- Have moderate anxiety or depression
- Have severe anxiety or depression

### How a QALY is calculated

- Patient x has a serious, life-threatening condition.
- With standard treatment he will live for 1 year and his quality of life will be 0.4 (0 or below = worst possible health, 1= best possible health)
- If he receives a new drug he will live for 1 year 3 months (1.25 years), with a quality of life of 0.6.

### How cost per QALY is calculated

Difference in QALYs = 0.35 QALYs  
 Lets say additional cost of treatment is £7,000

$$ICER = \frac{\text{Difference in costs between treatments}}{\text{Difference in QALYs between treatments}}$$

ICER is (£7,000 / 0.35) = £20,000 per QALY

( If there is no comparator treatment then ICER is the same as cost per QALY. )

- ### DALYs (disability adjusted life years)
- DALYs = Years of Life Lost (YLL) + Years Lived in Disability (YLD)
  - They are used by the WHO and the World Bank as part of Global Burden of Disease (GBD) Project
  - Used more often for measuring health in developing countries and planning health programmes.
  - DALYs are controversial, accused of valuing life differently in different countries
  - We talk about 'QALYs gained' from an intervention, or 'DALYs' saved.

- ### PROMS
- Patient Reported Outcomes – assess the quality of care delivered to NHS patients from the patient perspective.
  - PROMs calculate the health gains after surgical treatment using pre- and post-operative surveys.
  - Patient centred approach
  - Currently cover four clinical procedures:
    - hip replacements
    - knee replacements
    - hernia
    - varicose veins
- 

## Randomised Control Trials

- NICE Gold Standard
- Compare effectiveness of different interventions
- Participants are randomly assigned to either a control group or an intervention group
- Allows inferences of cause and effect – the design aims to rule out other explanations to detect change
- Weaknesses – top down, expensive, time consuming do not examine subjective experience, difficult to conduct for community level health promotion initiatives.

## More appropriate Research design for Health Promotion

Consider;

- Pre and post measures – establish a baseline
- Use of Audit to evaluate an existing service
- Questionnaires and Surveys
- Multi pronged approach – mixed methods – Qualitative and Quantitative methods
- Make use of validated measures  
<http://www.apa.org/pubs/databases/psyc-tests/index.aspx>

## SHO-ME SEXUAL HEALTH PROMOTION CAMPAIGN MIXED METHODS EVALUATION

## Aims of SHO-me Road Show

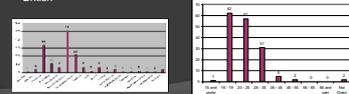
- To promote the new Sexual Health Website 'SHO-me.nhs.uk'.
- To promote local Sexual Health Services and support groups.
- To encourage people to have regular sexual health checks and to advise them what is good sexual health.
- To encourage condom use and promote other forms of contraception
- For people under the age of 25:
  - Raise awareness of Chlamydia (and other STIs) and encourage screening.
  - Promote the condom distribution scheme
- For people over the age 25:
  - To raise awareness of the importance of early HIV diagnosis
  - Encourage HIV testing (POCT, Oraquick)
  - To raise awareness of STIs

## Methods

- A 8.5 metre mobile unit was commissioned from Event Marketing Systems.
- The vehicle included:
  - a soft seating area
  - displays of information on safe sex, HIV, contraception and STIs
  - a private consultation room for screening & testing
  - two on-board laptops
  - Touch screen evaluation – incentivised with a daily prize
- For each location demographic data captured:
  - Age
  - Gender
  - Ethnicity
  - Postcode
- Providing a snapshot into local communities, including hard to reach populations.
- Unit visited 12 locations over 24 days targeting high risk hard to reach groups.

## Hackney Marshes: Case Study

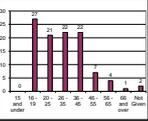
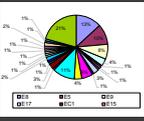
- Sunday 30/11/8
- 'Little league' Football matches
- Over 60 teams play
- 357 people on board the unit
- 99% of attendees were male
- Able to target males, under the age of 25 from multiple ethnic groups 32% from the Turkish community\*, 21% White British



### HIV testing



- POCT with Oraquick
- Result available in 20mins
- Pre and post test counselling given
- 106 tests performed
- <1% positivity
- 54% of population tested Male
- Raised awareness of importance of early diagnosis

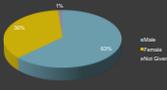
### Chlamydia Screening

- 291 screens
- 53% were male
- 23 positive results
- One diagnosis of Chlamydia saves £1,000/ person (saving of £23,000).



### Condom Distribution

- Packs of condoms were distributed.
- Data was recorded for approximately 1/3 of people who boarded the bus.
- Data included age, gender, postcode and ethnicity.
- 42% of the total were eligible to Condom Distribution Scheme.



TOTAL SAMPLE = 1321

### Comments from public

Qualitative Feedback;

"Can I take the test today"

"These buses should be here 24/7"

"This is such a great way to get people screened"

"Amazing idea"

"I can't believe how easy being tested is"

### Aims of SHO-me Website



- To engage with the North East London population increasing awareness and education about sexual health
- To drive awareness of the sexual health services in the area
- To encourage the community to act responsibly and be aware of the sexual health risks that could be associated with their lifestyle choices
- To be culturally sensitive and accessible to all

### www.SHO-me.nhs.uk

- Website developed by Merchant Healthcare marketing
- Website officially launched on 24<sup>th</sup> November
- This coincided with a 4 week London based bus campaign:





### Google Analytics

- 8,168 unique visits were made to the SHO-me website in the first 3 months.
- Average time on the site was 2:16

Top 5 search words:

- Thrush
- Genital Warts
- Pregnancy
- Chlamydia
- Discharge

### Ask Dr Sarah

- Variety of questions**
  - Erectile Dysfunction
  - What to expect at a Sexual Health clinic
  - I have Chlamydia, what should my partner do?
  - Can I get contraception if I am under 16?
- Approx 50 questions asked
- Feedback from users:**
  - "Really useful way of getting direct medical advice"

### Multi Level Outcomes

- Website received 8,000 unique hits in the first 3 months.
- Over 7,000 interactions took place during the 24 day tour and over 500 tests were conducted.
- 4,711 people had direct contact with a health advisor.
- On average 1,151 people visit clinics over a typical month.
- 30% increase in STI screens in the borough during the period of the tour.
- The cost of the unit was £69,231 – the cost of performing the same number of screens in a GU clinic at £184 per new patient under (PBR) would have been £93,795.

### Public Health Outcomes

- Contributed to reaching Chlamydia Screening Target
- Raised awareness and accessibility of sexual health services
- Increased knowledge of sexual health
- Increased accessibility to free condom scheme
- Increased awareness of importance of early diagnosis for HIV
- Contributed to rise in screens across Borough
- Cost effective intervention.

### Targeted Health Promotion Campaign in Hackney

A Hepatitis A Outbreak in Hackney's Charedi Community

The Health Promotion Campaign aimed to;

- Promote awareness of infection in the community
- Encourage GPs to report cases to the HPU
- Promote good hand hygiene practices in schools
- Encourage uptake of free Hepatitis A immunisation in children

## Group Work

- ◉ What outcomes would you expect?
- ◉ How would you develop an evidence base?
- ◉ What data would you collect and when?
- ◉ How would you evaluate if the health promotion campaign was a success?
- ◉ What challenges do you anticipate?

## Hands up for Max



## Targeted Health Promotion Campaign

- ◉ Communications plan; press releases, adverts and posters
- ◉ Utilised previous campaign Hands up for Max
- ◉ Involvement of faith leaders and rabbinate through Orthodox Health Forum
- ◉ Targeted immunisation campaign within schools (1- 11 year olds)
- ◉ Additional immunisation session available within community setting
- ◉ Local enhanced services developed with GPs and Walk in Centres

## Outcomes

- ◉ 29 reported cases
- ◉ 17 sampled
- ◉ 14 confirmed cases
- ◉ Immunised
  - 120 household or family contacts
  - 60 contacts at yeshivas
  - 300 children attending same school/ nursery as case
  - 470 children who attended a day camp
- ◉ Difficult to evaluate the impact of targeted health promotion campaign in controlling the outbreak.

## Evaluation Overview

- |  |   |
|--|---|
| <b>Outcome Evaluation</b> <ul style="list-style-type: none"> <li>◉ Cost of doing nothing</li> <li>◉ Define the 'value'</li> <li>◉ Define expected/ anticipated outcomes</li> <li>◉ Cost benefit</li> <li>◉ Cost effectiveness – danger emphasis is on the short term.</li> </ul> | <b>Mixed Method Evaluation</b> <ul style="list-style-type: none"> <li>◉ Benefit of qualitative and quantitative data</li> <li>◉ Understand experience</li> <li>◉ Patient centred approach.</li> </ul> |
| <b>Process Evaluation</b> <ul style="list-style-type: none"> <li>◉ Monitor process of implementation</li> <li>◉ Understand conditions</li> <li>◉ Assets needed for implementation</li> </ul>   | <b>Influence Investment, programme adoption and policy making</b> <ul style="list-style-type: none"> <li>◉ Disseminate findings</li> <li>◉ Understand key stakeholders agenda/ priorities</li> </ul>  |
| <b>Impact Evaluation</b> <ul style="list-style-type: none"> <li>◉ Measures pre and post - observations, self reports</li> <li>◉ Measures changes in knowledge, skills, attitudes, behaviour, environment and policy.</li> </ul>  | <ul style="list-style-type: none"> <li>◉ Prevention = investment</li> <li>◉ Investment in social determinants = long term health benefits.</li> </ul>   |

## Finally....

- ◉ Please complete the evaluation form

Thank you!

## References

- Jackson C (1997). Behavioural science and principles for practice in health education. *Health Education Research*, 12(1), 143-50.
- Lucke, J., Donald, M., & Raphael, B. (2001). Considerations in the design of a mixed methods cluster evaluation of a community programme for At-Risk Young People. *Evaluation*, 7, 110-131.
- Naidoo, J. And Wills, J. (2000). *Health Promotion: Foundations for Practice* (2nd edn). Bailliere Tindall: Royal College of Nursing: London.
- Nutbeam, D. (1998). Evaluating Health Promotion – progress, problems and solutions. *Health Promotion International*, 13(1), 27-44.
- Owen, L., Morgan, A., Fischer, A., Ellis, S., Hoy, A., Kelly, M. (2011). The cost-effectiveness of public health interventions. *Journal of Public Health*, 1-9.
- Rootman, I., Goodstadt, M., Hyndman, B., McQueen, D., Potvin, L., Springett, J., and Zizzo, E. (2001). *Evaluation in Health Promotion: Principles and perspectives*. WHO Regional Publications, European Series, No. 92.
- Wimbush, E., Watson, J. (2000). An Evaluation framework for health promotion: theory, quality and effectiveness. *Evaluation*, 5, 341-50.

## Useful Websites

- <http://www.ic.nhs.uk/proms>
- <http://www.nice.org.uk/>
- <http://healthandcare.dh.gov.uk/category/public-health/phe/>
- <http://healthandcare.dh.gov.uk/system>

**Appendix 5c – Attendance List**

MSc Health Psychology City University

Health Promotion Evaluation workshop

15.03.2013

Attendance List

	<b>Name</b>	<b>Signature</b>
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**Appendix 5d**

MSc Health Psychology City University

Health Promotion Evaluation Workshop

Evaluation Sheet

Please could you rate the following areas of the teaching session by putting a cross X in the box to indicate your response.

Area	Poor	Satisfactory	Good	Excellent
How was the organisation of the session?				
How well did the session meet the aims and objectives set?				
How were the speaker's communication skills?				
How was the content of the presentation?				
How relevant were the group tasks set?				
How relevant were the materials provided?				
How relevant was the session to the Health Psych MSc training?				
How was the pace of the session?				
How would you rate your				

understanding of Health Promotion Evaluation after having attended this session?				
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PTO

What did you find the most interesting/ useful feature of the session?

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Are there any ways this session could be improved?

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Any further comments

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Many thanks for your time!

## Appendix 6 – Evaluation Report

### Evaluation Report

#### Guest Lecturer on MSc Health Psychology Health Promotion Module

#### City University, London

##### Brief Overview

I delivered four modules of the Health Promotion Course over two years to two cohorts of students 2011/12 and 2012/13;

5. Applied Health Promotion – 24th Feb 2012 – 2pm – 5pm - 27 Students attended - 22 students returned feedback forms
6. Health Promotion Evaluation – 30<sup>th</sup> March 2012 – 2pm – 5pm - 23 students attended and 18 students returned feedback forms.
7. Social Marketing and Community Level Interventions – 8<sup>th</sup> March 2013 – 2pm – 5pm 22 Students (22 students returned feedback forms)
8. Health Promotion Evaluation – 15<sup>th</sup> March 2013 – 2pm – 4pm 22 Students (returned 22 feedback forms)

The feedback overall showed the two sessions I delivered in 2012 (Applied Health Promotion on 24th Feb 2012 and Health Promotion Evaluation on 30<sup>th</sup> March 2012) to be rated the most highly.

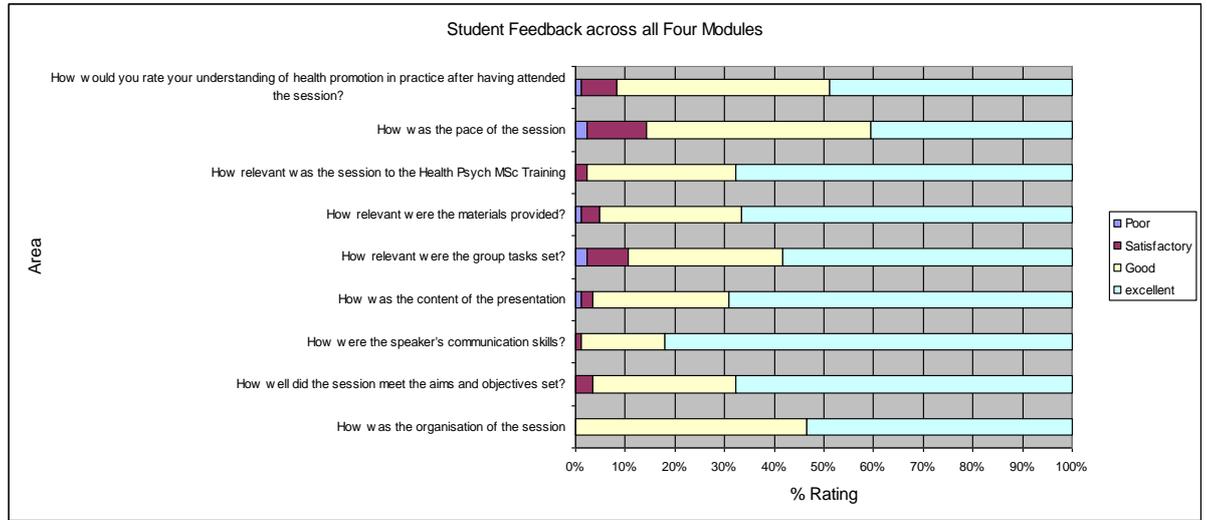
The Speaker's communication skills, the content of the presentation, how well the session met the set aims and objectives, the relevance of the session and the materials to the MSc Health Psychology course were all rated highly across the sessions.

The organisation of the session, the relevance of the group tasks set, and how well the students rated their understanding of health promotion or health evaluation were rated less highly by the two sessions I ran in 2013 Social Marketing and Community Level Interventions (8<sup>th</sup> March 2013 and Health Promotion Evaluation – 15<sup>th</sup> March 2013). *This is interesting as the group tasks I set were similar to the ones I set in 2012 and the sessions also had a very similar structure. I was however, required to increase the content I delivered within the allocated time.*

The pace of the sessions overall need to be addressed. Initially the pace was a lot slower and feedback was that I could increase this slightly however for the sessions in 2013 the pace was too fast and I needed to build more time to allow for student discussion and reflection.

Figure 1: Presents the results of the quantitative data from the student feedback forms for all four modules delivered.

**Figure 1**



## Feedback from students across all Lectures

### Key

	Reflects that currently this area is being delivered and received well.
	Reflects the need to consider steps towards better delivery.
	Reflects the need to review and implement steps for improvement.
	Reflects the urgent need to review and implement steps for improvement.

Area	Lecture	Poor	Satisfactory	Good	Excellent	Total
How was the organisation of the session	Applied Health Promotion			23% (5)	77% (17)	100% (22)
	Health Promotion Evaluation			33% (6)	67% (12)	100% (18)
	Social Marketing and Community Level Interventions			73% (16)	27% (6)	100% (22)
	Health Promotion Evaluation			55% (12)	45% (10)	100% (22)
How well did the session meet the aims and objectives set?	Applied Health Promotion			27% (6)	73% (16)	100% (22)
	Health Promotion Evaluation			17% (3)	83% (15)	100% (18)
	Social Marketing and Community Level Interventions		5% (1)	36% (8)	59% (13)	100% (22)
	Health Promotion Evaluation		9% (2)	32% (7)	59% (13)	100% (22)
How were the speaker's communication skills?	Applied Health Promotion			5% (1)	95% (21)	100% (22)
	Health Promotion Evaluation			11% (2)	89% (16)	100% (18)
	Social Marketing and Community Level			18% (4)	82% (18)	100% (22)

	Interventions					
	Health Promotion Evaluation		4% (1)	32% (7)	64% (14)	100% (22)
How was the content of the presentation	Applied Health Promotion			18% (4)	82% (18)	100% (22)
	Health Promotion Evaluation			22% (4)	78% (14)	100% (18)
	Social Marketing and Community Level Interventions		5% (1)	32% (7)	64% (14)	100% (22)
	Health Promotion Evaluation	5% (1)	5% (1)	36% (8)	55% (12)	100% (22)
How relevant were the group tasks set?	Applied Health Promotion		4% (1)	14% (3)	82% (18)	100% (22)
	Health Promotion Evaluation		11% (2)	28% (5)	61% (11)	100% (18)
	Social Marketing and Community Level Interventions		14% (3)	41% (9)	45% (10)	100% (22)
	Health Promotion Evaluation	9% (2)	5% (1)	41% (9)	45% (10)	100% (22)
How relevant were the materials provided?	Applied Health Promotion			32% (7)	68% (15)	100% (22)
	Health Promotion Evaluation			17% (3)	83% (15)	100% (18)
	Social Marketing and Community Level Interventions		9% (2)	27% (6)	64% (14)	100% (22)
	Health Promotion Evaluation	5% (1)	5% (1)	36% (8)	55% (12)	100% (22)
How relevant was the session to the Health Psych MSc	Applied Health Promotion			41% (9)	59% (13)	100% (22)
	Health Promotion Evaluation			11% (2)	89% (16)	100% (18)

<b>Training</b>	<b>Social Marketing and Community Level Interventions</b>		5% (1)	27% (6)	<b>68% (15)</b>	100% (22)
	<b>Health Promotion Evaluation</b>		5% (1)	36% (8)	<b>59% (13)</b>	100% (22)
<b>How was the pace of the session?</b>	<b>Applied Health Promotion</b>			<b>55% (12)</b>	45% (10)	100% (22)
	<b>Health Promotion Evaluation</b>		6% (1)	22% (4)	<b>72% (13)</b>	100% (18)
	<b>Social Marketing and Community Level Interventions</b>		27% (6)	<b>40% (9)</b>	32% (7)	100% (22)
	<b>Health Promotion Evaluation</b>	9% (2)	14% (3)	<b>59% (13)</b>	18% (4)	100% (22)
<b>How would you rate your understanding of health promotion in practice after having attended the session?</b>	<b>Applied Health Promotion</b>			36% (8)	<b>64% (14)</b>	100% (22)
	<b>Health Promotion Evaluation</b>		6% (1)	22% (4)	<b>72% (13)</b>	100% (18)
	<b>Social Marketing and Community Level Interventions</b>		14% (3)	<b>41% (11)</b>	32% (8)	100% (22)
	<b>Health Promotion Evaluation</b>	5% (1)	9% (2)	<b>59% (13)</b>	27% (6)	100% (22)

NB: Please note that not all % add up to 100 due to rounding.

## Applied Health Promotion

24th Feb 2012 – 2pm – 5pm

27 Students attended of these 22 students returned feedback forms.

Area	Poor	Satisfactory	Good	Excellent
How was the organisation of the session			23% (5)	77% (17)
How well did the session meet the aims and objectives set?			27% (6)	73% (16)
How were the speaker's communication skills?			5% (1)	95% (21)
How was the content of the presentation			18% (4)	82% (18)
How relevant were the group tasks set?		4% (1)	14% (3)	82% (18)
How relevant were the materials provided?			32% (7)	68% (15)
How relevant was the session to the Health Psych MSc Training			41% (9)	59% (13)
How was the pace of the session?			55% (12)	45% (10)
How would you rate your understanding of health promotion in practice after having attended the session?			36% (8)	64% (14)

The most highly rated areas were the speaker's communication skills, the content of the presentation and the organisation of the session. The areas that were highlighted as requiring additional attention and improvement were the pace of the session and the relevance to the MSc training.

## **What did you find the most interesting/ useful feature of the session?**

The results identified the following key themes;

1. Practical examples of health promotion in practice  
*"examples of borough related interventions", "Health Psychology and Promotion in Practice", "actual interventions at work", "project in Hackney", "the example from personal experience was most helpful", "learning about the existing relevant health promotions".*
2. Group Tasks  
*"the interaction", "the group work was great", "very interactive", "Group task on health promotion", "Giving us the opportunity to design an intervention proposal", "involving the whole class".*
3. How to implement a health promotion initiative  
*"The discussion on the practicalities of an intervention", "knowing how to plan a health promotion intervention", "Planning a realistic intervention", "How to implement a health initiative - it was extremely useful for our coursework and generally to understand the professional context in which health psychologists work".*

### **Other comments included:**

*"Insight into promotion design". "Lecturer was excellent made it interesting", "Easy to understand. Made the class very pleasant.", "slides were well structured and interesting Amanda bought relevant material to class – great." "entire session very interesting useful".*

### **Are there any ways this session could be improved?**

It was difficult to pick out any key themes as only six students made any suggestions and some of these contradicted each other around the request for more or less group work.

### **Comments included;**

*"More participation."*

*"Less group work as we have a lot in general in the module."*

*"Have more relevant session like these."*

*"Increase the pace of the session."*

*"A little more experience about her practical experience - what went well and not."*

*"Maybe some videos? It was very good, you covered online health promotion which always seems to get overlooked. Brill lecture!"*

### **Further comments included:**

*"Sorry I had to leave - family! But thought it was great! Best Session this year!", "content was varied I enjoyed that", "great teacher; very motivated I enjoyed her class a lot and I've learnt a lot", "very dynamic speaker", "One of the best sessions of the MSc Course so far, extremely useful and interesting".*

## Health Promotion Evaluation

30<sup>th</sup> March 2012 – 2pm – 5pm

23 students attended and of these 18 students returned feedback forms.

Area	Poor	Satisfactory	Good	Excellent
How was the organisation of the session			33% (6)	67% (12)
How well did the session meet the aims and objectives set?			17% (3)	83% (15)
How were the speaker's communication skills?			11% (2)	89% (16)
How was the content of the presentation			22% (4)	78% (14)
How relevant were the group tasks set?		11% (2)	28% (5)	61% (11)
How relevant were the materials provided?			17% (3)	83% (15)
How relevant was the session to the Health Psych MSc Training			11% (2)	89% (16)
How was the pace of the session?		6% (1)	22% (4)	72% (13)

<b>How would you rate your understanding of health promotion in practice after having attended the session?</b>		6% (1)	22% (4)	72% (13)
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The most highly rated areas were the speaker's communication skills, the relevance of the session to the Health Psychology MSc course and how well the session met the set aims and objectives. The relevance of the group tasks was not as highly rated.

**What did you find the most interesting/ useful feature of the session?**

The results identified the following key themes;

1. Practically applying Health Promotion Evaluation

*"I liked the use of multiple real life health promo interventions as examples as Amanda was involved in running them and therefore could answer all questions thoroughly", "Different examples", "Real world application", "the description of all interventions".*

2. Delivery of session by teacher

*"The teacher was clear and effective", "Enthusiastic", "I think she really encouraged thought and importance towards evaluation".*

Interestingly there is a mixed response to group work and discussions as one stated: *"the group discussions were helpful"* and another noted *"Group work interactivity"* as the most interesting / useful aspect, however another student commented that they found everything interesting and useful but the group work: *"All except group work"*.

Other comments included:

*"Everything!"*

*"All of it is useful"*

*"Tips to take into consideration when coming up with interventions".*

**Are there any ways this session could be improved?**

Again the conflict between having more or less group work

*"I just don't find group work useful"* versus *"More practical e.gs especially during the first half"*.

Other comments included;

*"Nothing!"*

*"I feel the content could have been more concise."*

*"Cooler room!"*

*"No. Good teacher."*

**Further comments included:**

*"You should teach the whole module!"*

*"Amanda is a great teacher very engaging! She answers all questions and addresses issues more in depth if students ask".*

*"Great teaching - wish she could teach all of our classes!"*

*"Very interesting."*

*"Generally great."*

*"I really liked the lessons taught by Amanda."*

*I thoroughly enjoyed teaching on the MSc course and reading comments such as these really made me feel confident about my ability to teach students.*

## Social Marketing and Community Level Interventions

8<sup>th</sup> March 2013 – 2pm – 5pm

22 Students attended and of these 22 students returned feedback forms.

Area	Poor	Satisfactory	Good	Excellent
How was the organisation of the session			73% (16)	27% (6)
How well did the session meet the aims and objectives set?		5% (1)	36% (8)	59% (13)
How were the speaker's communication skills?			18% (4)	82% (18)
How was the content of the presentation		5% (1)	32% (7)	64% (14)
How relevant were the group tasks set?		14% (3)	41% (9)	45% (10)
How relevant were the materials provided?		9% (2)	27% (6)	64% (14)
How relevant was the session to the Health Psych MSc Training		5% (1)	27% (6)	68% (15)
How was the pace of the session?		27% (6)	40% (9)	32% (7)

<b>How would you rate your understanding of Social Marketing and Community Level Interventions after having attended the session?</b>		14% (3)	41% (11)	32% (8)
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The most highly rated areas were the speaker’s communication skills and the relevance of the session to the Health Psychology MSc Course.

The areas that were highlighted as requiring additional attention and improvement were the pace of the session and the level of understanding of the social marketing and community level interventions after the session.

**What did you find the most interesting/ useful feature of the session?**

The results identified the following key theme;

1. Practical examples of health promotion in practice

*“Very relevant and brought to life by real life examples”, “Very current and applied to real situations” “making the content relevant to the appropriate setting”.*

Other comments included:

*“Group discussion topics”*

*“The material offered”*

*“Everything”*

*“Great speaker”*

**Are there any ways this session could be improved?**

The feedback highlighted the issue of too much content in too little time reducing the amount of time for discussion and reflection.

Comments included;

*“Slide visuals”*

*“There was a lot of content to be covered so the pace felt rather rushed sometimes”.*

*“Perhaps less content”*

*“Better time management”*

*“Maybe a little bit more time for discussions”*

Further comments included:

“No”, “thanks for a great lecture”, “thank you”, “none”, “the presentation was good”, “thank you”.

## Health Promotion Evaluation

15<sup>th</sup> March 2013 – 2pm – 4pm

22 Students attended and of these all 22 returned feedback forms.

Area	Poor	Satisfactory	Good	Excellent
How was the organisation of the session			55% (12)	45% (10)
How well did the session meet the aims and objectives set?		9% (2)	32% (7)	59% (13)
How were the speaker's communication skills?		4% (1)	32% (7)	64% (14)
How was the content of the presentation	5% (1)	5% (1)	36% (8)	55% (12)
How relevant were the group tasks set?	9% (2)	5% (1)	41% (9)	45% (10)
How relevant were the materials provided?	5% (1)	5% (1)	36% (8)	55% (12)
How relevant was the session to the Health Psych MSc Training		5% (1)	36% (8)	59% (13)
How was the pace of the session?	9% (2)	14% (3)	59% (13)	18% (4)

<b>How would you rate your understanding of health promotion in practice after having attended the session?</b>	5% (1)	9% (2)	59% (13)	27% (6)
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Interestingly as with the first Health Promotion Evaluation session the most highly rated areas were the speaker's communication skills, the relevance of the session to the Health Psychology MSc course and how well the session met the set aims and objectives. The areas that were highlighted as requiring additional attention and improvement were the pace of the session and the level of understanding of health promotion evaluation after having attended the session. These were the two areas that were identified as requiring improvement after the previous Social Marketing and Community Level interventions session with the 2013 cohort. I was concerned about the amount of content I was required to cover in the allocated session time and I did raise this with the course Director.

**What did you find the most interesting/ useful feature of the session?**

As only five students commented it is difficult to draw out any substantial themes. However the theme of practical application of health promotion evaluation appears to be consistent with the session in 2012.

1. Practically applying Health Promotion Evaluation

*“Public health information and evaluation”, “Real life examples”, “How we can apply evaluation process to own work”.*

Other comments included:

“Group work”

“Relevance to assignment it bought clarity”

**Are there any ways this session could be improved?**

Again there appears to be conflicting feedback about more student involvement and for some there was too much content and the pace felt rushed but for others it felt about right.

Comments included;

*“A little more student involvement”*

*“More practical”*

*“Less detail on slides- supplementary hand outs? Not much to improve though”.*

*“Slightly less content - more time to think”.*

*“Really fast. So much to cover so time for discussions was squeezed. Thanks was great”.*

Further comments included:

*“Presentation was not rushed, but was so good I would have liked it to be longer”*

*“Competent and clear.”*

*“It was good and well researched”*

*“Great lecture thank you”*

*“Great at understanding and answering students’ questions”.*

*“Very engaging”.*

## **Consultancy Case Study – Workplace Weight Management Programme**

### **Implementing and Evaluating a Work Place Weight Management Programme for Staff Working for NHS East London and the City**

#### **Background**

Whilst working as Public Health Strategist for NHS North East London and the City (NELC) I became aware of a team of Clinical Research Psychologists and Health Psychologists at the Wolfson Institute of Preventive Medicine at Queen Mary University of London working in smoking cessation and weight management.

I met with the team and discussed possible collaborative opportunities as part of my professional development as a health psychologist in practice. I highlighted my interest in the field of weight management, an area in which the team were also conducting research. It was agreed that I would support the development and implementation of a weight management programme named the Weight Action Programme (WAP).

The Weight Action Programme (WAP) is a multi-modal health behaviour modification intervention developed at the Wolfson Institute of Preventive Medicine through extensive client feedback and piloting with groups since 2002 (Hajek, Humphrey, & McRobbie, 2010). The programme is a multi-component service that aims to provide participants with tools to lose weight and maintain a long-term healthy lifestyle. The contents include the standard elements of cognitive behavioural interventions, dietary advice, self-monitoring, information on healthy cooking and eating and caloric content of food, cue management, provision of opportunities for exercise and close monitoring of exercise levels, and a range of concrete and verifiable tasks agreed individually with each participant. Participants are asked to wear a pedometer in order to record daily number of steps at baseline. Throughout the course,

individual pedometer step targets are gradually increased until an optimal sustainable level is reached (Appendix 2).

An innovative feature of the programme consists of the use of group-oriented interventions aiming to increase participant retention, involvement and adherence to weekly tasks. This also makes the programme more cost-effective. The focus of the WAP course is to help participants to maintain a healthy lifestyle after the programme finishes. The programme has been delivered in a number of community based settings and I had been keen to see if the same format would work in a workplace setting.

I initially supported the delivery of the programme in a pilot aimed at staff working at the Royal London Hospital delivering sessions one evening a week for 8 weeks with monthly follow up sessions. This was outside of my role as a public health strategist, providing me with experience of delivering a group based, weight management intervention and critically appraising the intervention components. On review of the programme I made some recommendations which were to be incorporated in the next pilot. These included updating some of the materials, including more culturally appropriate examples of food and calories, providing easy food swaps for lower calories alternatives and a task for the participants to identify healthy recipes and share with the group. These were designed to create more personal relevance of the materials, suggestions for substitutions, more action focused and goal specific tasks.

### **Assessing Requests for Consultancy**

As staff within my organisation became aware I was a trainee health psychologist, I was approached by a number of colleagues (keen for support to lose weight) about running a workplace weight management programme. In response to this I arranged to meet with the Workplace Health and Wellbeing Lead for NELC to discuss the opportunities available to staff

to support achieving and maintaining a healthy weight. There was a programme in place to promote physical activity but there was no behavioural support for those seeking to lose weight. I was asked to consider whether I would be able to deliver a programme for staff seeking support to lose weight as part of the agenda to improve staff health and wellbeing. As a Public Health Strategist this was outside of my contracted role. However, I saw this as great opportunity to pilot the WAP in another workplace setting, implementing my recommended changes following the initial workplace pilot utilising my health psychology skills.

I developed an assessment criteria and a set of questions to assess the suitability of the request for consultancy to ensure that I would be working within the boundaries of my professional competence (The British Psychological Society, 2009). These included assessing the feasibility, acceptability, practicalities, costs and added value I would bring (Appendix 1).

### **Planning Consultancy**

I met with my line manager and proposed that I could deliver this as part of a consultancy arrangement, running the sessions outside of my contracted hours. This was agreed and I developed a proposal which I presented to the Workplace Health and Wellbeing Lead, Director of Public Health and Professor at Wolfson Institute of Preventive Medicine. It was important the proposal included how I would bring added value and deliver a quality service.

*From previous project work I knew it was important to identify the client and key stakeholders early on in the consultancy process to ensure I was engaging with the right people within the organisation to ensure the project was achievable.*

The initial meeting was held to agree the parameters of the consultancy, align expectations, identify the key stakeholders, agree the outputs and timescales. I used this opportunity to present the value of having a health psychologist leading this piece of work having skills in conducting literature reviews, designing, delivering and evaluating interventions. This was an

opportunity to trial an evidence based intervention for no cost. This was a great way to demonstrate how health psychology can be used to improve health and wellbeing and achieve public health outcomes. Helping to build my credibility for delivering this piece of work and future commissions.

It was clear the primary requirement from the client (the Workplace Health and Wellbeing Lead), was to provide an intervention for staff seeking support to lose weight (Schein, 1978). I felt the consultancy would need to contain a form of needs assessment to understand if this was something staff would want and use, along with an evaluation to monitor the effectiveness of the programme. This was also important for the Wolfson team as this would add to their evidence base for the model. I therefore proposed the consultancy project would have four key stages; 1. Needs Assessment, 2. Recruitment, 3. Implement pilot, and 4. Evaluate pilot programme.

These early negotiations allowed me to refine the scope of the consultancy project and make some small amendments to the proposal in response to the client's direction. In addition to the proposal I developed a detailed work plan presenting the specific stages of the consultancy showing the dependencies and anticipated time scales to achieve the aims and objectives. This would help monitor progress, and ensure I was working to a manageable time schedule. As this was an informal consultancy, and I was not going to be charging for my time, there was no budget assigned so I did not issue a formal contract. I did however draw up the agreed components of the consultancy, the amount of my time I expected to dedicate to this piece of work and any resource costs anticipated as part of a budget in the proposal document. (Appendix 2).

*Developing a clear proposal to be agreed by all key stakeholders was an important part of the consultancy as it ensured alignment of the expectations of the client and the consultant. For future consultancy arrangements I would also draw up a formal contract including the required*

*timescales for a given project, the key stakeholders, objectives, milestone with clear lines of responsibility and accountability, budget, deliverables and outputs, and any additional resources required.*

Through discussions it became clear that the organisation was going through a major organisational restructure and as such it was important to deliver something sooner rather than later. However, it was envisaged that if the programme was a success the new organisation would be keen to take this on as part of the Staff Health and Wellbeing Programme.

*It was important to gain an understanding of the strategic direction of the organisation and work place health and wellbeing in planning the consultancy. Despite knowing there were significant restructures on the horizon, there were no known timescales or specifics of the changes at this time so I decided to proceed with the consultancy.*

I believe I adopted the process consultancy model (Schein, 1969), where the client is central to the diagnosis of the 'problem' and solution generation. It has been suggested that consultancy should always start with process consultation to establish a supportive relationship with the client and develop an understanding of the need and opportunities for change. In this model the client requires help in making the initial diagnosis, but may also benefit from participating in the process of making the diagnosis. There is an assumption that the client has constructive intent and some problem-solving ability, that the client knows what form of solution or intervention will work in this particular situation, and that the client can implement their own solution which will increase problem solving skills for the future.

### **Needs Assessment**

Recent data has suggested 64% of adults in England are overweight or obese (Public Health England, 2014). People who are overweight have a higher risk of developing type 2 diabetes,

heart disease and certain cancers. Excess weight can also make it more difficult for people to find and keep work, and it can affect self-esteem and mental health. (Department of Health, 2015).

To assess the need for a workplace weight management programme I liaised with the Health and Wellbeing Lead about running a Healthy Weight and Healthy Lifestyles event for staff. This was adopted as part of the Staff Health and Wellbeing Programme and was supported by Public Health. I arranged for staff from the local NHS Dietetics team, Healthy Weight and Physical Activity Health Improvement Leads to attend and co-ordinated the collation of information about achieving a healthy weight, adopting a healthy diet, local relevant services and opportunities to engage in physical activity. There were opportunities for staff to have a body composition assessment which provided feedback on their Body Mass Index (BMI), fat and muscle composition. The results from the Body Composition Assessments showed a high number of staff were classified as over-weight or obese.

In addition, to assess whether a weight management programme run within the workplace would be an acceptable intervention, I developed an online staff survey. This was advertised via the weekly staff bulletin and on the intranet, for all staff in NELC, with the link to the survey to complete if they were interested in attending a weight management programme and asked them to identify which days and times were preferred. Through the use of a web based staff survey, 21 staff responded and said they would be interested in participating in a weight management programme. The results of the staff survey identified Friday lunch times as the best time to run the group.

Due to my experience working with the Wolfson Institute of Preventive Medicine delivering the Weight Action Programme for overweight adults, it was decided the format of this programme would be suitable to offer to staff in NELC. I discussed this opportunity with the lead researchers at the Wolfson Institute of Preventive Medicine who were very keen for this

to be piloted in another work place setting and for me to lead this programme. I drew up a contract between NHS NELC and the Wolfson Institute as they would be supervising the implementation of the programme and retain professional accountability.

### **Establishing, Developing and Maintaining Relationship with the Client**

During the planning stages of consultancy I arranged to meet with the workplace Health and Wellbeing Lead face to face on a number of occasions to develop the consultancy proposal and to agree aims and objectives. Once the Consultancy started we worked closely together for the development of the staff health and wellbeing event. By meeting regularly, the 'client', was very much involved in assessing the needs and considering solutions. Once we had decided on the lifestyle weight management programme the client became less involved as they felt it was my role to deliver this and keep them informed of any issues as necessary. I sent the client regular updates via email.

It became clear at this stage that I had moved to providing expertise as part of the consultancy. This model assumes that the 'client' knows what the problem is, that they have communicated the real problem, that the 'helper' has the required information and that the 'client' has thought through the consequences of asking the question and receiving the answer (Schein, 1990).

I offered to provide interim updates on the outputs of the programme however the final evaluation was deemed to be sufficient. I worked closely with the team from the Wolfson Institute providing weekly feedback and outputs from the programme participants and met with the Deputy Director of Public Health monthly to provide updates on this consultancy.

Being able to demonstrate how you are bringing added value and delivering a quality service is incredibly important and means you are more likely to be considered for a consultancy contract in the future. Developing a good working relationship with the client includes regular

communication; providing regular progress updates so the client knows what you have done; feedback on what has happened, what went well, and what didn't go so well and why; and ensuring you meet specified deadlines.

I met with a member of the Communications team who had a small amount of budget to spend on Staff Health and Wellbeing. We worked together to design the posters to advertise the programme linking to the Change4Life campaign branding and decided to name the programme a 'Lifestyle Action Programme'. I designed an A5 cardboard file for participants to keep all the programme materials in along with a BMI chart with a log for weight and waist measurements. (Appendix 3).

*I realised that Consultancy is an iterative process whereby you consider the problem identification, and work to identify solutions by understanding the context and influential factors often returning to clarify the problem (Earll, & Bath, 2007). As a consultant you are facilitating a process of learning and change, and may at times also become a subject matter expert. It is important to be mindful of when you are using these different models and that you are adopting the most appropriate approach to help achieve the client's desired outcomes.*

*It is clear that whilst developing and delivering this consultancy both process and expert models were used. It is important to reflect on your consultancy approach, to identify which model is being used at a given time, and assess the appropriateness of that approach to ensure effectiveness of consultancy.*

### **Delivery of Weight Management Programme**

The weight action programme was advertised as a healthy life-styles programme aimed at helping staff to adopt healthier lifestyles to help those over weight to lose weight by eating a healthier diet and increasing their level of exercise.

I developed pre and post intervention questionnaires to evaluate the workplace weight action programme. It aimed to evaluate whether the aims and objectives of the programme were met, to explore the participants' experience of a group based intervention in the work place, and their motivation and confidence levels at achieving and maintaining a healthier weight going forward. (Appendices 5 and 6).

30 members of staff registered their interest for the work based weight action programme. The course started on Friday 3rd February 2012 and ran for 8 weeks with follow up sessions at 3 months, 6 months and one year.

I led the delivery of the 8 sessions and in most instances a colleague from the Wolfson Institute attended to support data collection on weight and waist measurements, collating activity data and allocating the activities for the coming week. The sessions were held every Friday for 8 weeks at 12pm – 1pm as requested by the majority of staff.

The initial session acted as a screening to ensure all participants were able to make the majority of the sessions, that they met all the inclusion criteria, and were happy with the proposed format of the programme. Baseline weight, height and waist measurements were taken.

For the subsequent 8 sessions, the session would start with taking weights and heights individually. Participants would be asked to provide feedback on how their previous week had been, what they had found easy or challenging. There was a theme for each week which would build on the learning and activities from the previous week. Participants were given task cards to complete weekly, food diaries and pedometers. Each week participants were given a slightly more challenging steps target to reach the optimum amount to achieve desire weight loss in line with their daily calorie targets. There were also physical activity, calorie intake, fruit and vegetable, and screen time targets over the course of the programme. Participants were

required to complete feedback forms following each session and to complete a final questionnaire at the end of the programme.

Weekly drop in sessions were offered for weigh ins and for any advice, then the follow up sessions at 3, 6 and 12 months were designed to provide more in-depth long term support to sustain weight loss.

*I thoroughly enjoyed delivering the weight management programme to staff. It felt wonderful to be able to facilitate a programme for individuals who were seeking to lose weight. To provide them with an opportunity to consider how they could make changes to their lifestyle, and support them in utilising tools to help them put these intended changes into action. I would be keen to pursue further consultancy opportunities to work with individuals trying to make lifestyle changes and in delivering weight management interventions in the future.*

### **Evaluation of Workplace Weight Management Consultancy**

Of the 30 members of staff registering their interest in the programme, 26 staff signed up. At the initial screening session two participants could not commit to making the majority of the sessions, four could not attend on a Friday and one decided they did not want to participate in a work based programme with colleagues.

In total 16 participants started the programme, two male and fourteen female. There was an age range of 32 – 54 years across the participants with an average age of 44 years. Body Mass Index (BMI) ranged from 23.4 – 40.8 with an average BMI of 31 at the start of the programme.

14 participants attended week five of the programme where 12 of these participants had lost weight with an average weight loss of 1.88Kilos. Two participants had put on weight since the previous weigh in, 0.4kilo and 1 kilo respectively.

Six participants attended the 1 month follow up and all had lost weight since their previous weigh in. The average weight loss across the six participants was 4.57 kilos. Four participants attended the six month follow up and all had continued with their weight loss with the average weight loss of 2.55 kilos.

Unfortunately the programme started during the NHS transition as a result of the Health and Social Care Act (2012). All staff were required to apply for appropriate positions across the organisation which affected those enrolled on the lifestyle weight management programme. This had a direct impact on the retention of participants to the programme as many staff were required to relocate and attending the sessions became a challenge.

Providing the client with regular updates on the development and implementation of the weight management programme along with the contextual constraints due to the NHS transition, ensured they were aware of the challenges and the actions I had taken to continue to fulfil the requirements of the consultancy project. We were able to discuss any changes or actions required. I received feedback that this was very helpful and continuing to provide this programme despite the drop-out rates was important for staff that were still based at the location. As the numbers were so small these could not be used for any meaningful statistical analysis. Therefore it was agreed that I would present an overview of the results in a brief evaluation report.

### **Evaluating the impact of the Consultancy**

I wrote a brief evaluation report of the lifestyle weight management programme which was submitted to the staff Health and Wellbeing Lead. This included a summary of the programme and some key recommendations for the client to take forward (Appendix 6).

All participants who completed the post intervention evaluation reported that they had achieved what they had hoped to by engaging with this programme, that they feel the

programme has supported them on their way to achieve a healthier weight and that they would recommend the programme to someone wanting to lose weight.

The most helpful elements of the programme included group support, weekly weigh ins and professional advice. Comments from one participant;

*“The weekly meetings and sharing ideas. ‘...’ It made you think twice about what you put in your mouth.”*

A final meeting was arranged to discuss the brief evaluation report with the client and key stakeholders. I met with the Workplace Health and Wellbeing Lead who was pleased with the report and the output of the consultancy despite the drop out after week 7. Unfortunately due to the transition it was unclear how the weight management programme would be continued but it was agreed that we would stay in touch and once the transition had taken place we could explore running another pilot in another workplace. The client was keen to pursue further opportunities using health psychology and the consultancy model to deliver staff health and wellbeing initiatives.

*As there was a desire from the client to continue exploring further opportunities to deliver staff health and wellbeing initiatives I felt I had delivered a good piece of consultancy work. I was disappointed however that the programme has been disrupted due to the transition and staff leaving but I had thoroughly enjoyed delivering the programme as part of a consultancy arrangement.*

I had previously only considered that consultancy opportunities could arise outside your current organisation of employment. Understanding that consultancy can occur within an organisation you are currently working in is really important for Health Psychology as a discipline as we strive to embed key principles of behaviour change across all disciplines that have an impact on health and wellbeing.

*This experience has given me the confidence to look for further consultancy opportunities within organisations I am working for as well as externally. Also, to ensure I assess any requests for consultancy carefully to see where I can add value to the problem identification and solution development, always ensuring I am working within my professional competence.*

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## Appendix 1 - Assessment of Request for Consultancy

### Assessment Criteria

**Feasibility** – is the request achievable in the given parameters – timescales, costs, expected deliverables and outcomes?

**Acceptability** – is the intervention/ programme proposed acceptable to staff?

**Practicalities** – can the programme be delivered in the workplace?

**Cost** – what are the costs associated with the project? Is this a cost effective intervention?

**Added Value** – am I able to bring expertise and skills to this project?

### Delivering a Workplace Weight Management Programme for Staff at NHS NELC

1. Who is the client?  
NHS North East London and the City  
Key contact Sponsor: Staff Health and Wellbeing Lead  
Key stakeholders: C&H Director of Public Health, Wolfson Institute of Preventive Medicine, NELC Communications team, and NELC Staff Health and Wellbeing Champions.
2. What is the question?  
To provide a workplace weight management programme for staff on site at Clifton House.
3. What is the background and organisational context?  
NHS North East London and the City is a cluster of Primary Care Trusts in North East London and the City. There is anticipated future organisational change. At present the organisation is keen to pilot a weight management programme for staff in one location as part of the staff health and wellbeing programme.
4. Why has the client contacted you?  
The NELC Staff Health and Wellbeing lead was familiar with my work on weight management and my skills in health psychology.
5. What is the timeframe for this work?  
The pilot programme could potentially start in February 2012. The weight management course will run for eight weeks. This will be followed by monthly drop in sessions, with follow up sessions at 6 months and 1 year to assess the impact of the programme.
6. Does the client have a realistic appraisal of what you can achieve?  
Yes - We have met to discuss my involvement in the Wolfson Weight Action Programme and the proposal to pilot this in a workplace setting
7. What does the client expect you to deliver?  
An appropriate weight management programme for staff delivered in the workplace.

8. For this piece of work to be successful/useful, what is the single most important thing that needs to be achieved and by when?

Assess the acceptability of a workplace weight management programme for overweight and obese staff and deliver a pilot programme. Start the implementation of the pilot before the end of the financial year (31<sup>st</sup> March, 2013).

## **Appendix 2 - Proposal**

### **Pilot Workplace Weight Management Programme in NHS North East London and the City**

#### **1. Background - Obesity – The Present Challenge**

The prevalence of obesity in England has more than doubled in the last twenty five years (Health Survey for England, 2014). Although this recent increase in the prevalence of obesity has been seen in virtually every country in the world, the rate of increase in England has been particularly high (Public Health England, 2014).

In England alone, 1 in 4 adults are currently obese, with two-thirds of the adult population classified as overweight or obese (Health and Social Care Information Centre, 2013). In 2007, the Government-commissioned Foresight report (2007), predicted that if no action was taken, 60% of men, 50% of women and 25% of children would be obese by 2050 (Government Office for Science, 2007).

The rapid increase in the prevalence of overweight and obesity has resulted in the proportion of adults in England with a healthy BMI (18.5-24.9) decreasing between 1993 and 2012 from 41.0% to 32.1% among men, and 49.5% to 40.6% among women. The proportion of adults that were overweight including obese increased between 1993 and 2012 from 57.6% to 66.6% among men and from 48.6% to 57.2% among women. In England, currently 26.1% of adults (aged 16 years and over) are obese (Health Survey for England, 2014).

Overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health. The most commonly used measure of body weight is the Body Mass Index (BMI), which is calculated as a person's weight in kilograms divided by the square of their height in metres. A person with a BMI of 30 or more is generally considered obese. A person with a BMI equal to or more than 25 is considered overweight (WHO, 2012).

People generally become overweight or obese as their energy intake exceeds their energy expenditure over a period of time. There is however, a complex interaction of contributory mechanisms influencing this, including biopsychosocial and environmental factors. Egger and Swinburn (1997) describe this as an 'obesogenic environment' which expresses the influences that the surrounding, opportunities or conditions of life have on promoting obesity in individuals and populations.

Part of this complex interaction is inactivity (Waumsley & Mutrie, 2011). According to the Chief Medical Officer in 2009 'The potential benefits of physical activity to health are huge. If a

medication existed which had similar effect, it would be regarded as a “wonder drug” or a “miracle cure”. The fact that the majority of western populations do not meet current minimum recommendations for the amount of physical activity needed for health demonstrates the need for a greater understating of the determinants of involvement in exercise and physical activity including motivation (Biddle & Mutrie, 2008). National guidance states that everyone should try to maintain or achieve a healthy weight to improve their health and reduce the risk of disease associated with being overweight or obese.

Ill health resulting from obesity is responsible for about 10% of morbidity and mortality in the UK and costs the NHS about 7 billion pounds annually (McCormick & Stone, 2007). Obesity is associated with a number of adverse health conditions including cardiovascular disease, Type 2 diabetes, osteoarthritis and a number of cancers. Weight loss has been shown to improve many of these illnesses, (Avenell, Broom, Brown, Poobalan, Aucott, Stearns, et al, 2004) and reduce all-cause mortality (Poobalan, Aucott, Smith, Avenell, Jung et al, 2007).

Overweight and obesity are major risk factors for a number of chronic diseases, including coronary heart disease, type 2 diabetes, cardiovascular diseases, osteoarthritis and some cancers (NICE, 2006). Once considered a problem only in high income countries, overweight and obesity are now dramatically on the rise in low- and middle-income countries, particularly in urban settings. Obesity is an important health problem. Being significantly overweight increases the risk of developing illnesses, such as cardiac disease, stroke, diabetes, kidney failure, and osteoarthritis. Moreover, many individuals who are obese suffer from social stigma which affects their self-esteem.

It is estimated that 9% of coronary heart disease could be avoided if all those who are sedentary became more active, 5% of hypertension is linked to people who are overweight, coronary artery disease and stroke has an increased 2.4 fold risk in obese women and 2 fold in obese men under the age of 50 years and 10% of all cancer deaths among non-smokers are related to obesity. Adult obesity causes a reduced life expectancy of 8-10years, mainly through those diseases. It can also impair a person’s well-being and quality of life (Department of Health, 2008).

Given the impact on individual health, obese and overweight individuals also place a significant burden on the NHS. Direct costs are estimated to be £4.2 billion and Foresight have forecast that this will more than double by 2050 if we continue as we are. But there are also costs to society and the economy more broadly – for example, sickness absence reduces productivity.

Foresight estimated that weight problems already cost the wider economy in the region of £16 billion, and that this will rise to £50 billion per year by 2050 if left unchecked (Foresight, 2007).

Obesity is often difficult to overcome because eating is a self-nurturing activity which is embedded in our lifestyle and culture. Numerous factors contribute to obesity including:

- Consuming more energy than expending
- high fat or high sugar foods
- habits
- environmental cues
- leading a sedentary lifestyle
- other biological factors

It is important that the population as a whole are encouraged to adopt health lifestyle behaviours and prevent the onset of obesity. However, as obesity is already well established, appropriate interventions and services must be available to support individuals to reduce their weight and work towards achieving and maintaining a healthy weight.

The Government recommends an intake of at least five portions of fruit or vegetables per person per day to help reduce the risk of some cancers, heart disease and many other chronic conditions. Increasing consumption of fruit and vegetables can significantly reduce the risk of many chronic diseases. It has been estimated that eating at least five portions of a variety of fruit and vegetables a day could reduce the risk of deaths from chronic diseases such as heart disease, stroke, and cancer by up to 20% (DH, 2009).

Preventing and managing weight and obesity are complex multi-faceted issues. People can choose whether to make changes to their lifestyles. However there are a number of social, environmental and psychological issues which often affect these choices and ability to sustain changes. Waumsley (2011) argues that whilst Cognitive Behavioural Therapy is briefly mentioned in the NICE (2006) obesity guidelines, psychological issues are generally not receiving as much attention as sociological and diet issues as ways of tackling this growing epidemic.

According to Newson and Flint (2011), psychological issues can be linked to the cause or consequence of obesity affecting the ability to manage weight. They argue that psychological techniques and therapies should be integrated into weight management pathways and utilised

to support individuals and populations to maintain a healthy weight. Weight loss and weight maintenance interventions should aim to;

- Improve pre-existing obesity –related co morbidities
- Reduce the future risk of obesity –related co morbidities
- Improve physical, mental and social well-being.

To-date potentially effective weight loss interventions have been identified as diet, exercise, behavioural strategies, combinations of diet, exercise and behavioural strategies, limited use of pharmaceutical interventions in conjunction with strategies to change lifestyles and surgery for morbidly obese patients (NICE, 2006).

Achieving and sustaining a healthy weight requires a targeted multi-dimensional approach based on evidence based theoretical frameworks. Translating intentions into behaviour remains a key challenge despite the use of psychological behavioural change theories addressing attitudes, motivations and perceptions of control and intention. No one construct can explain the complexity of our cognitions and behaviours (Waumsley & Mutrie, 2011). The transtheoretical model stages of change is widely used as an intervention framework in weight management programmes. However, further research is needed to evaluate the effectiveness for sustained weight loss (Tuah, Amiel, Qureshi, Car, Kaur, & Majeed, 2011).

## **2. Weight Action Programme (Hajek, Humphrey, & McRobbie, 2010)**

### **Background Information**

The Weight Action Programme (WAP) is a multi-modal health behaviour modification intervention developed at the Wolfson Institute of Preventive Medicine via extensive client feedback and piloting with groups since 2002. The programme is a multi-component service that aims to provide participants with tools to lose weight and maintain a long-term healthy lifestyle. The contents include the standard elements of cognitive behavioural interventions, dietary advice, self-monitoring, information on healthy cooking and eating and calorie content of food, cue management, provision of opportunities for exercise and close monitoring of exercise levels, and a range of concrete and verifiable tasks agreed individually with each participant. Participants are asked to wear a pedometer in order to record daily number of steps at baseline. Throughout the course, individual pedometer step targets are gradually increased until an optimal sustainable level is reached.

An innovative feature of the programme consists of the use of group-oriented interventions aiming to increase participant retention, involvement and adherence to weekly tasks. This also makes the programme more cost-effective. The focus of the WAP course is to help participants to maintain a healthy lifestyle after the programme finishes.

The WAP has been evaluated in two pilot studies of 162 overweight adults (mean BMI of 35 kg/m<sup>2</sup>) delivering an average weight loss of 2.8kg at end of treatment and 4.5kg at 3-month follow-up (with 24% participants attending follow-up losing 5% or more of their body weight). The client retention was at least as good as in comparable programs conducted in research settings (59% completed the 6-week treatment) and the program received very high approval ratings. Clients also demonstrated significant improvements in knowledge of healthy eating, and in their exercise levels as measured by pedometer monitoring. Clients considered the group support essential in helping them to stick to their tasks and to lose weight. In its current form, WAP also includes information on Orlistat as a weight loss aide. (Hajek, Humphrey, & McRobbie, 2010).

**Aim:** To pilot an evidenced-based weight management programme in a workplace (Clifton House) for staff working for NHS North East London.

**Objectives:**

- To conduct a brief needs assessment
- To support staff to achieve a healthier weight
- To contribute to the improvement in the health and wellbeing of the workforce and population of City and Hackney

**3. Key stages of the consultancy**

**Stage 1 – Needs Assessment**

Conduct a brief needs assessment.

Key activities;

Design staff survey to be completed on-line for those interested in attending a weight management programme.

**Stage 2 – Recruitment**

Increase awareness of the importance of adopting a healthy lifestyle and maintaining a healthy weight.

Key activities;

- Develop materials to raise staff awareness of programme and healthy lifestyles
- Utilise communication channels with staff including intranet and internal communications newsletter
- Healthy Lifestyles Event for all staff

### **Stage 3 – Implement Pilot**

Deliver one pilot Weight Management Programme on site for eligible staff (maximum 15 staff).

Key activities;

- Develop pre and post questionnaire
- Input data collection

### **Stage 4 - Evaluate Pilot Programme**

Conduct an evaluation of the pilot.

Key activities:

- Analyse data
- Compile Evaluation Report

### **Programme:**

The programme will run for 8 weeks and will involve staff attending a group meeting for 1 hour once a week for 8 weeks. There will be monthly weigh-ins for 3 months and follow ups at 6 months and 1 year.

## **4. Key Stakeholders**

**Table 1.** Key stakeholders

<b>Organisation</b>	<b>Position</b>	<b>Name</b>	<b>Involvement</b>
NHS North East London and the City	Director of Public Health for City and	██████████ ██████████	To be kept informed of progress and evaluation

	Hackney		
NHS North East London and the City	Head of Staff Health and Wellbeing	██████████ ██████████	Commissioner of Staff Health and Wellbeing Programmes, to be kept informed of progress and evaluation
NHS North East London and the City	Public Health Lead for Health Weight and Physical Activity	██████████	Commissioner of Healthy Weight Programmes, to be kept informed of progress and evaluation
NHS North East London and the City	Healthy Weight and Physical Activity Health Improvement Practitioner	██████████	Support delivery of Healthy Lifestyles event
NHS North East London and the City , Communications	Communications Manager	██████████ ██████████	Provide Communications support and budget
Wolfson Institute of Preventive Medicine, Queen Mary's University London	Professor of Clinical Psychology, Head of Psychology, Director of Tobacco Dependence Research Unit	██████████ ██████████	Support delivery of sessions, to be kept informed of progress and evaluation
Wolfson Institute of Preventive Medicine, Queen Mary's University London	Researcher	██████████	Support delivery of sessions, take weight measurements, , to be kept informed of progress and evaluation

Wolfson Institute of Preventive Medicine, Queen Mary's University London	Research Health Psychologist		Support delivery of sessions, take weight measurements, to be kept informed of progress and evaluation
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## 5. Budget

**Table 2.** Budget

Budget		Cost
<b>Design</b>	NHS NELC Communications	
<b>Printing</b>	A4 Change for Life Lifestyle Action Programme	
	A3 Change for Life Lifestyle Action Programme booklet Quantity X 50	
	A3 BMI Calculator Insert for booklet Quantity X 50	
<b>Programme Delivery</b>	Delivery of 8 week Programme = 8 hours Plus preparation & data recording = 8 hours Delivery of monthly drop in sessions = 3 hours Delivery of 6 month and 1 year follow up = 2 hour	
<b>Programme Evaluation</b>	Data Input = 8 hours Data Analysis = 2 days Production of Evaluation Report = 2 weeks	

## 6. Monitoring and Evaluation

Design a baseline questionnaire and post intervention questionnaire.

Weights to be taken at each session over 8 weeks, monthly follow ups for 3 months, then at 6 months and 1 year.

## 7. Implementation

Steps for Implementation;

1. Recruitment
2. Baseline Questionnaire
3. Baseline Weight
4. Weekly lifestyle group programme
5. Post Intervention Questionnaire completed after completion of 8 week programme

## 8. Proposed Time Scale

**Table 3. Timescales**

Stage of Consultancy	Proposed Date
<p><b>Stage 1</b></p> <p>Conduct a brief needs assessment.</p> <p>Key activities</p> <p>Design staff survey to be completed on line for those interested in attending a weight management programme.</p>	<p>January 2012</p>
<p><b>Stage 2</b></p> <p>Increase awareness of the importance of adopting a healthy lifestyle and maintaining a healthy weight.</p> <p>Key activities;</p> <p>Develop materials to raise staff awareness of programme and healthy lifestyles</p> <p>Utilise communication channels with staff including intranet and internal</p>	<p>January 2012</p>

<p>communications newsletter</p> <p>Healthy Lifestyles Event for all staff</p>	
<p><b>Stage 3</b></p> <p>Deliver one pilot Weight Management Programme on-site for eligible staff (maximum 15 staff).</p> <p>Key activities;</p> <p>Develop pre and post questionnaire</p> <p>Input data collection</p>	<p>To start beginning February 2012</p>
<p><b>Stage 4</b></p> <p>Evaluate Pilot Programme</p> <p>Key activities:</p> <p>Analyse data</p> <p>Compile evaluation report</p>	<p>Interim evaluation May 2012. Final evaluation 1 year after implementation (February, 2013).</p>

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## Appendix 3 – Advert for Lifestyle Action Programme



East London and the City

# Change for life Lifestyle Action Programme

A free 8 week weight management programme for staff at NHS ELC who are looking to lose weight and maintain a long term healthy lifestyle.

This programme will start on Friday 3<sup>rd</sup> February 2012 and run for 8 weeks

Run in association with Wolfson Institute of Preventive Medicine and NHS East London and the City.

Places are limited.

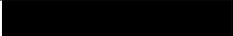
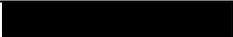
To register your place please email:

**Appendix 4 - Staff Workplace Lifestyle Action Programme** [REDACTED]

Session	Objectives	Date	Time	Location
Screening	<ul style="list-style-type: none"> <li>• Check participants meet eligibility criteria.</li> <li>• Take baseline measurements;                             <ul style="list-style-type: none"> <li>○ Height</li> <li>○ Weight</li> <li>○ Waist</li> </ul> </li> <li>• Complete baseline questionnaires</li> </ul>	03/02/2012	12pm – 1pm	[REDACTED]
Session 1	<ul style="list-style-type: none"> <li>• Information session</li> <li>• Explain outline of course</li> <li>• Set realistic expectations</li> <li>• Introduce group members</li> <li>• Discuss option of using orlistat.</li> </ul> <p>Baseline Tasks</p> <ul style="list-style-type: none"> <li>• Pedometers to be worn every day and readings to be noted on task card</li> <li>• Leisure time screen time hours to be noted on task card</li> </ul>	10/02/2012	12pm – 1pm	[REDACTED]
Session 2	<ul style="list-style-type: none"> <li>• Baseline test of knowledge of calorie content of food</li> <li>• Explanation of calories</li> <li>• Suggestions for individual reductions 1lb per week weight loss</li> <li>• Introduce walking and TV watching targets</li> </ul> <p>Tasks</p> <ul style="list-style-type: none"> <li>• Complete food diary</li> </ul>	17/02/2012	12pm – 1pm	[REDACTED]

	<ul style="list-style-type: none"> <li>• Agree pedometer target and readings to be noted on task card daily</li> <li>• Leisure time screen time hours to be noted on task card</li> </ul>			
Session 3	<ul style="list-style-type: none"> <li>• Check progress and challenges, encourage group interaction, introduce new task of 5 a day.</li> </ul> <p>Tasks</p> <ul style="list-style-type: none"> <li>• Agree pedometer target with individuals - note on task card</li> <li>• 3 X 20 minute moderate intensity activity a week – note on task card</li> <li>• Eat 5 fruit and veg a day – note on task card</li> </ul>	24/02/2012	12pm – 1pm	 
Session 4	<ul style="list-style-type: none"> <li>• Increasing Exercise</li> </ul> <p>Tasks</p> <ul style="list-style-type: none"> <li>• Agree pedometer target with individuals</li> <li>• 3 X 20 minute moderate intensity activity a week</li> </ul>	02/03/2012	12pm – 1pm	   
Session 5	<p>Increasing motivation by introducing tasks for buddy pairs.</p> <p>Tasks</p> <ul style="list-style-type: none"> <li>• Agree pedometer target with individuals</li> <li>• Keep doing 3 X20 minute moderate intensity activity a week</li> <li>• 2 lb weight loss target for buddy pairs</li> </ul>	09/03/2012	12pm – 1pm	 

Session 6	<p>Teach using food labels</p> <p>Tasks</p> <ul style="list-style-type: none"> <li>• Agree pedometer target with individuals</li> <li>• 3 X20 minute moderate intensity activity a week</li> <li>• 1lb weight loss target</li> </ul>	16/03/2012	12pm – 1pm	
Session 7	<p>Teach skills in avoiding cues and managing environment</p> <p>Tasks:</p> <ul style="list-style-type: none"> <li>• Agree pedometer target with individuals – to be met on 5 days</li> <li>• 3 X20 minute moderate intensity activity a week</li> <li>• 1lb weight loss target</li> <li>• Remove named temptations at home</li> </ul>	23/03/2012	12pm – 1pm	
Session 8	<p>Review learning to date and how to maintain changes made. Re test knowledge.</p> <p>Explain follow up sessions. Appointment cards for 1 month follow up.</p> <p>Promote continuing buddy contact.</p> <p>Tasks</p> <ul style="list-style-type: none"> <li>• Agree pedometer target with individuals – to be met on 5 days</li> <li>• 3 X20 minute moderate intensity activity a week</li> <li>• 1lb weight loss target every 2 weeks</li> </ul>	30/03/2012	12pm – 1pm	

	<ul style="list-style-type: none"> <li>Aim to weight daily</li> </ul>			
1 month follow up	<p>Monitor progress and buddy contact.</p> <p>Discuss any challenges and actions.</p> <p>Appointment cards for 6 month follow up.</p>	27/04/2012	12pm – 1pm	 
6 month follow up	<p>Monitor progress and buddy contact.</p> <p>Discuss any challenges and actions.</p> <p>Appointment cards for 6 month follow up.</p>	27/07/2012	12pm – 1pm	 
12 month follow up	<p>Monitor progress and buddy contact.</p> <p>Discuss any challenges and actions.</p> <p>Contact details for future support.</p>	01/02/2013	12pm – 1pm	 

## Appendix 5 – Participant Information Sheet and Consent Form

Participant:

Date:

### Weight Action Programme @ Clifton House

#### Information and Consent Form

I am a trainee Health Psychologist working within the City and Hackney Public Health department at NHS East London and the City. I am currently working towards my Professional Doctorate in Health Psychology compiling evidence of my practice. I would be extremely grateful if you could please complete this questionnaire before starting the programme and another questionnaire at the end of the eight weeks. The information collected in these questionnaires is strictly confidential and will be used only by the staff involved in this programme. Together with information collected at each of the eight sessions, it will be used to evaluate the Weight Action Programme at Clifton House. Results of this will not include any personally identifiable data. It would be helpful if you could provide as detailed answers to the questions as possible. If you have any queries or concerns please contact Amanda Douglas on [REDACTED]

Signing below indicates that you have read this notice and agree to your information being used for the above stated purposes.

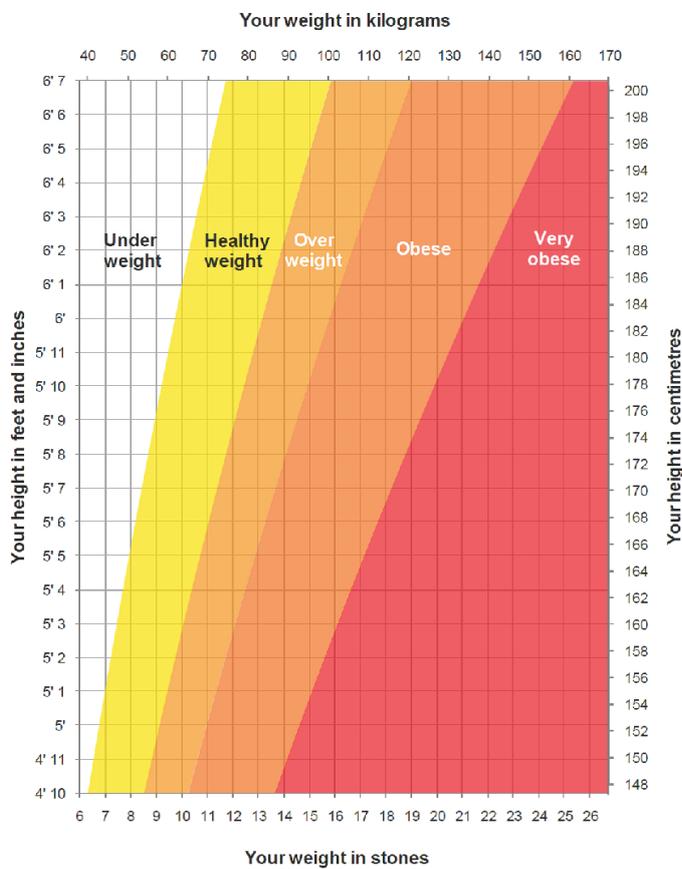
Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Participant:

Date

### Pre-Programme Participant Questionnaire

1. Age \_\_\_\_\_
2. Sex (please circle)      Male      Female
3. Weight \_\_\_\_\_
4. Height \_\_\_\_\_
5. Please mark with an **X** approximately where you are on the chart below:



6. How did you hear about this programme?

(Please circle)    Poster    Staff Bulletin    Colleague    Other (please specify)

\_\_\_\_\_

7. What motivated you to register with this weight action programme now?

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8. What do you hope to achieve by taking part in this weight action programme?

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9. How do you feel about taking part in a group based programme in your place of work with colleagues?

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10. How important is it for you to lead a healthy life?

*(Please circle on a scale of 1 – 4 where 1 = not important 4 = very important)*

1                      2                      3                      4

11. How much do you believe you currently make healthy life choices?

*(Please circle on a scale of 1 – 4 where 1 = do not believe 4 = strongly believe)*

1                      2                      3                      4

12. How important is it for you to be a healthy weight?

*(Please circle on a scale of 1 – 4 where 1 = not important 4 = very important)*

1                      2                      3                      4

13. Do you believe you can achieve a healthy weight?

*(Please circle on a scale of 1 – 4 where 1 = do not believe 4 = strongly believe)*

1                      2                      3                      4

14. How much do you want to lose weight?

*(Please circle on a scale of 1 – 4 where 1 = not at all 4 = very much)*

1                      2                      3                      4

15. How motivated are you to lose weight?

*(Please circle on a scale of 1 – 4 where 1 = not motivated 4 = very motivated)*

1                      2                      3                      4

16. How much do you believe that attending this weight action programme will help you to lose weight? *(Please circle on a scale of 1 – 4 where 1 = do not believe 4 = strongly believe)*

1                      2                      3                      4

17. How much do you believe that changing your diet will help you to lose weight?

*(Please circle on a scale of 1 – 4 where 1 = do not believe 4 = strongly believe)*

1                      2                      3                      4

18. How much do you believe that increasing your physical activity will help you to lose weight? *(Please circle on a scale of 1 – 4 where 1 = do not believe 4 = strongly believe)*

1                      2                      3                      4

19. How much do you believe you are in control of your weight?

*(Please circle on a scale of 1 – 4 where 1 = no control 4 = strongly believe)*

1                      2                      3                      4

20. How prepared are you to change your lifestyle to lose weight?

*(Please circle on a scale of 1 – 4 where 1= not prepared 4 = very prepared)*

1                      2                      3                      4

21. If you succeed in achieving a healthy weight, how confident are you that you could maintain it?

*(Please circle on a scale of 1 – 4 where 1 = not confident 4 = very confident)*

1                      2                      3                      4

22. Do you think there are any risks associated with staying the weight you are?

*(Please circle)*                      Yes                      No

*If yes please provide details*

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23. Do you think there are any benefits of being a healthy weight?

(Please circle)            Yes            No

If **yes** please provide details

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24. Do you anticipate any challenges in achieving and maintaining a healthier weight?

(Please circle)            Yes            No

If **yes** please provide details

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25. What support would you like to help you lose weight and maintain a healthier weight?

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26. What are the most important things you can do to lose weight and maintain a healthier weight?

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27. Do you feel you have adequate support from friends/ family/ colleagues to help you achieve and maintain a healthier weight?

(please circle)            Yes            No

Please explain further if possible:

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28. How much do you believe the following impact on your current weight?

*(Please circle on a scale of 1- 4 where 1= very positive impact 3 = no impact 5= very negative impact)*

Your lifestyle	1	2	3	4	5
Genetics	1	2	3	4	5
Hunger	1	2	3	4	5
Over eating	1	2	3	4	5
Under-activity	1	2	3	4	5
Lack of exercise	1	2	3	4	5
How you feel	1	2	3	4	5
Alcohol	1	2	3	4	5
Prescribed Medication	1	2	3	4	5
Your environment	1	2	3	4	5
Socialising	1	2	3	4	5
Your family/ friends	1	2	3	4	5
Other (please specify) _____	1	2	3	4	5

29. How much control do you believe you have over your eating behaviour?

*(Please circle on a scale of 1 – 4 where 1 = no control 4= complete control)*

1                      2                      3                      4

30. How much do you want to change your diet?

*(Please circle on a scale of 1 – 4 where 1 = not at all 4 = very much)*

1                      2                      3                      4

31. How much do you believe you can change your diet?

*(Please circle on a scale of 1 – 4 where 1 = do not believe 4 = strongly believe)*

1                      2                      3                      4

32. How much do you believe the following influence you to eat more?

*(Please circle on a scale of 1-4 where 1= no influence 4= large influence)*

Hunger	1	2	3	4
Being home alone	1	2	3	4
Boredom	1	2	3	4
Loneliness	1	2	3	4
Happiness	1	2	3	4
Sadness	1	2	3	4
Feeling stressed	1	2	3	4
Socialising	1	2	3	4
Other (please specify) _____	1	2	3	4

33. To stay healthy the Department of Health guidelines state that adults should aim for 2 ½ hours of moderate intensity aerobic activity (such as cycling or fast walking), or 1 ¼ hours of vigorous intensity aerobic activity (such as running or a game of singles tennis) every week, and muscle strengthening activities on 2 or more days a week that work all major muscle groups (legs, hips, back, abdomen, chest, shoulders and arms). Do you currently meet this recommendation?

*(Please circle)*                      Yes                      No

*If **yes** please provide details of the activity, how frequently, for how long and what intensity (i.e. swim regularly once a week for an hour at a leisurely pace)*

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34. How much do you want to increase your current level of physical activity?

*(Please circle on a scale of 1 – 4 where 1 = not at all 4 = definitely)*

1                      2                      3                      4

35. How much do you believe you can increase your current level of physical activity?

*(Please circle on a scale of 1 – 4 where 1 = do not believe 4 = strongly believe)*

1                      2                      3                      4

36. Are there factors that make it difficult for you to engage in physical activity?

(Please circle)            Yes            No

If **yes** please provide details

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37. Would you be interested in joining a work based physical activity programme?

(please circle)            Yes            No

If **yes** please circle all that apply:

Running            Walking            Dance            Zumba            Aerobics            Martial Arts

Yoga            Other (Please specify) \_\_\_\_\_

If **no** please explain why:

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**Thank you very much for completing this questionnaire.**

Please feel free to write any additional thoughts/ comments

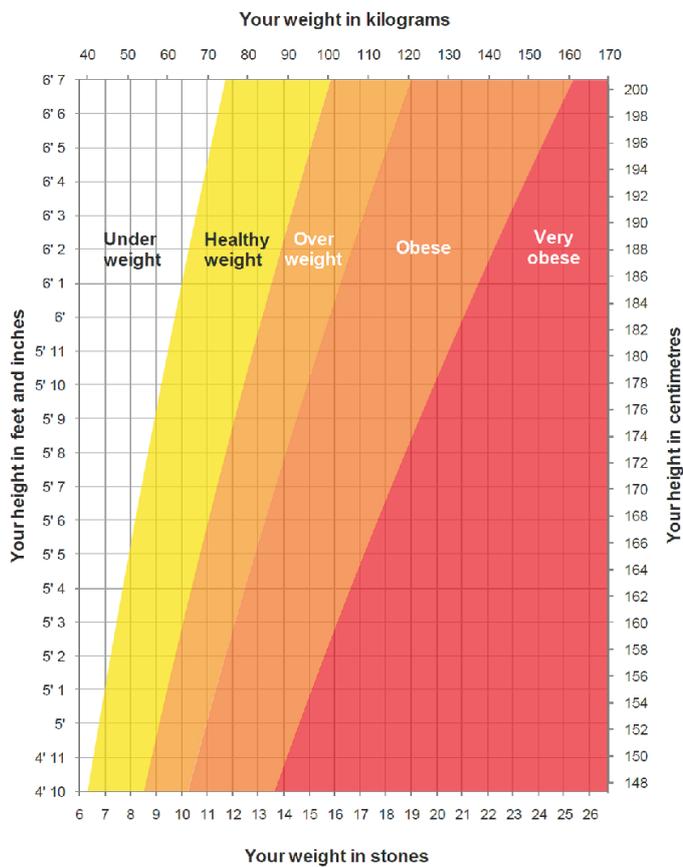
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## Appendix 6 – Post Programme Questionnaire

### Weight Action Programme @ Clifton House

#### Post-Programme Participant Questionnaire

1. Weight \_\_\_\_\_
2. Height \_\_\_\_\_
3. Please mark with an **X** approximately where you are on the chart below:



#### Since starting the weight management programme;

4. How important is it for you to lead a healthy life?

*(Please circle on a scale of 1 – 4 where 1 = not important 4 = very important)*

1                      2                      3                      4

5. How important is it for you to be a healthy weight?

*(Please circle on a scale of 1 – 4 where 1 = not important 4 = very important)*

1                      2                      3                      4

6. Do you believe you can achieve a healthy weight?

*(Please circle on a scale of 1 – 4 where 1 = do not believe 4 = strongly believe)*

1                      2                      3                      4

7. How much do you believe the following impact on your current weight?

*(Please circle on a scale of 1- 5 where 1= positive impact, 3 = no impact, 5= negative impact)*

Your lifestyle	1	2	3	4	5
Genetics	1	2	3	4	5
Hunger	1	2	3	4	5
Over eating	1	2	3	4	5
Under-activity	1	2	3	4	5
Lack of exercise	1	2	3	4	5
How you feel	1	2	3	4	5
Alcohol	1	2	3	4	5
Prescribed Medication	1	2	3	4	5
Your environment	1	2	3	4	5
Socialising	1	2	3	4	5
Your family/ friends	1	2	3	4	5
Other (please specify) _____	1	2	3	4	5

8. How much do you believe the following influence you to eat more?

*(Please circle on a scale of 1-4 where 1= no influence, 4= large influence)*

Hunger	1	2	3	4
Being home alone	1	2	3	4
Boredom	1	2	3	4
Loneliness	1	2	3	4
Happiness	1	2	3	4
Sadness	1	2	3	4

Feeling stressed 1 2 3 4

Socialising 1 2 3 4

Other (please specify) \_\_\_\_\_ 1 2 3 4

9. How much do you believe you are in control of your weight?

*(Please circle on a scale of 1 – 4 where 1 = no control 4 = strongly believe)*

1 2 3 4

10. How much control do you believe you have over your eating behaviour?

*(Please circle on a scale of 1 – 4 where 1 = no control 4 = complete control)*

1 2 3 4

11. Have you made changes to your lifestyle since joining the programme?

*(Please circle)* Yes No

*If **yes** please provide details of the **hardest** change(s)*

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*If **yes** please provide details of the **easiest** change(s)*

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12. How much do you believe you now make healthier life choices?

*(Please circle on a scale of 1 – 4 where 1 = do not believe 4 = strongly believe)*

1 2 3 4

13. How motivated are you to make healthier choices?

*(Please circle on a scale of 1 – 4 where 1 = not motivated 4 = very motivated)*

1 2 3 4

14. How much do you feel you have changed your diet?

*(Please circle on a scale of 1 – 4 where 1 = not at all 4 = changed significantly)*

1                      2                      3                      4

15. How much do you feel that you have reduced your calorie intake?

*(Please circle on a scale of 1 – 4 where 1 = not at all 4 = reduced significantly)*

1                      2                      3                      4

16. Do you feel you have increased your level of physical activity?

*(Please circle on a scale of 1 – 4 where 1 = not at all 4 = increased significantly)*

1                      2                      3                      4

17. Do you engage in more regular physical activity?

(Please Circle)              Yes                      No

*If **yes** please explain what and how frequently (i.e. swim once a week, attend aerobic class once a week)*

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18. Would you be interested in engaging in a work based physical activity programme?

*(please circle)*              Yes                      No

*If **yes** please circle all that apply:*

*Running              Walking              Dance              Zumba              Aerobics              Martial Arts*  
*Yoga              Other (Please specify) \_\_\_\_\_*

*If **no** please explain why:*

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19. How committed do you feel to continue to strive to achieve a healthier weight?

*(Please circle on a scale of 1 – 4 where 1 = not at all 4 = very committed)*

1                      2                      3                      4

20. If you succeed in achieving a healthy weight, how confident are you that you could maintain it?

*(Please circle on a scale of 1 – 4 where 1 = not confident 4 = very confident)*

1                      2                      3                      4

21. Do you anticipate any challenges in achieving and maintaining a healthier weight going forward?

(Please circle)                      Yes                      No

If **yes** please provide details

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22. How useful did you find the programme?

(Please circle on a scale of 1 – 4 where 1 = not useful 4 = very useful)

                    1                      2                      3                      4

23. What were the most helpful aspects of the programme?

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24. Is there anything you would change about the programme?

(Please circle)                      Yes                      No

Comments

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25. Do you feel you have achieved what you hoped to by engaging with this weight action programme?

(Please circle)                      Yes                      No

Comments

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26. How much do you believe that attending this weight action programme has helped you to lose weight? (Please circle on a scale of 1 – 4 where 1 = do not believe 4 = strongly believe)

1

2

3

4

27. Do you feel the programme has helped you on your way to achieve a healthy weight?

(Please circle)

Yes

No

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28. How did you find the experience of engaging in a group based weight action programme?

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29. How did you find the experience of engaging in a group based weight action programme in your place of work with colleagues?

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30. Would you recommend this programme to someone wanting to lose weight?

(Please circle)

Yes

No

Comments

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31. How do you feel now you have completed this weight action programme?

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32. What support would you find useful, now the programme has finished, to help you achieve a healthier weight and maintain it?

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Please feel free to write any additional thoughts/ comments

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**Thank you very much for completing this questionnaire.**

If you have any questions please contact Amanda Douglas on [REDACTED]  
[REDACTED]

## Consultancy Evaluation Report

### Workplace Weight Action Programme in NHS North East London

#### Summary

**Aim:** To pilot an evidence based weight management programme in a workplace setting (██████████) for staff working for NHS North East London.

#### Objectives:

1. To conduct a brief needs assessment
2. To support staff seeking support to lose weight to achieve a healthier weight
3. To contribute to the improvement in the health and wellbeing of the workforce and population of City and Hackney

**Results:** A Staff Health and Wellbeing event was held on 16<sup>th</sup> January 2012 at ██████████ to raise awareness of opportunities to make positive lifestyle changes through healthier choices. The results from the Body Composition Assessments showed a high number of staff classified as overweight or obese. A staff survey was developed to assess the acceptability of a workplace weight management programme. 30 staff registered their interest in attending a workplace weight management programme. A Lifestyle Weight Management Programme was run for staff based at ██████████ based on the Weight Action Programme (Hajek, Humphrey, & McRobbie, 2010). 16 staff attended the programme. At week 5 of the programme 12 participants had all lost weight with an average weight loss of 1.88Kilos. All participants who completed the post intervention evaluation reported that they had achieved what they had hoped to by engaging with this programme, that the programme had supported them on their way to achieve a healthier weight and that they would recommend the programme to someone wanting to lose weight.

It is recommended that NELC as an employer should continue to invest in the health and wellbeing of its staff through the staff health and wellbeing programme. Including promoting physical activity within the workplace as outlined in the NICE Public Health Guidance (NICE, 2013) and evidence based behavioural support in the workplace and sign post to other available local services for those seeking to lose weight.

### **Stage 1: Identifying Need**

To assess the need for a workplace weight management programme a Healthy Weight and Healthy Lifestyles event was held as part of the Staff Health and Wellbeing Programme, supported by Public Health.

This was held at [REDACTED] on 16<sup>th</sup> January 2012. In the morning staff were provided with the opportunity to make a healthy breakfast which was hosted by a Health Improvement Practitioner showing staff how to make their own healthy muesli and provided an opportunity for staff to then sit down together to eat breakfast.

There was information displayed in the main foyer focused on healthy eating and physical activity and prompted workplace activities such as the lunchtime walks.

Staff from the local NHS Dietetics team provided opportunities for staff to have a body composition assessment which provided feedback on their Body Mass Index (BMI), fat and muscle composition. Staff could book a slot during working hours Monday – Friday week commencing 16<sup>th</sup> January. Approximately 40 staff had a body composition assessment. The results showed a high number of staff were classified as overweight or obese.

To assess whether a weight management programme run within the workplace would be an acceptable intervention, a staff survey was developed and made available online via Survey Monkey. This was advertised via the weekly staff bulletin and on the intranet for staff to complete if they were interested in attending a weight management programme and asked them to identify which days and times would be most appropriate.

Through the use of a web based staff survey, 21 staff responded said they would be interested in participating in a weight programme. The results of the staff survey identified Friday lunch times as the best time to run the group.

In total 30 staff registered their interested in the programme. 26 signed up and 16 took part in the programme.

### **Stage 2: Increase awareness of the importance of adopting a healthy lifestyle and maintaining a healthy weight**

Working in collaboration with ELC Communications team a poster was designed and printed to advertise the weight management programme linking to the Change4Life campaign branding and through staff engagement the programme was called a Lifestyle Action Programme.

An A5 Lifestyle File was also designed and printed for participants to keep all the programme materials in along with a BMI chart with a log for weight and waist measurements.

Support was provided to the staff health and wellbeing lead to train staff health and wellbeing champions on delivering healthy lifestyle messages to staff across the organisation.

Support was provided to the Health and Wellbeing Lead to set up the Staff Health and Wellbeing Winter Games and contributed to raising awareness and coordinating the Health Eating and Weight Action Week.

### **Stage 3: Deliver one pilot Weight Management Programme on site for eligible staff**

**Delivery of a Lifestyle Weight Action Programme based on the Weight Action Programme devised by the Wolfson Institute of Preventive Medicine for overweight and obese staff at NHS East London and the City.**

The weight action programme was advertised as a healthy life styles programme aimed at helping staff to adopt healthier lifestyles to help those over weight to lose weight by eating a healthier diet and increasing their level of exercise.

The course started on Friday 3rd February 2012 and ran for 8 weeks with follow up sessions at 3 months, 6 months and a year. The sessions were held every Friday for 8 weeks at 12pm – 1pm as requested by the majority of staff.

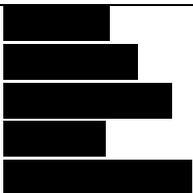
The initial session acted as a screening to ensure all participants were able to make the majority of the sessions, that they met all the inclusion criteria and were happy with the format. Baseline weight, height and waist measurements were taken.

For the subsequent 8 sessions, the session started with taking weights and heights individually. Participants were asked to provide feedback on how their previous week had been, what they had found easy or difficult. There was a theme for each week which built on the previous week. Participants were given task cards to complete weekly, food diaries and pedometers. Each week participants were given a slightly more challenging target of steps to reach the optimum amount to achieve desire weight loss in line with their daily calorie targets. There were also physical activity, calorie intake, fruit and vegetable and screen time targets over the course of the programme.

Weekly drop in sessions were offered for weigh ins and for any advice, then the follow up sessions at 3, 6 and 12 months were designed to provided long term support to sustain weight loss.

Overview of Sessions:

Session	Objectives	Date	Time	Location
Screening	<ul style="list-style-type: none"> <li>• Check participants meet eligibility criteria.</li> <li>• Take baseline measurements;               <ul style="list-style-type: none"> <li>○ Height</li> <li>○ Weight</li> <li>○ Waist</li> </ul> </li> <li>• Complete baseline questionnaires</li> </ul>	03/02/2012	12pm – 1pm	[REDACTED]
Session 1	<ul style="list-style-type: none"> <li>• Information session</li> <li>• Explain outline of course</li> <li>• Set realistic expectations</li> <li>• Introduce group members</li> <li>• Discuss option of using orlistat.</li> </ul> <p>Baseline Tasks</p> <ul style="list-style-type: none"> <li>• Pedometers to be worn every day and readings to be noted on task card</li> <li>• Leisure time screen time hours to be</li> </ul>	10/02/2012	12pm – 1pm	[REDACTED]

	noted on task card			
Session 2	<ul style="list-style-type: none"> <li>• Baseline test of knowledge of calorie content of food</li> <li>• Explanation of calories</li> <li>• Suggestions for individual reductions 1lb per week weight loss</li> <li>• Introduce walking and TV watching targets</li> </ul> <p>Tasks</p> <ul style="list-style-type: none"> <li>• Complete food diary</li> <li>• Agree pedometer target and readings to be noted on task card daily</li> <li>• Leisure time screen time hours to be noted on task card</li> </ul>	17/02/2012	12pm – 1pm	
Session 3	<ul style="list-style-type: none"> <li>• Check progress and challenges, encourage group interaction, introduce new task of 5 a day.</li> </ul> <p>Tasks</p> <ul style="list-style-type: none"> <li>• Agree pedometer target with individuals - note on task card</li> <li>• 3 X 20 minute moderate intensity activity a week – note on task card</li> <li>• Eat 5 fruit and veg a day – note on task card</li> </ul>	24/02/2012	12pm – 1pm	
Session 4	<ul style="list-style-type: none"> <li>• Increasing Exercise</li> </ul> <p>Tasks</p> <ul style="list-style-type: none"> <li>• Agree pedometer target with individuals</li> <li>• 3 X 20 minute moderate intensity activity a week</li> </ul>	02/03/2012	12pm – 1pm	
Session 5	<p>Increasing motivation by introducing tasks for buddy pairs.</p> <p>Tasks</p>	09/03/2012	12pm – 1pm	

	<ul style="list-style-type: none"> <li>• Agree pedometer target with individuals</li> <li>• Keep doing 3 X20 minute moderate intensity activity a week</li> <li>• 2 lb weight loss target for buddy pairs</li> </ul>			
Session 6	<p>Teach using food labels</p> <p>Tasks</p> <ul style="list-style-type: none"> <li>• Agree pedometer target with individuals</li> <li>• 3 X20 minute moderate intensity activity a week</li> <li>• 1lb weight loss target</li> </ul>	16/03/2012	12pm – 1pm	
Session 7	<p>Teach skills in avoiding cues and managing environment</p> <p>Tasks:</p> <ul style="list-style-type: none"> <li>• Agree pedometer target with individuals – to be met on 5 days</li> <li>• 3 X20 minute moderate intensity activity a week</li> <li>• 1lb weight loss target</li> <li>• Remove named temptations at home</li> </ul>	23/03/2012		
Session 8	<p>Review learning to date and how to maintain changes made. Re test knowledge.</p> <p>Explain follow up sessions. Appointment cards for 1 month follow up.</p> <p>Promote continuing buddy contact.</p> <p>Tasks</p> <ul style="list-style-type: none"> <li>• Agree pedometer target with individuals – to be met on 5 days</li> <li>• 3 X20 minute moderate intensity activity a week</li> <li>• 1lb weight loss target every 2 weeks</li> <li>• Aim to weight daily</li> </ul>	30/03/2012	12pm – 1pm	

1 month follow up	Monitor progress and buddy contact. Discuss any challenges and actions. Appointment cards for 6 month follow up.	27 <sup>th</sup> April 2012	12pm – 1pm	[REDACTED]
6 month follow up	Monitor progress and buddy contact. Discuss any challenges and actions. Appointment cards for 6 month follow up.	27 <sup>th</sup> July 2012	12pm – 1pm	[REDACTED]
12 month follow up	Monitor progress and buddy contact. Discuss any challenges and actions. Contact details for future support.	01/02/2013	12pm – 1pm	[REDACTED]

#### Step 4: Evaluate Pilot Programme

Through publicity of the programme 30 members of staff registered their interest in the programme directly.

26 members of staff signed up to the programme however two could subsequently not make all the sessions, four could not make Fridays and one decided they did not want to participate in a work-based programme with colleagues, two dropped out leaving a total of 16 taking part.

Of the 16 participants 2 were male and 14 were female. There was an age range of 32 – 54 years across the participants with an average age of 44 years. BMI ranged from 23.4 – 40.8 with an average BMI of 31 at the start of the programme. The programme inclusion criteria was aimed at those with a BMI of 30 kg/m<sup>2</sup> or over, or BMI of 28 kg/m<sup>2</sup> or over with co-morbidities. However, six individuals had a BMI of under 28kg but wanted to attend to learn about adopting a healthy lifestyle and maintaining a healthy weight. After a discussion with the Clinical Lead it was decided they could attend as a workplace programme should be open to all staff wanting support to lead a healthy lifestyle, but the focus for these individuals should be about maintaining healthy weight. All participants signed up as they wanted to improve their health and wellbeing.

Ethnicity	Number of Participants	Percentage*
Asian	3	19 %
Black African	9	56%
White British	2	13%
White Other	2	13%

\*Does not add up due to rounding

Two participants reported having diabetes, another two mentioned weight related health issues including joint pain and one participant had been recently diagnosed with atrial fibrillation.

From the baseline questionnaires all participants stated;

- they wanted to lose weight
- they did not currently meet the government recommended weekly level of physical activity and would like to increase this
- aware of the health implications of being overweight

There were some mixed views about attending a group in the workplace.

*“Whilst a little daunting given that body weight is a personal issue I think it will provide good motivation.”*

*“Nervous.”*

*“Positive.”*

*“I like the idea of a group based programme because it creates accountability and that should motivate me to carry on.”*

All participants rated the importance of leading a healthy life and being a healthy weight as highly important for them. Interestingly both male participants reported not believing they can achieve a healthy weight whereas all the female participants believed that they could.

A number of common themes of challenges to weight loss were identified;

- socialising and eating was apparent along with temptation of unhealthy snacks and ‘treats’ in the workplace.

*“Friends do tempt you with unhealthy eating”.*

- to reduce alcohol intake

*“Ability to reduce alcohol intake”.*

*“Reducing and maintaining my alcohol intake”.*

- time and work pressure

*“work pressure to allow attendance at programme.”*

*“I work long hours and so make poor food choices when I am tired and leaving work late. Equally it does not leave much time for exercise. Both of these impact on my weight and therefore my health.”*

7 participants reported believing they have little if any control over their weight. 3 participants reported having little if any control over their eating behaviour. 1 participant noted she felt this should be higher. 1 participant reported this *“shifts between complete control and out of control”*.

## **Attendance**

Attendance was good up to week 7 of the programme when this dropped significantly. This coincided with when the organisation issued staff with letters informing them that they were at risk due to organisational change and would be expected to apply for relevant positions within the new health landscape.

### 8 Week Programme Attendance

Week	Baseline	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Attendance	16	15	10	12	12	14	11	4	4 (1 left organisation)

### Follow up Attendance

Follow up	1 month	6 months	12 months
Attendance	6	4	1 self reported

14 participants attended week 5 of the programme where 12 participants had lost weight with an average of 1.88Kilos, 2 had put on weight, 0.4kilo and 1 kilo respectively.

At one month follow up six participants attended. They had lost on average 4.57 kilos.

This resulted in reduced BMI results shown below;

Participant	BMI at Baseline	BMI at 1 month
1	24.13	22.9
7	35.14	34.2
10	26.94	26.5
13	29.13	26
14	40.8	38.1
16	23.4	22

At six month follow up four participants attended with an average weight loss of 2.55 kilos. With all participants seeing a reduction in their BMI from baseline.

Participant	BMI at Baseline	BMI at 1 month	BMI at 6 months
1	24.13	22.9	23.2
7	35.14	34.2	33.5
8	35.59	n/a	32.9
10	26.94	26.5	26.5

7 participants completed the post intervention evaluation questionnaire.

All participants who completed the post intervention evaluation reported they;

- had made positive changes to their lifestyle since joining the programme.
- were making healthier choices.
- had achieved what they had hoped to by engaging with this programme.
- feel the programme has supported them on their way to achieve a healthier weight
- would recommend the programme to someone wanting to lose weight.
- found the group based programme in the workplace a positive experience as it provided support and motivation.

The hardest changes to lifestyle were reported to do with food and eating behaviour. The easiest changes were reported to do with increasing physical activity in particular increasing walking.

The most helpful elements of the programme included group support, weekly weigh ins and professional advice. Comments included;

*“motivation to undertake physical activities, weight management, information on calories.”*

*“monitoring.”*

*“professional advice, weigh ins, no pressure.”*

*“The weekly meetings and sharing ideas. Being weighed. It made you think twice about what you put in your mouth. Calories advice.”*

### **Limitations**

The programme was run during a time of significant organisational change. All staff were required to apply for appropriate positions across the organisation which affected those enrolled on the lifestyle weight management programme. This had an impact on the retention of participants to the programme as many staff were required to relocate and attending the sessions became a challenge. Despite these challenges 4 participants attended the 6 month follow up, all who had continued to lose weight with an average weight loss of 2.55kilos.

### **Next Steps**

The next steps would be to conduct another pilot programme in a workplace setting that is not due to undergo major organisational change to evaluate more robustly the retention rate and effectiveness of programme. Feedback from the programme has been feed back to the Wolfson Institute Team and learnings will go on to inform further programmes.

### **Recommendations**

It is recommended that NELC as an employer should continue to invest in the health and wellbeing of its staff through the well-established staff health and wellbeing programme. This should include promoting physical activity within the workplace as outlined in the NICE Public Health Guidance (NICE, 2013), providing evidence based behavioural support in the workplace and sign posting to other available local services for those seeking to lose weight. Consider removing unhealthy treats in kitchen/ office areas and replacing with fruit.

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## **Behaviour Change Case Study**

### **The Development of an Evidenced Based, Outcome Focused**

#### **Behaviour Change Intervention**

##### **Burn Calories, Not Electricity: Creating Opportunities for Daily Physical Activity**

### ***Context***

#### ***Physical Activity in the Workplace***

According to the Department of Health (DH), physical activity not only contributes to wellbeing, it is essential for good health (DH, 2004). Over the last 50 years physical activity levels have declined by 20% in the UK, with projections indicating a further 15% drop by 2030. In some parts of the UK more than 40% of the adult population report that they are inactive (British Heart Foundation Nation Centre for Physical Activity and Health, 2012). Being inactive increases the risk of cancer, heart disease, stroke and diabetes by 25-30% and shortens lifespan by 3-5 years (DH, 2004). If everyone in the UK were sufficiently active, nearly 37,000 deaths a year could be prevented (DH, 2011).

The estimated national cost of inactivity in England is £8.2 Billion a year (DH, 2004). This figure includes the direct costs of treating diseases linked to inactivity and the indirect costs caused by sickness absence (DH, 2004). It is estimated that a further £2.5 billion each year is spent on dealing with the consequences of obesity, and this can be caused, in part, by a lack of physical activity (DH, 2004).

Increasing physical activity levels in the population will help prevent or manage over 20 conditions and diseases including; coronary heart disease, diabetes, some cancers and obesity (NICE, 2008). It can help to improve mental health and older people to maintain independent lives. The Chief Medical Officer noted that: 'all substantial movement of body weight – such as

steps walked per day, or stair climbing – contributes to energy expenditure and may help with weight management. To avoid weight gain the amount of time spent inactive should be minimised' (DH, 2004). The recommendations also advise that all adults should minimise the amount of time they spend being sedentary for extended periods. Interventions should be aimed at targeting transport and leisure-time sedentary behaviour as well as prolonged sitting in the workplace (DH, 2011).

### ***Physical Activity in NHS North East London and the City (NELC)***

In July 2012, I discussed the potential for developing an intervention to increase daily physical activity in the workplace with the Director of Public Health for City and Hackney and the Work Place Health and Wellbeing Lead for NHS NELC. NELC already had a well-established staff Health and Wellbeing Programme in place promoting physical activity through promoting active travel to, from and during work, with walking and cycling maps, access to pooled bikes and a lunchtime walking group. There were also a number of free physical activity exercise classes available to staff to participate in after working hours. Interestingly however, there was no initiative to reduce sedentary behaviour during work-time. Current guidelines recommend reducing sedentary behaviour and endorse interventions such as providing information on the benefits of physical activity, using signage to encourage use of stairs rather than lifts as well as making stairwells more attractive (British Heart Foundation Nation Centre for Physical Activity and Health, 2012; NICE, 2008a; NICE, 2008b). There was no emphasis on using the stairs as a quick and easy way to incorporate physical activity into the daily routine as recommended by NICE (NICE, 2008a; NICE, 2008b).

I wrote a proposal to develop and implement an evidence based behaviour change intervention to increase daily physical activity to improve the health and wellbeing of the workforce, demonstrating that enhancing the health and wellbeing of staff can lead to increases in organisation productivity and efficiency (Faculty of Public Health, 2006). This

initiative would also complement the local agendas on sustainability, reducing obesity and achieving a healthy weight, whilst supporting the implementation of the London Workplace Charter (a framework to support and recognise employers in London investing in health and well-being) (Mayor of London, 2015).

### *Reflection*

*These discussions took place during a time of significant financial pressure due to the economic downturn and the NHS transition, it was therefore, important to ensure I developed a proposal based on a cost effective intervention which was linked to key public health outcomes.*

### **Theoretical Framework**

An evidenced based, outcome focused behaviour change intervention should be based on four basic assumptions (Wimbush & Watson, 2000);

1. Planned – on the basis of a thorough analysis of the problem
2. Informed – by established theory or framework
3. Implementation – create necessary conditions for successful implementation
4. Detectable – sufficient size

To structure my approach I employed the use of the ‘Stages of Developing an Effective Intervention’ as a stepped systematic overarching framework (Nutbeam, 2004).

1. Problem definition (Needs Assessment)
2. Solution generation (Planning)
3. Capacity Building (Planning)
4. Implementation (Doing)
5. Process, impact and outcome evaluation (Evaluation)

## **Needs Assessment**

I conducted a brief literature review to investigate the barriers and enablers to increase physical activity in the work place and identify effective and cost effective interventions (Appendix 1). I then developed a self-report pre-intervention physical activity questionnaire for staff, which was distributed through health and wellbeing champions and completed on an opportunistic basis. It consisted of questions about current levels of physical activity, barriers and enablers to engaging in more physical activity (Appendix 2).

The results from the completed questionnaires indicated that the majority of staff were not meeting the recommended daily physical activity levels, and those that were not, were keen to try to increase this (Appendix 3). This supported the plan to implement a work place (settings based) behaviour change intervention to increase physical activity by encouraging use of the stairs rather than the lift.

## **Reflection**

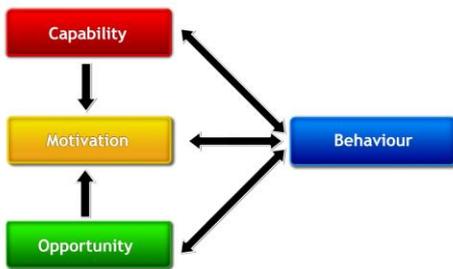
*Initially I wanted to conduct a staff survey to explore self-reported physical activity levels, barriers and enablers to engaging in physical activity, attitudes, beliefs and motivators to inform the intervention design. I subsequently decided it would be useful to develop a pre and post intervention questionnaire to help evaluate the effectiveness of the intervention [Appendix 2 & 9]. As I had very limited experience working in physical activity I spent time trying to identify a useful validated measure to assess self-reported physical activity. I explored the use of the General Practice Physical Activity Questionnaire (GPPAQ) (DH, 2013), Godin's Leisure-time Exercise Questionnaire (Godin & Shephard, 1997) and the International Physical Activity Questionnaire (IAPQ, 2002). I made the decision to incorporate the GPPAQ into the pre intervention questionnaire, despite the fact it was not designed to measure physical activity*

*changes over time, staff had fed back that it was much easier to complete so I felt I would get a higher response rate.*

### **Behavioural Analysis and Intervention Design**

The target behaviours were identified using the COM-B model which sits at the centre of the Behaviour Change Wheel (BCW), (Michie, van Stalen, & West, 2011), [Figure 2.]. This provides a useful framework for understanding behaviour and provides a systematic approach to designing evidence based interventions aimed at behaviour change.

Figure 1. The COM-B system – a framework for understanding behaviour.



(Michie, van Stalen, & West, 2011)

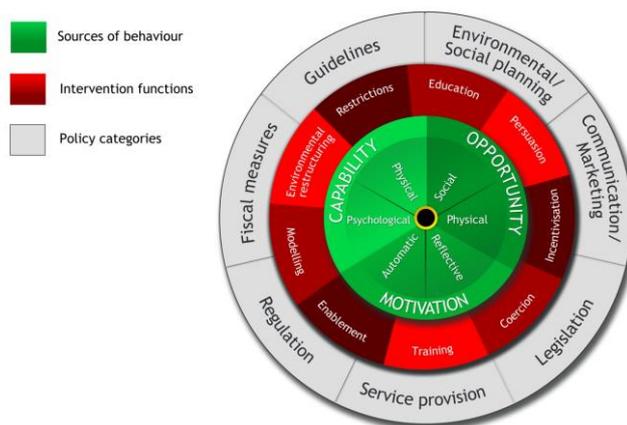
At the centre of model is the COM-B ‘behaviour system’ [Figure 1.] involving three essential conditions; capability, motivation and opportunity, which all need to be present for a behaviour to occur. These components all interact as part of a ‘system’ to generate behaviour. Motivation must be stronger for the target behaviour than competing behaviours. This forms the hub of the BCW [Figure 2.].

Capability is defined as an individual’s psychological or physical ability to engage in an activity which includes having the necessary knowledge and skills to perform the action. Motivation is

defined as the conscious (reflective) and less conscious (automatic) brain processes that activate or inhibit behaviour including decision making. Opportunity is defined as the physical or social environment that enables or prompts behaviour to occur. (Michie, van Stalen, & West, 2011).

The ‘sources of behaviour’ are central to the wheel, surrounded by possible ‘intervention functions’ (activities designed to change specified behaviour patterns), with the ‘policy categories’ labelled on the outer wheel (actions taken by responsible authorities that enable or support interventions).

Figure 2. Behaviour Change Wheel



(Michie et al 2011)

I utilised the BCW to review how each of the COM-B domains influences the behaviour to walk up stairs to help inform the intervention design and prioritise which techniques to use based on impact, feasibility, scalability and cost effectiveness (Appendix 4).

Figure 3.

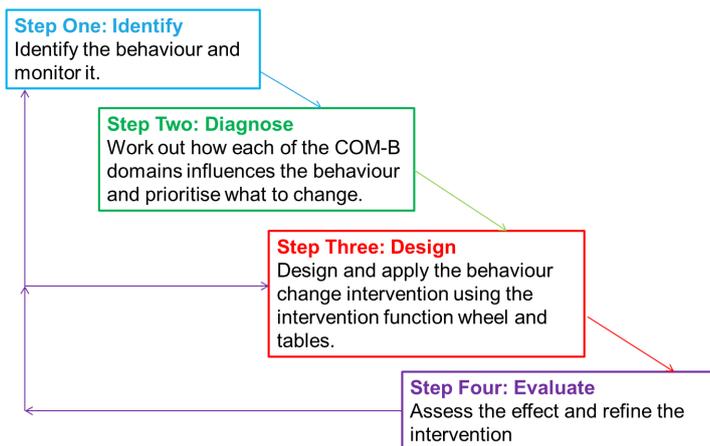


Figure 3. Steps taken in the design, implementation and evaluation of the behaviour change intervention. (Image from UCL Partners).

The target behaviour identified was increasing walking up-stairs in the workplace. This could easily and cheaply be monitored by self-reported or observational surveys using a pre and post design.

The BCW draws on the Theoretical Domains Framework (TDF) to help identify which behaviour change techniques to use (Michie, Johnston, Abraham, Lawton, Parker, et al, 2005). The TDF brings together a plethora of behaviour change theories in an attempt to make theory more accessible and usable by other disciplines. The TDF contains 14 domains and 84 component constructs that map directly onto the COM-B segments (Cane, O'Connor, & Michie, 2012).

More recently a Behaviour Change Technique Taxonomy of 93 techniques clustered into 16 groupings has been published (Michie, Richardson, Johnston, Abraham, Francis, et al 2013). The aim of this was to create a cross discipline agreement about the definition of behaviour change techniques to improve reporting of intervention content for more rigorous replicability and reliability. Education, persuasion, incentivisation, environmental restructuring and

modelling were decided as possible interventions [See Appendix 4 for range of possible interventions].

### **Behaviour Change Intervention**

An intervention developed and evaluated by the City of New York (2008), utilised prompts across different building types in the City to encourage stair climbing (Lee, Perry, Wolf, Agarwal, Rosenblum, et al 2012). The intervention was based on the directive statement 'Burn Calories Not Electricity' and was aimed at increasing physical activity by encouraging people to use the stairs rather than the lift. It utilised bright green motivational prompts through posters placed at points of choice prompting people to choose to take the stairs rather than the lift.

The intervention was evaluated in a before and after study and was found to be an effective way of increasing physical activity in diverse settings. Increased stair use was seen at all sites immediately after posting of the prompts (Range 9.2%–34.7%) and was sustained at 9 months (Lee, Perry, Wolf, Agarwal, Rosenblum, et al 2012). It was hypothesised that the use of motivational prompts and signage promoting use of stairs rather than the lift would increase stair usage in the work place population. To test this hypothesis a pre and post measures design was implemented using self-reported measures and observational surveys.

I contacted researchers in the City of New York and explored the possibility of replicating the implementation and evaluation of the prompt to see if it would be effective in workplaces in East London. The team were delighted for the prompts to be used and they had developed a License Agreement [see Appendix 5] for the prompts to be used by other organisations.

### **Implementation Process [Appendix 6 for implementation plan]**

Once approval was gained I started to plan the implementation of the behaviour change intervention utilising a six step process of implementation based on the TDF of behaviour

change and principles of implementation science (Michie, Johnston, Abraham, Lawton, Parker, et al, 2005).

- 1) Forming implementation team
- 2) Identifying a target behaviour(s)
- 3) Identifying and understanding barriers to change
- 4) Co-developing evidence based strategies to address identified barriers
- 5) Intervention Implementation – process driven by local context
- 6) Evaluation.

### Campaign Materials

I commissioned the stair prompts and directional signage to be professionally printed (Figures 4 and 5), however, a budget was not available to purchase floor stickers to guide the way from the entrance of the building to the stairs so I designed additional directional signage for this purpose.

In addition to the motivational prompts and signage, factsheets were developed for each site location highlighting the health and environmental benefits of taking the stairs. [Appendix 7].

Figure 4.

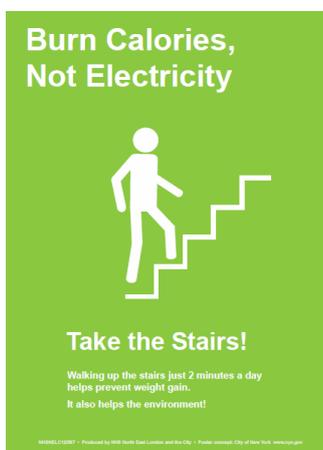


Figure 5.



## *Reflection*

*I was under pressure to implement the intervention as quickly as possible. There was a Fit Cities, Fit World Conference taking place in March 2013 which colleagues from New York City would be attending, and it was hoped we could present on the initial findings. I was keen to utilise more psychological assessment measures to capture any psychological changes, however, I had to be realistic about what was achievable in the time frame so resolved to utilise the evaluation questionnaires, observational survey and replicate the evaluation design conducted by New York City. I had also been keen to conduct focus groups to test out different motivational messages, however, again this was not possible within the time scales. Going forward it would be important to test the effectiveness of different messages to find out which have the biggest impact and whether changing the messages periodically would be more effective as a motivational prompt for sustained behaviour change.*

## **Site Identification**

Sites were identified opportunistically and selected based on having; at least one staircase in the building for everyday use to serve as a principal means of travel, feasibility of conducting observations of lift and stair usage simultaneously, and the ability to monitor trips unobtrusively. I contacted senior leaders at each organisation to raise awareness of the campaign and also took this opportunity to highlight the synergy between stair use, increased physical activity, improvements in health and wellbeing, building design and sustainability.

At each site I identify and trained a 'BCNE' champion with responsibility for supporting the implementation of the campaign at that designated site. They were provided with relevant healthy lifestyle materials including information on promoting physical activity and healthy eating. I also briefed reception staff on the intervention and asked them to make the materials provided available on healthy eating, physical activity and achieving a healthy weight.

Reception staff were also encouraged to direct visitors towards the stairs instead of automatically directing them towards the lifts. This was unfortunately not possible in one building due to the security entry system. Therefore a factsheet was designed and distributed to staff: "Idea! When 'meeting and greeting' your colleagues in reception ask 'are you happy to take the stairs?'"

### *Reflection*

*I was physically located in the office building where the intervention was initially rolled out which made conducting the intervention logistically easier than the other buildings.*

*Implementing the intervention at the other sites was much more time consuming and challenging due to having to fit it around my existing work schedule.*

### **Launch of the BCNE Campaign**

The BCNE Campaign was implemented in a stepped wedge approach starting on 17th September 2012 with the final data being collected on 3<sup>rd</sup> May 2013.

On the evening before the launch I visited the building with the site champion to display all the campaign materials. The campaign posters/stair prompts were strategically positioned at points of choice to encourage use of stairs, and the campaign directional signage was positioned to increase stair visibility by placing the arrows in the building's orientation areas and again at points of decision particularly near lifts. The fact sheets were displayed at tea points, in toilet facilities and in the lift.

To coincide with the launch of the intervention I organised a health promotion healthy lifestyles event to take place at each site, to promote the campaign and provide information for staff on physical activity and healthy eating. I also worked with the internal communications departments to utilise the organisational intranet home page to promote the

campaign, provide a link to the fact sheet, sign post to local physical activity programmes and provide information on healthy lifestyles.

### **Data Collection**

All vertical trips originating from the ground floor of each site were tallied on observation forms by research staff (Appendix 8). Trips between the lower ground and upper floors that did not stop at the ground level were not recorded. Researcher observations were designed to be unobtrusive and prior to data collection, inter-rater reliability was assessed at each site.

The hours of observation for each data collection period were distributed over multiple days, in approximately week-long segments, during 'high traffic' periods as reported by key building staff. Hour-long counts of baseline and 1-week post-prompt data were as follows: NHS Office Building 1 (10 hours baseline, 10 hours post); NHS Office Building 2 (8 hours baseline, 10 hours post); and Local Authority Office Building 1 (9 hours baseline, 10 hours post, 10 hours 6 month follow up).

Pre and post intervention self-reported physical activity surveys provided qualitative and quantitative data [Appendices 3, 9 & 11].

### **Limitations**

The intervention took place during a time of substantial change for the health service, and as a result, the work population in the two NHS Office buildings changed dramatically due to staff redeployment and the function of these buildings changing. Therefore post intervention follow up at 6 months could only be conducted in one site (Local Authority Office Building 1). Given the need to conduct unobtrusive observations, it was not possible to study the personal characteristics of stair users other than recording if they were male or female.

## Evaluation

The observational data was analysed by comparing the difference of the proportions. [Appendix 10] Increased stair climbing was observed at all sights immediately after introducing the campaign materials. Increased stair climbing was seen at the local Authority Office Building 1 at 12.6% (range = 9.1 – 16.1% relative increase,  $p < 0.001$ ) which was sustained at 6 months 12.8% (range 9.6 – 16.2% relative increase,  $p < 0.001$ ). Increased stair climbing was seen at one NHS Office Building 2 of 14.1% (range= 9.3 – 18.84% relative increase,  $p < 0.001$ ), there was an increase of 3.2% in NHS Office Building 1 however this was not significant. This may have been due to the fact that this building had a high turnover of staff and visitors during the period of the campaign.

The findings support previous studies showing that motivational prompts at point of choice and directional signage can be effective at increasing physical activity, stair usage and these increases are sustainable at 6 months (Lee, Perry, Wolf, Agarwal, Rosenblum, et al, 2012).

### *Reflection*

*I am more experienced in conducting qualitative analysis and found myself feeling anxious about conducting a before and after quantitative analysis. I sought the support of a Consultant in Public Health in reviewing the data and the analysis. Working through the analysis in a systematic way helped me feel more confident in my ability to report findings and I now feel more able to conduct appropriate and accurate statistical analysis in the future.*

### **Dissemination of findings**

I presented the preliminary findings at the 'Fit Cities, Fit World Conference 2013' in London (March, 2013) and at the Behaviour Change for Health Care Professionals Course (July 2013) [Appendix 12 & 13]. I am currently writing up the evaluation of the intervention as an

academic paper for a peer reviewed journal and the intention is to roll the campaign out as part of a 'Healthy Workplace' programme across Hackney and the City of London.

### *Reflection*

*I thoroughly enjoyed presenting at the Fit Cities Conference and the on the UCL Partners Behaviour Change Course. I am incredibly passionate about the active design agenda bringing health professional, planners, designers and behaviour change scientists together to improve opportunities for physical activity and tackle the challenge of obesity. The intervention has generated lots of expressions of interest from other organisations and local authorities. I look forward to receiving feedback on their progress and evaluation of implementing similar interventions.*

*A questionnaire measure is currently being developed in line with the theoretical domains framework for use in behaviour change (Cane, O'Connor & Michie, 2012). This could be used to provide a more comprehensive theoretical assessment for workplace physical activity in the future.*

### **Acknowledgements**

The 'Burn Calories Not Electricity' campaign is based on information included in the *Active design Guidelines: Promoting Physical Activity and Health in Design* ©2010 City of New York (City of New York, 2010).

I would like to thank colleagues from the City of New York for granting permission to use their campaign in our locality.

I would also like to thank NHS East London and the City and London, and the London Borough of Hackney for their support in allowing this study to be conducted in their buildings.

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## **Appendix 1 – Brief Literature Review Increasing Physical Activity in the Workplace**

### **Brief Literature Review Results**

#### **Increasing Physical Activity in the Workplace**

To stay healthy, adults aged 19 – 64 should try to be active daily and should do: at least 150 minutes (2 hours and 30 minutes) of moderate-intensity aerobic activity such as cycling or fast walking every week, and muscle strengthening activities on 2 or more days a week that work all the major muscle groups (legs, hips, back, abdomen, chest, shoulders and arms) (British Heart Foundation, 2010).

Regular physical activity is one of the most effective disease prevention behaviours. Increased physical activity can; reduce feelings of depression; improve stamina and strength; reduce obesity and particularly when combined with diet; reduce risks of cardio vascular disease including high blood pressure, cholesterol, stroke and type 2 diabetes (NICE, 2008a).

Physical inactivity is the fourth leading cause of death worldwide (Kohl, Craig, Lamberth, Inoue, Alkandari, 2012). Many people spend as much as 90% of their days indoors, often engaged in sedentary occupations. For many, actions such as climbing stairs or getting up from a desk to use office equipment, although brief, are the most accessible and economical way to participate in some form of regular physical activity within long periods of inactivity. Building features such as escalators, an overemphasis on lifts, and poor placement of stairs can deter physical activity.

The Chief Medical Officer's report on physical activity noted that 'all substantial movement of body weight – such as steps walked per day, or stair climbing – contributes to energy expenditure and may help with weight management. People who need to avoid weight gain should reduce the amount of time they spend inactive.' (Department of Health, 2004).

#### **Stair Use**

Stair use burns calories and can also have a direct impact on cardiovascular health (Zimring, Joseph, Nicoll, & Tsepas, 2005; Brownell, Stunkard, Albuam, 1980; Lee & Paffenbarger, 1998). Stair climbing has also been shown to raise individuals' good cholesterol levels (Boreham, Wallace, Nevill, 2000). In addition to the broad physical health benefits of physical activity, there is a growing evidence base supporting the beneficial effects of regular physical activity for cognitive and mental health (Foresight Mental Capital and Wellbeing Project, 2008; Atkin, Adams, Bull, & Biddle, 2012). Conversely, using the lift not only reduces physical activity, but also typically accounts for 3 to 10% of a building's energy use (U.S. Department of Energy, 2001). Reducing the use of lifts and escalators can therefore have added benefits for the environment and may lead to cost savings. Stair use is one of the most accessible and equitable means for a large portion of the population to integrate physical activity into their daily lives. The more general use of stairs can free up lifts for use by individuals with physical challenges.

Motivational signage can encourage stair use, particularly when combined with marked walking paths on sites leading pedestrians to the stairs which may often be hidden out of sight. This is particularly important near lifts when waiting for a lift can become less attractive if the stairs are presented as an easily accessible option (Bungum, Meacham, and Truax, 2007).

Stairs attract more use when they are highly visible from paths of travel and are easy to access (Nicoll, 2007). Signage located at the lift or escalator that directs building users to a nearby stair and that emphasizes the health benefits of stair climbing can prompt people who would otherwise use the lift to take the stairs (Kerr, 2000, 2001, 2004; Anderson, 1998; Blamey, 1995). Across studies, this signage increases stair use by a median of 50% (U.S. Department of Health, 2007).

NICE recommends the implementation and monitoring of organisational wide multi-component physical activity programmes to support and encourage employees to be physically active (NICE, 2008a).

Guidelines recommend reducing sedentary behaviour (British Heart Foundation, 2012), and recommend providing information on the benefits of physical activity, interventions such as using signage to encourage use of stairs rather than lifts as making stairwells more attractive.

Increasing levels of physical activity is a challenge, not just for those directly involved in public health but for professionals, groups and individuals in many sectors of society. Adults, young people and children can achieve the national recommended levels by including activities such as walking, cycling or climbing stairs as part of their everyday life. However, while individual interventions to promote such activity may be important, they are not the only (nor possibly the main) solution. Other issues, including environmental factors, need to be tackled. As Schmid and colleagues argue (1995), 'It is unreasonable to expect people to change their behaviours when the environment discourages such changes' (NICE, 2008b).

There is a need to ensure staircases are designed and positioned to encourage people to use them. In existing buildings staircases need to be attractive for use by clear signposting, ensuring they are well-lit and well-decorated.

### **Settings Based Approach**

Healthy Settings, the settings-based approach to health promotion, involves a holistic and multi-disciplinary method which integrates action across risk factors. The goal is to maximize disease prevention via a "whole system" approach. The settings approach has roots in the WHO Health for All strategy (WHO, 2000) and, more specifically, the Ottawa Charter for Health Promotion. Healthy Settings key principles include community participation, partnership, empowerment and equity.

The successes of settings-based approaches have been validated through internal and external evaluation and experiences. Healthy Settings provides a cross-over approach that is applicable to many intervention efforts covered by the WHO mandate. Thus, given appropriate and accessible information sharing to guidance and program development, Healthy Settings stands to be a strong tool to protect public health and foster responsible development. Healthy Settings remains a useful, dynamic method to integrate risk factors and address disease prevention aiming to improve overall quality of life.

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## Appendix 2 – Physical Activity Questionnaire

### Physical activity questionnaire

We are interested in finding out about the kinds of physical activities that people do as part of their everyday lives. Please complete this short questionnaire on your current level of physical activity answering the questions as honestly and accurately as you can. Your responses will remain anonymous and confidential.

If you would like any further information about this questionnaire please contact Amanda Bunten from the City and Hackney Public Health team on 020 8356 2254 or email [REDACTED].

1. a) Age \_\_\_\_\_ b) Sex (please circle) Male Female

2. Please tell us the type and amount of physical activity involved in your work. Please tick one box only.

a	I am not in employment (e.g. retired, retired for health reasons, unemployed, full-time carer etc.)	
b	I spend most of my time at work sitting (such as in an office)	
c	I spend most of my time at work standing or walking. However, my work does not require much intense physical effort (e.g. shop assistant, hairdresser, security guard, childminder, etc.)	
d	My work involves definite physical effort including handling of heavy objects and use of tools (e.g. plumber, electrician, carpenter, cleaner, hospital nurse, gardener, postal delivery workers etc.)	
e	My work involves vigorous physical activity including handling of very heavy objects (e.g. scaffolder, construction worker, refuse collector, etc.)	

3. During the last week, how many hours did you spend on each of the following activities? Please mark one box on each row.

	Activity	None	Some but less than 1 hour	1 hour	2 hours	3 hours or more
a	Physical exercise such as swimming, jogging, aerobics, football, tennis, gym workout etc.					
b	Cycling, including cycling to work and during leisure time					
c	Walking, including walking to work, shopping, for pleasure etc.					
d	Housework/Childcare					
e	Gardening/DIY					
f	Sitting - including time spent sitting at a desk, visiting friends, reading, or sitting or lying down to watch television.					

Is this:	<input type="checkbox"/> less than a usual week	<input type="checkbox"/> about the same as a usual week	<input type="checkbox"/> more than a usual week
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4. How would you describe your usual walking pace? Please mark one box only.

<input type="checkbox"/> Slow pace (i.e. less than 3 mph)	<input type="checkbox"/> Steady average pace	<input type="checkbox"/> Brisk pace	<input type="checkbox"/> Fast pace (i.e. over 4mph)
--	--	-------------------------------------	---

5. How often do you walk up a flight of stairs instead of using lifts or escalators?

<input type="checkbox"/> Never	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Often	<input type="checkbox"/> Always
--------------------------------	------------------------------------	--------------------------------	---------------------------------

6. How often do you walk down a flight of stairs instead of using lifts or escalators?

<input type="checkbox"/> Never	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Often	<input type="checkbox"/> Always
--------------------------------	------------------------------------	--------------------------------	---------------------------------

PTO

7. To stay healthy, the Department of Health recommends that adults should aim for;
- 150 minutes (2½ hours) a week of moderate intensity aerobic activity (such as cycling or fast walking), **or**
  - 75 minutes (1¼ hours) of vigorous intensity aerobic activity (such as running or a game of singles tennis) every week, **and**
  - Muscle strengthening activities on 2 or more days a week that work all major muscle groups (legs, hips, back, abdomen, chest, shoulders and arms).

Do you currently meet this recommendation?

(Please circle) Yes No

8. Would you like to increase your current level of physical activity?

(Please circle) Yes No

a If **yes** please tick the main reason why.

If **no** please tick the main reason why.

<input type="checkbox"/> To improve my level of fitness
<input type="checkbox"/> To maintain a healthy weight
<input type="checkbox"/> To lose weight
<input type="checkbox"/> To improve my physical health
<input type="checkbox"/> To improve my mental wellbeing
<input type="checkbox"/> To improve my physical appearance
<input type="checkbox"/> Advised to do so by a health professional
<input type="checkbox"/> Friends/ family/ colleagues think I should
<input type="checkbox"/> Other _____

<input type="checkbox"/> I currently meet the recommended levels of physical activity
<input type="checkbox"/> I am already as physically active as I can be
<input type="checkbox"/> I don't like physical activity
<input type="checkbox"/> I don't have the time
<input type="checkbox"/> I don't think I can
<input type="checkbox"/> Other _____

**Please jump to Question 10**

- b If **yes** what do you think would help you to increase your physical activity? (please tick all that apply)

- Opportunities to be more physically active in the work place
- Motivational messages ( i.e. posters, leaflets, signs etc)
- Joining a structured exercise class
- Participating in a team sport
- Access to exercise classes at or near your work place
- Other \_\_\_\_\_

9. How confident do you feel that you can increase your level of physical activity?

<input type="checkbox"/> Not confident	<input type="checkbox"/> Slightly confident	<input type="checkbox"/> Quite confident	<input type="checkbox"/> Very confident
--	---	--	---

10. Do you enjoy physical exercise?

<input type="checkbox"/> Never	<input type="checkbox"/> Sometimes	<input type="checkbox"/> Often	<input type="checkbox"/> Always
--------------------------------	------------------------------------	--------------------------------	---------------------------------

11. Are there factors that make it difficult for you to engage in physical activity?

(Please circle)                      Yes                      No

*If **yes** please provide detail*

---

---

12. Would you be interested in joining a work based physical activity programme?

(please circle)                      Yes                      No

*If **yes** please circle all that apply:*      Running              Walking              Dance              Zumba

Aerobics              Martial Arts              Yoga              Other (Please specify) \_\_\_\_\_

*If **no** please explain why:*

---

---

13. Any other comments \_\_\_\_\_

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---

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Thank you for completing this questionnaire.

Please return to Amanda Bunten, Public Health Team, 3<sup>rd</sup> Floor, Hackney Service Centre, 1 Hillman Street,

E8 1DY.

Acknowledgements: International Physical Activity Questionnaire & General Practice Physical Activity Questionnaire.

## Appendix 3 – Results of Physical Activity Questionnaire

### Results of Physical Activity Pre Intervention Questionnaire

69 self-reported questionnaires were completed by staff based at Location 1 and returned to myself over a 3 week period. Results were entered into an excel spreadsheet and analysed.

#### **Sedentary Behaviour**

64 (93%) of the respondents reported spending most of their time at work sitting.

63 (91%) of the respondents reported spending 3 or more hours sitting during the last week.

35 out of 69 (just over 50%) reported not meeting the weekly Department of Health physical activity recommendation that adults should aim for;

- 150 minutes (2½ hours) a week of moderate intensity aerobic activity (such as cycling or fast walking), or
- 75 minutes (1¼ hours) of vigorous intensity aerobic activity (such as running or a game of singles tennis) every week, and
- Muscle strengthening activities on 2 or more days a week that work all major muscle groups (legs, hips, back, abdomen, chest, shoulders and arms).

14 out of 69 (20%) respondents reported that they always walk up a flight of stairs instead of using lifts or escalators, while 27 (39%) reported that they always walk down a flight of stairs.

#### **Increasing Physical Activity**

56 out of 69 (81%) reported wanting to increase their current level of physical activity.

11 out of 69 (16%) respondents reported not wanting to increase their current level of physical activity. Of these 5 stated the reason for not wanting to increase their physical activity was because they 'already met the current recommended levels', 2 reported 'not having the time' and 2 'did not respond'. 1 reported 'not liking exercise', 1 reported that they 'can't be bothered'.

To **improve level of fitness** (43 out of 69, 62%) was the most commonly rated as the most important reason to want to increase physical activity, followed by **maintaining a healthy weight** (25 out of 69, 36%).

25 respondents (36%) mentioned **access to exercise classes at or near place of work** would help increase their physical activity, this was closely followed by **opportunities to be more physically active in the work place** (18, 26%) and **joining a structured exercise class** and **participating in a team sport** both scored 14 (20%) with **motivational messages** receiving 8 votes (12%). Respondents also mentioned having **subsidised gym memberships** as a factor that would increase their physical activity "we used to get gym membership at reduced rates but it was revoked"; "I would rather more gyms had discounted rates for NHS staff".

Although physical activity classes at or near the place of work was most commonly stated as a factor that would help increase physical activity, time appeared to be a barrier with many respondents noting that classes would need to be at convenient times (early in the morning, at lunchtime or after work) however these would not be suitable for all due to personal

commitments such as dog walking and childcare; “evening classes not always convenient time”; “need to get home after work to walk dog”; “lack of free time/ childcare”.

### **Barriers to Physical Activity**

Time was reported as the most common barrier to engaging in physical activity. This included comments around life style, work, travel and childcare.

*“It is difficult to take time out of the day (two hours - one to exercise, 30 mins either side) and there isn't often time at the end - maybe early mornings?”*

*“Difficult with the hours that I do and home commitments.”*

Work pressures were the second most commonly cited barrier.

*“Would like to fit in some regular activity around lunchtime but work pressures do not permit”.*

*“It is hard to make/ find time at work for activities other than stair climbing and walking between meetings. But I would really try to go to a yoga/ pilates group”.*

### **Leadership**

The need for leadership commitment to physical activity in the work place emerged as a theme requiring active encouragement of physical activity / work life balance to enable increased physical activity.

*“More senior level commitment on releasing time for staff during the day would help! Else staff at risk of skipping lunch”.*

*“Organisational leadership actively encouraging staff to take time out of their day to exercise”.*

*“I would welcome any intervention that reduces sedentary time at work e.g. sitting at desk - such as staff room to encourage moving to a different space for lunch or tea breaks.”*

Other ideas included;

*“Paying walking expenses to walk to meetings should be explored.”*

*“If there were courses/ targets/ skill levels to work towards that would be better rather than just a class.”*

### **Proposal to Increase Physical Activity in the Workplace**

Interestingly NELC currently offers a number of free physical activity exercise classes run in the work place in the evenings after work including aerobics and a fitness class based on martial arts which are advertised weekly by the internal electronic NELC staff newsletter and intranet webpage however these are poorly attended.

*“I try to attend the Wed Walks when I can. I'd like them to continue and will try to get along as often as I can”.*

The results from the survey suggest the need to review how the existing physical activity classes can be promoted more effectively and conduct an evaluation of these classes, along

with exploring opportunities to promote physically activity in the work place with senior leadership support.

As only 20% respondents reported that they always walk up a flight of stairs instead of using lifts or escalators.

Developing a campaign to increase the use of stairs would provide a simple, cost effective way of increasing daily physical activity in the workplace.

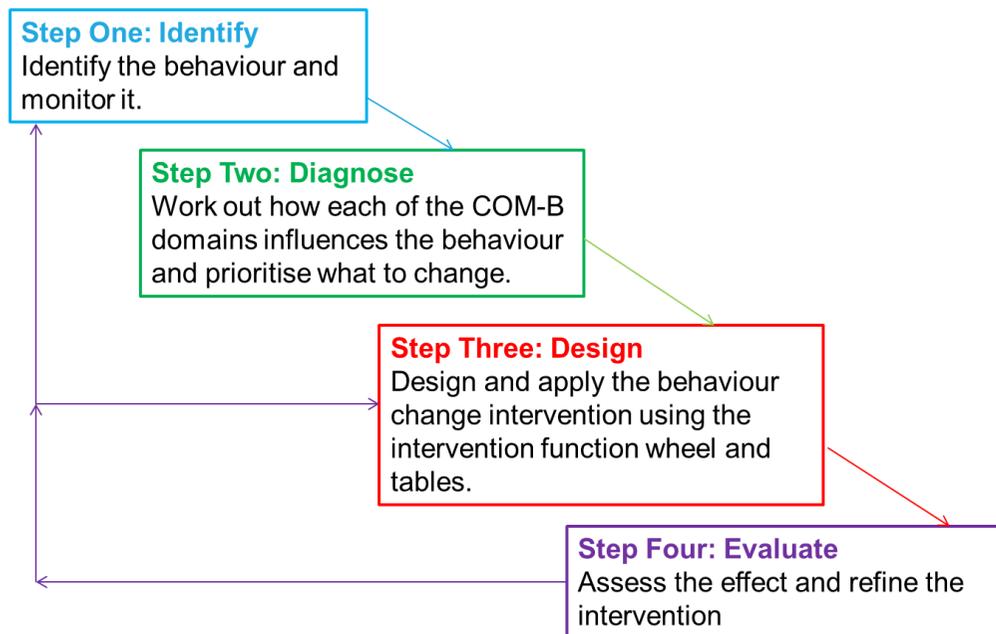
## Appendix 4 – COM-B Analysis

### COM-B Analysis

The COM-B Behaviour Change Model was used to review how each of the COM-B domains influences the behaviour to walk up the stairs to help inform the intervention.

Steps for designing, implementing and evaluation a behaviour change intervention [Figure 1].

Figure 1.



### Step 1: Identify

The first step is focused on identifying the target behaviours. Identifying who needs to do what differently, when, where and how.

The target behaviour identified was increasing walking up the stairs in the workplace. This could easily and cheaply be monitored by self-reported surveys or observational surveys using a pre and post design.

### Step 2: Diagnose

Table 1. Shows how I assessed each of the COM-B domains to understand the behaviour and the contextual influences.

Table 1.

COM-B Model Component	Definition	Understanding Target Behaviour	Considerations
Capability			Do the individuals involved know how to increase their physical activity/ use the stairs?
Physical	Physical skill, strength, stamina	Would the desired behaviour be more likely to occur if there was an improvement in physical development or psychomotor skills?	Do the individuals involved have the appropriate physical motor skills to engage in physical activity/ stair climbing?
Psychological	Knowledge or psychological skills, strength or stamina to engage in the necessary thought processes	Would the desired behaviour be more likely to occur if there were greater knowledge or understanding, improved cognitive skills or capacity, more mental energy, or greater capacity for self-regulation?	Do the individuals involved have the mental process or skill to engage in the necessary thought processes such as comprehension and reasoning to use the stairs, including decision making abilities and knowledge on the benefits of stair usage?

<b>Opportunity</b>			Do the individuals involved have the opportunity to increase their physical activity?
Social	Opportunity afforded by interpersonal influences and cultural expectations that dictates the way we think about things. What are the influences that come from friends, family, work colleagues and others that lead people to change their thoughts, feelings, or behaviours in favour of doing or not doing a particular behaviour.	Would the desired behaviour be more likely to occur if the culture, subculture, family or peer network included interactions and use of language that afforded the behaviour and helped to foster ways of thinking that promoted the behaviour?	Do the cultures, subcultures, family or peer networks of the individual's foster physical activity/ stair usage?
Physical	Opportunity afforded by the environment involving time, resources, locations, physical barriers.	Would the desired behaviour be more likely to occur if there was greater access to objects, services and locations that enable or facilitate the behaviour, or cues and reminders that prompt the behaviour?	Does the workplace environment encourage or discourage the use of stairs? Lifts are more prominent and are the most commonly route of travel in the buildings.
<b>Motivation<sup>31</sup></b>			Are the individuals motivated to engage in the desired behaviour?
Automatic – emotional responses, desires, impulses and habits resulting from	Automatic processes involving emotional reactions, impulses and reflex response that arise from associative learning and/ or innate	Would the desired behaviour be more likely to occur if the individuals experienced stronger feelings of wanting or needing to engage in the	Opportunities to reward target behaviour – through incentivisation and remove emotional barriers to encourage activity to occur without any real conscious thought

<p>associative learning and physiological state</p> <p>Have people developed a habit of using the stairs?</p>	<p>dispositions</p>	<p>desired behaviour, or experience stronger impulses to engage in that behaviour or inhibitions relating to competing behaviours; or that the wants, needs, impulses and inhibitions were experienced more consistently at appropriate times.</p>	<p>becoming a positive health.</p>
<p>Reflective – beliefs about what is good and bad, conscious intentions, decisions and plans.</p> <p>Do people plan to increase their physical activity/ use the stairs?</p> <p>Do people believe using the stairs will increase their physical activity?</p> <p>Do people want to</p>	<p>Reflective processes involving plans and evaluations</p>	<p>Would the desired behaviour be more likely to occur if the individuals involved held more positive evaluations of the desired behaviour or stronger or more definite conscious intentions to engage in the behaviour; or they held these beliefs or intentions more consistently at appropriate times?</p>	<p>Identity - What can be done to help the person acknowledge the behaviour as important to how they see themselves and who they want to be?</p> <p>Beliefs - What can be done to increase people's confidence that they can do the behaviour?</p> <p>Wants - What can be done link the behaviour to a sense of satisfaction or pleasure?</p> <p>Needs - What can be done to increase people's perception of how the behaviour is affecting them? How can you get people to meet their needs in a different way that leads</p>

increase their physical activity/ use the stairs?			to behaviour change?  Making a habitual behaviour salient to encourage conscious positive health choice.
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### Step 3 – Designing the intervention

Once I had diagnosed the challenges associated with increasing stair use I considered the full range of possible intervention functions.

Table 2.

Intervention Function	Definition	Evidence	Proposed Intervention
Education	Increasing knowledge or understanding	Kerr (2000; 2001; 2004) Anderson (1998); Blamey (1995), NICE (2008) Public Health Guidance 13.	Providing fact sheets on the benefits of taking the stairs and physical activity. Providing information on healthy lifestyles including healthy eating and physical activity. Hold a Healthy Lifestyles event.

Persuasion	Using communication to induce positive or negative feelings or stimulate action	Bungum et al (2007); Kerr (2000; 2001; 2004); Anderson (1998); Blamey (1995); NICE (2008 )Public Health Guidance 13; Lee et al (2012).	Use motivating images and messages to encourage increase in physical activity.
Incentivisation	Creating an expectation of reward	NICE (2008) Public Health Guidance 13	Implement a prize draw for those using the stairs.  Opportunity to be rewarded through engaging in work place challenge around increased stair usage.
Environmental restructuring	Changing the physical or social context	Bungum et al (2007); Nicoll (2007); NICE (2008) Public Health Guidance 8.	Make stairs more attractive and main route of travel between floors.  Provide directional signage making stairs easier to find.
Modelling	Providing an example for people to aspire to or imitate		Using BCNE Site Champions and Public Health Team.

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## Appendix 5 – Template License Agreement for use of Stair Prompt



**LICENSE AGREEMENT  
BETWEEN  
THE NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE  
AND  
[NHS North East London and the City]  
FOR USE OF THE “Burn Calories, Not Electricity, Take the Stairs!” Stair Prompt**

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**NEW YORK CITY DEPARTMENT OF  
HEALTH AND MENTAL HYGIENE**  
Thomas Farley, M.D., M.P.H.  
*Commissioner*

10. Any notices required to be given under this Agreement shall be sent to the parties by email:

**To: [NHS NORTH EAST LONDON  
AND THE CITY]:**

Contact Person: Amanda Douglas

Address: [REDACTED]  
[REDACTED],  
[REDACTED]  
[REDACTED]

email: [REDACTED]

**To: The New York City Department of Health  
and Mental Hygiene:**

Sean Robin  
Director, Built Environment and Healthy Housing  
Program

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

email: [REDACTED]

**IN WITNESS WHEREOF**, the parties agree to the above terms and have caused this Agreement to be signed by their duly authorized representatives:

**For:** [NHS NORTH EAST LONDON AND THE  
CITY]

**For:** The New York City Department of Health  
and Mental Hygiene

\_\_\_\_\_  
Name: Dr Lesley Mountford  
Title: Director of Public Health City and Hackney

Sean Robin  
Director, Built Environment and Healthy Housing  
Program  
New York City Department of Health and Mental  
Hygiene

Date: 01.09.2012

Date: 01.09.2012

## Appendix 6 – Background Information and Implementation Plan

### Burn Calories Not Electricity: Creating Opportunities for Daily Physical Activity

#### Background

Most people spend as much as 90% of their days indoors, often engaged in sedentary occupations. For many, actions such as climbing stairs or getting up from a desk to use office equipment, although brief, are the most accessible and economical way to participate in some form of regular physical activity within long periods of inactivity. Building features such as escalators, an overemphasis on lifts, and poor placement of stairs can deter physical activity. Active design not only enhances public health but can also reinforce the goals of environmental sustainability and universal access. Design strategies that increase physical activity and improve health also tend to reduce energy consumption and greenhouse gas emissions.

Opportunities for incorporating regular physical activity into daily life can be found not only outdoors but inside buildings as well. We can help staff and visitors to incorporate physical activity into their daily routines by increasing stair use. Stair use burns calories and can also have a direct impact on cardiovascular health.<sup>32,33,34</sup> Stair climbing has also been shown to raise individuals' good cholesterol levels.<sup>35</sup> In addition to the broad physical health benefits of physical activity, there is a growing evidence base supporting the beneficial effects of regular physical activity for cognitive and mental health.<sup>36</sup> Conversely, using the lift not only reduces physical activity, but also typically accounts for 3 to 10% of a building's energy use.<sup>37</sup> Reducing the use of lifts and escalators can therefore have added benefits for the environment and may lead to cost savings. Stair use is one of the most accessible and equitable means for a large portion of the population to integrate physical activity into their daily lives. The more general use of stairs can free up lifts for use by individuals with physical challenges.

The evidence suggests that stairs attract more use when they are highly visible from paths of travel and are easy to access.<sup>38</sup> Motivational signage can encourage stair use, particularly when combined with marked walking paths on sites leading pedestrians to the stairs which may often be hidden out of sight. This is particularly important near lifts when waiting for a lift can become less attractive if the stairs are presented as an easily accessible option.<sup>39</sup> Signage located at the lift or escalator that directs building users to a nearby stair and that emphasizes the health benefits of stair climbing can prompt people who would otherwise use the lift to take the stairs.<sup>40,41,42,43,44,45,46,47,48</sup> Across studies, this signage increases stair use by a median of 50%.<sup>49</sup>

#### The '*Burn Calories, Not Electricity*' campaign

A "*Burn Calories, Not Electricity*" campaign was launched by the City of New York in 2008, using prompts across different building types in the city to encourage stair climbing. The intervention was evaluated in a before and after study and found to be an effective way of increasing physical activity in diverse settings. Increased stair use was seen at all sites immediately after posting of the prompts (Range 9.2%–34.7%) and was sustained at 9 months<sup>50</sup>.

The City and Hackney Public Health Department will be launching the "*Burn Calories, Not Electricity*" campaign in partnership with NHS North East London and the City, Commissioning

Support Services, the London Borough of Hackney and the City of London Corporation. Supporting the local population to achieve a healthy weight is one of the priorities identified through the joint Health and wellbeing profile for Hackney and the City and is highlighted in the Hackney Health and Wellbeing Strategy.

**Aim:** To increase daily physical activity and improve the health and wellbeing of the workforce / population of City and Hackney

**Objectives:**

4. To introduce measures to make stairs more visible in the workplace
5. To increase daily physical activity among staff and visitors / residents through increased use of stairs and reduced use of lifts
6. To increase awareness of the synergy between the health and sustainability agendas among stakeholders and the public
7. To improve the health and wellbeing of the workforce and population of City and Hackney

**Key activities:**

1. Campaign posters and signage distributed and displayed on all participating sites
2. Get campaign information on partners' websites / intranet / Comms newsletter etc.
3. Engage reception staff / champions on all sites
4. Set up pre- and post- data collection
5. Launch: health and wellbeing event / activity

The campaign will be launched in September at Clifton House and at Hackney Service Centre in October with a view to expanding the number of sites across NELC in the coming months.

**Table 1.** Key stakeholders and sites of intervention

Organisation	Site	Lead	Champions
NHS NELC City and Hackney Public Health Department	Clifton House	Lesley Mountford	Public Health: Amanda Douglas and Vanessa Saliba Staff Health and Wellbeing: Matt Prescott Reception Staff: Folake Oladipo and Jennifer Valentine Communications: Savaia Stevenson Estates: Christine Way and David Butcher
Commissioning Support Services	Clifton House	Andrew Ridley	
London Borough of Hackney	Hackney Service Centre, ?other	Tim Shields	Local councillor: Jonathan McShane Kay Brown Health and wellbeing: David

			Woodhead Communications: Estates: Vicky Addai-Daiwou Receptionists: ?others
City of London Corporation	Guildhall, ?other	Neal Hounsell	Public Health: Farrah Hart Communications: Estates: Receptionists: ?others

**Table 2.** Budget

Budget		Cost
<b>Design</b>	NHS NELC Communications	n/a
<b>Printing</b>	A3 poster printed 1 colour Quantity X 500 (quote for X1000 requested)	£115 + VAT
	Directional signs: 2 kinds Printed 1 side on 300gsm card, size: 105 x 297mm Quantity: 500 x 2	£137 + VAT
	Floor stickers Round circular red signs – 3 sizes X500	Awaiting quote

### **Monitoring and evaluation**

We will conduct a before and after evaluation of the campaign in each of the chosen sites.

Data collection will be carried out by designated site champions; a minimum of two per site will be needed. All vertical trips (lift and stairs) originating from the lobby level of each site will be tallied on observation forms by the site champions. Stair and lift trips between floors that do not stop on the lobby level will not be recorded.

The hours of observation for each data collection period should be distributed over multiple days, in approximately week-long segments, during “high traffic” periods, for example first thing in the morning and at lunchtime. A minimum of 10 hours (2 hours per day) of observation needs to be completed at each site. Researcher observations should be unobtrusive and prior to data collection, inter-rater reliability should be assessed at each site. The observations will then be recorded again one week after the launch of the campaign.

Depending on capacity, the observations should then be repeated some months down the line to establish the long term effectiveness of the intervention.

Steps for Implementation;

1. Baseline observational data collected for one week before the intervention is implemented.
2. Identify BCNE site champion with responsibility for supporting implementation of the campaign on site
3. Designate one primary staircase in the building for everyday use to serve as a principal means of travel.
4. Focus on stairs rather than lifts as the principal means of vertical travel for those who are able to climb stairs, especially for travel of four stories or less.
5. Train reception staff and use available materials on healthy eating, physical activity and weight loss - make them available in all reception areas included
6. Campaign directional signage was used to increase stair visibility in the building's orientation areas and points of decision, particularly near lifts.
7. Campaign posters were located at point of decision making locations where they would be most visible and near entry to lifts to promote nearby stair use as an alternative means of travel.
8. Link the campaign to healthy workplace policies and sustainability policies at each site.
9. Post Intervention data collected one week after intervention and depending on capacity at 6 month follow up.

### **Implementation**

In order for a **site** to participate in the campaign the following steps need to be taken:

1. Nominate a champion with responsibility for implementing the campaign on the site
2. Designate at least one staircase in the building for everyday use to serve as a principal means of travel
3. Focus on stairs rather than lifts and escalators as the principal means of vertical travel for those who are able to climb stairs, especially for travel of four stories or less
4. Train reception staff and use available materials on healthy eating, physical activity and weight loss - make them available in all reception areas included
5. **Campaign directional signage:** increase stair visibility by incorporating directional signage in the building's orientation areas and points of decision, particularly near lifts and escalators
6. **Campaign posters:** use stair prompts (to encourage use of stairs by providing informational or motivational signage at points where users must decide between taking stairs or lifts and escalators)
7. Link this campaign to *healthy workplace* policies and *sustainability* policies on site

### **Top tips:**

- Locate stair prompts (Posters) where they will be most visible
- Use signage at the lift and escalator entry areas to promote nearby stair use
- Incorporate signage in lift areas and lobbies and near escalator entrances to indicate the location of nearby stairs and to encourage stair use as an alternative means of travel
- When the stair entrance is visible from the lift waiting area, design and locate signage to visually direct people to the stair

- For stairs that are not visible from the lift waiting area, use directional signage to link the two locations e.g. footprint or red circular appliqué
- Signs are more effective when they address building users' cultural, gender, and age attributes, as well as their motivations regarding health behaviour or energy use
- Stair prompts can be presented in many different forms and locations, including wall- or ceiling-mounted signage, stair riser banners, and leading from an elevator to a stair entry.

#### **Some of the leaner and greener benefits of taking the stairs include:**

- Stair climbing burns almost 700% the number of calories you burn standing on an elevator.
- Just two minutes of stair-climbing each day burns enough calories to eliminate the one pound an average adult gains each year.
- one study showed that men who climb at least 20 floors a week (about 3 floors a day) have a 20% lower risk of stroke or death from all causes
- Stair-climbing has been shown to raise good cholesterol and improve cardiovascular health
- Stair use reduces energy consumption. An escalator that operates 24 hours a day, seven days a week, can use 28,000 kilowatt hours of energy over the course of a year. That's enough to create 43,000 pounds of carbon dioxide – more than three times the amount a car produces.

## **Acknowledgements**

This campaign is based on information included in the *Active design Guidelines: Promoting Physical Activity and Health in Design* ©2010 City of New York. We would like to thank colleagues from the City of New York for granting us permission to use their campaign in our locality.

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## Appendix 7 – Burn Calories Not Electricity Factsheet

Burn Calories,  
Not Electricity



Take the Stairs!

CALORIES BURNT  
WALKING THE STAIRS

1ST FLOOR	9.5
2ND FLOOR	19
3RD FLOOR	28.5
4TH FLOOR	38

TIME TRIALS  
ONE FLOOR/FLIGHT exclusive  
of waiting time

Lift	18 sec
Stairs	15 sec

# TAKE THE STAIRS! FACTSHEET

**How many calories can I burn climbing the stairs instead of taking the lift?**

- Stair climbing burns almost 700% the number of calories you burn standing in a lift.
- Just two minutes of stair-climbing each day burns enough calories to eliminate the one pound an average adult gains each year.

Lift = 0 kcal

Stairs = taking 3 flights of stairs 4 times a day = 114 kcal

**What are the HEALTH BENEFITS of taking the stairs?**

- Climbing at least 20 floors a week (3 floors a day) reduces your chances of having a stroke by 20%!
- It lowers your bad cholesterol and boosts your good cholesterol..
- Releases endorphins and has a positive impact on your mental health and wellbeing.
- Can boost your productivity and eliminate drowsiness.

**What are the ENVIRONMENTAL BENEFITS of taking the stairs?**

- A 15 second lift journey (going up one floor) consumes as much energy as a 60W light bulb does in 1 hour!
- The lift consumes **3-10%** of total energy use at Hackney Service Centre!
- By reducing lift use you can have a positive impact on the environment and reduce the cost of running the building.



**IDEA!** When 'meeting and greeting' your colleagues in reception ask 'are you happy to take the stairs'?

If you have any questions about the 'Burn calories not electricity' campaign please contact: [REDACTED]

Walking up the stairs just 2 minutes a day helps prevent weight gain.

It also helps the environment!



**Observations:**

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## Appendix 9 – Burn Calories Not Electricity Evaluation Questionnaire

### Burn Calories not Electricity evaluation

We are interested in your thoughts on the 'Burn Calories Not Electricity' campaign launched on Wednesday 26<sup>th</sup> September in Clifton House. Please complete this short questionnaire answering the questions as honestly and accurately as you can. Your responses will remain anonymous and confidential. If you would like any further information about this please contact Amanda Douglas from the City and Hackney Public Health team on [REDACTED].

1. b) Age \_\_\_\_\_ b) Sex (please circle) Male Female

2. Are you aware of the 'Burn Calories Not Electricity' Campaign that has been running in Clifton House (involving green posters and signs to encourage people to use the stairs rather than the lift)?

(Please circle)

Yes

No

(if you answer no please do not continue completing this questionnaire)

3. During the last week, how many hours did you spend on each of the following activities? Please mark one box on each row.

a	Activity	None	Some but less than 1 hour	1 hour	2 hours	3 hours or more
A	Physical exercise such as swimming, jogging, aerobics, football, tennis, gym workout etc.					
B	Cycling, including cycling to work and during leisure time					
C	Walking, including walking to work, shopping, for pleasure etc.					
D	Housework/Childcare					
E	Gardening/DIY					
F	Sitting - including time spent sitting at a desk, visiting friends, reading, or sitting or lying down to watch television.					

b	Is this:	<input type="checkbox"/> less than a usual week	<input type="checkbox"/> about the same as a usual week	<input type="checkbox"/> more than a usual week
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4. Do you think the campaign has encouraged you to increase your level of physical activity?

(Please circle)

Yes

No

Please explain further \_\_\_\_\_

5. Did the posters/ signage prompt you to change your decision to use the stairs rather than the lift?

(Please circle)

Yes

No

Please explain further \_\_\_\_\_

6. Do you think the campaign has helped to increase your stair usage?

(Please circle)

Yes No

Please explain further \_\_\_\_\_

\_\_\_\_\_

7. Since the launch of the campaign how often have you walked up a flight of stairs instead of using lifts or escalators?

a  Never  Sometimes  Often  Always

b Is this:  less than usual  about the same as usual  more than usual

8. Since the launch of the campaign how often have you walked down a flight of stairs instead of using lifts or escalators?

a  Never  Sometimes  Often  Always

b Is this:  less than a usual week  about the same as a usual week  more than a usual week

9. Do you experience any challenges or difficulties using the stairs?

(Please circle)

Yes No

If yes please explain

further \_\_\_\_\_

\_\_\_\_\_

10. Do you want to increase your physical activity during your daily routine in the work place?

(Please circle)

Yes No

11. What would help you to increase your physical activity in the work place?

\_\_\_\_\_

\_\_\_\_\_

12. What is your biggest challenge in increasing your physical activity during your daily routine?

\_\_\_\_\_

\_\_\_\_\_

13. What can you do to minimise these challenges?

\_\_\_\_\_

\_\_\_\_\_

14. How confident are you that you can overcome these challenges?

Not confident  Slightly confident  Quite confident  Very confident

15. What would make increasing your current level of physical activity in the work place easier?

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16. What are your thoughts about this campaign?

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17. How did the posters/ signage make you feel?

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18. Any further comments

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We would like some testimonials about this campaign to be used in our evaluation and publicity.  
If you would be happy for your comments to be used in this way please tick this box

Thank you for completing this questionnaire.  
Please return to Amanda Douglas 3<sup>rd</sup> Floor Clifton House.

## Appendix 10 - Evaluation Report of Burn Calories Not Electricity

A total of 7,637 vertical trips by stair or lift were observed; 1,796 at Location 1 (a 5 floor NHS Office building), 1,734 at Location 2 (another 5 floor NHS Office Building), and 4,107 at Location 3 (a 4 floor Local Authority building).

There was variability in baseline stair use; Location 1 – 56%, Location 2 – 64% and Location 3 – 20%, however vertical stair trips increased immediately following posting of the prompt which was significant at two sites (Table 1): 3.2% at Location 1, 14.1% at Location 2 and 12.6% at Location 3. At Location 3 (the Local Authority Office Building) at six month follow up the stair increase had remained at 12.8% higher than the initial baseline (Table 2).

Table 1. Cross site comparison of stair use, baseline to 1 week post prompt

	Baseline	1 week post prompt	Absolute increase	p-value (two-tail)
NHS Office Building 1 (n= 1796)	64.2	67.4	3.2	p<0.2262
NHS Office Building 2 (n= 1734)	55.8	69.9	14.1	p<0.001
Local Authority Office (n= 4107)	19.9	32.5	12.6	p<0.001

Table 2. Location 3 Local Authority Office Building baseline to 6 month post prompt

	Baseline	6 month post	Absolute increase	p-value (two-tail)
Local Authority Office Building (n= 4107)	19.9	32.8	12.8	p<0.001

Table 3. Location 2 NHS Office Building (n= 1734)

	Baseline	1 week post prompt	Absolute increase	p-value (two-tail)
Males	60.5	71.3	10.8	p<0.0008
Females	51.6	68.6	17	p<0.001

Table 4. Location 3 Local Authority Office Building (n= 4107)

	Baseline	1 week post prompt	Absolute increase	p-value (two-tail)
Males	28.1	41.2	13	p<0.001
Females	14.2	26.8	12.6	p<0.001

## Appendix 11 Results from Self-Reported Evaluation Questionnaire

### Results - [REDACTED] Location 1

15 self-reported evaluation questionnaires were completed by staff employed by [REDACTED] and returned to myself over a 3 week period. Results were entered into an excel spreadsheet and results are reported below.

#### Awareness of Campaign

All (100%) of the respondents reported being aware of the campaign.

#### Sedentary Behaviour

14 (93.3%) of the respondents reported spending 3 or more hours sitting during the last week.

9 (60%) reported not meeting the weekly Department of Health physical activity recommendation with 6 (40%) reporting they met the weekly Department of Health physical activity recommendation within the past week.

#### Reported Behaviour Change

10 (66.6%) of the respondents reported that the campaign had encouraged them to increase their level of physical activity.

Comments included:

*"I am definitely taking the stairs more for short trips upstairs and always using the stairs to go down".*

*"I have had sciatica and back problems so I have been easing back into doing more exercise. I had been going to the gym for various aerobic classes and to use the gym equipment four or five times a week. Now I am doing 3 times a week".*

*"The campaign has encouraged me to walk more than I usually do".*

*"Already was using the stairs at all times".*

*Ta "It's made me feel more guilty about using the lift".*

*"Climbing the stairs more often than not".*

*"Did encourage my thought processes about trying to lose weight".*

11 (73%) of the respondents reported that the posters/ signage had prompted them to change their decision to use the stairs rather than the lift.

Comments included:

*"I felt guilty every time I pushed the lift button and walked instead".*

*"At least, I now try to walk down the stairs sometimes which I never did before the campaign".*

*"Seeing the signs reminded me to take the stairs when going down rather than the lift".*

*“However, in the morning with all my bags I usually make the decision to take the stairs to the 5th floor. During the day I will walk downstairs and try to make an effort to walk from the ground to the 5th floor at least once a day”.*

*“I do take the stairs, even before the campaign but it's nice to know how many calories I'm burning!”*

*“If I didn't feel like walking the posters would make me feel guilty so would take the stairs!”*

*“I walk a lot during my working day (2 or 3 miles) and to the bus stop to and from work, I am often exhausted carrying heavy bags when I get here”.*

12 (80%) respondents reported that the campaign has helped to increase their stair use.

Comments included:

*“I definitely walk down every time”.*

*“Prior to the campaign I would often take the lift down to the ground floor but since the campaign I have only done this on rare occasions”.*

*“I usually choose to take stairs if I know I'm only going to 2nd or 3rd floor but think about it more now, since the start of the campaign”.*

Since the launch of the campaign no respondents reported never walking up a flight of stairs instead of using the lift and 7 (46.6%) reported using the stairs more than usual. 4 (26.6%) reported always walking up the stairs 10 (66.6%) reported always walking down, 5 (33.3%) reported often walking up the stairs and 6 (40%) reported sometimes using the stairs 2 (13.3%) reported sometimes walking down instead of the lift.

### **Increasing Physical Activity in the Workplace**

9 (60%) respondents reported wanting to increase their physical activity in the workplace.

Most facilitators of change included working less and having a better work, life balance.

Comments included;

*“I prefer to exercise after or before work as I have stated previously. However, I often try to go for a little walk at lunchtime or take a couple of minutes break away from my desk and visit other colleagues for a short chat etc”.*

*“will try to utilise existing facilities/ programmes more e.g. consciously using more stairs and join the workplace lunchtime walking club”.*

*“less work more play”*

*“I need to go on the lunchtime walks and not sit at my desk and eat”.*

*“less work? More meetings to walk to”*

*“getting up from desk move - less desk time - speak to colleagues rather than email”*

*“free exercise bikes or coin op”*

*“having meetings outside the building, having lunch outside the building”.*

*“appropriate space for classes”*

*“there is already a good choice/ provision in this workplace”.*

*“not sure”*

*“time”*

## **Challenges**

Lack of time and motivation were the most commonly referred to challenges. Comments included:

*“sitting at the desk all day responding to emails etc”*

*“Time. We cannot take more than 30 minutes lunch (or is it 20 mins?) not very long for a nice workout etc”.*

*“Getting myself used to being more involved in physical activities”.*

*“busy - not enough hours in the day”.*

*“time and habit”.*

*“finding motivation”*

*“was doing Zumba but not really getting a workout as space limited”*

*“lack of motivation to increase, prefer to be active after work and walk lots in work time anyway.”*

*“time/ availability”*

*“fitting it in around work. Although I do go to exercise classes in the evenings/ weekends”.*

## **Opportunities to overcome challenges**

Most responses included an element of action planning and working less. Comments included;

*“cut down work hours”*

*“taking an hour lunch break and go for a walk/ gym”.*

*“get up earlier”*

*“Set priorities”*

*“Will try to take a gradual approach to increase my physical activity programme and become more mentally prepared to do so”.*

*"Make the most of my time outside work, which is what I usually do".*

*"Put a reminder to get up and walk maybe?"*

When asked about the confidence of overcoming these challenges, 4 (26.6%) reported feeling confident, 4 (26.6%) reported feeling slightly confident and 4 (26.6%) reported as feeling not confident .

### **Opportunities to Increase Physical Activity in the Workplace**

Comments included:

*"I wish we could revert to having an hour lunch break, which went years ago! Then I'd like to do a nice work out and have time for a quick shower before returning to work".*

*"I love music and dancing, will definitely enrol participate in the Zumba sessions run fortnightly at Clifton House".*

*"dedicated time for it i.e. Wednesday afternoon's off"*

*"If I wasn't so busy"*

### **Thoughts about the campaign from the participants:**

*"I think the campaign is great. It's got people talking and most people I speak to are taking the stairs more since the posters went up".*

*"Good idea!! I'm not so sure about the tip on the poster asking visitors if they wish to use the stairs instead of the lift. If I was on the 1st or 2nd floor I think this is appropriate but I don't think most visitors would be happy to take the stairs all the way to the 5th floor. It wouldn't happen that often. Most people are really put out when the lift is not working so this just shows you how much it is depended on".*

*"The campaign has immense short/ long term health benefits especially in helping to maintain healthy weight and reduce health disadvantages associated with obesity".*

*"very good, because it got me to think about walking up and down the stairs where I would usually take the lift".*

*"Great idea at improving physical activity simply and easily in the workplace".*

*"very good. Very simple but effective".*

*"Great to encourage staff to consider the benefits of using stairs".*

*"well intentioned".*

*"It's good, attractive. Interested to know the impact/ behaviour change after a few months i.e. will people become 'blind' to the signs after a while?"*

*"Very good. The receptionist – Mrs F really encouraging as asks people when signing in 'would you like to take the stairs or lift?'"*

*"Worth a try and like the key messages - green and maintain a healthy weight".*

*"Prompted me to use stairs all the time".*

*"Like the campaign, good visuals and information A4 leaflet was good".*

### **Feelings associated with posters/ signage**

Many respondents reported a feeling of guilt associated with using the lift and not using the stairs

Comments from the participants on how the posters/ signage made them feel included:

*"Energised - I see them and it makes me think I can take the stairs and be more green".*

*"A bit guilty for using the lift but I know what other activity I do during the week so I have not need to feel guilty".*

*"I felt very challenged as I never really thought much about the importance/ impact of physical activity on my own health, let alone the environmental impact and the energy bill!!"*

*"It encouraged me to try".*

*"Good about myself".*

*"reminded".*

*"guilty".*

*"ambivalent".*

*"fine – informative".*

*"guilty, but informative, read poster fully whilst sitting on the toilet".*

*"reminded me to use stairs"*

*"positive when wanted to walk, guilty when I didn't!"*

### **Any Further Comments**

*"Keep up the campaign, it reminds people to use the stairs which is often quicker than waiting for the lift".*

*“Well done Amanda! It's a good idea to encourage people to use the stairs as an alternative to the lift. However it would also have been worth looking into the reasons why people opted not to use the stairs. Sometimes it's due to people's health e.g. injured back, foot, etc and other times it's just laziness and habit of using the lift for convenience. Thanks”.*

*“I have found this campaign very educative and encouraging to become more physically active - especially for the fact the one does not need to join the gym to participate fully to get adequate physical exercise”.*

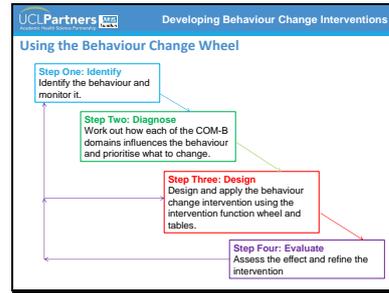
*“I think this is really positive - gets people thinking.”*

*“This organisation is very good at supporting its workforce to be healthy. Wellbeing wise I think a 'staff room' which could have a smoothie bike!”*

# Appendix 12 – Presentation Slides for UCL Partners Behaviour Change Course

**Burn Calories Not Electricity**

Amanda Bunton  
Public Health Strategist



UCL Partners NHS London | Step 1: Identify target behaviour

**Identifying the target behaviour**

**Target behaviour:** Increase use of stairs and reduce unnecessary use of lifts.

**Expected benefits if the target behaviour is adopted**

- Benefit 1:** Helps prevent weight gain
- Benefit 2:** Improves cardiovascular health
- Benefit 3:** Reduces energy consumption

**Monitoring strategy:**

- Observational Data Collection
- Conducted by pre recruited volunteers
- Using a pre designed data collection tally sheet
- The observational survey will be conducted over the period of one week (Mon- Fri) at two points in the day of high footfall (09:00 – 10:00 and 12:00 – 13:00) for an hour each time.



UCL Partners NHS London | Step 2: Diagnosis: COM-B Analysis

Capability	Capability
<p><b>Physical:</b></p> <p>Physical challenges to stair use;</p> <ul style="list-style-type: none"> <li>• Physical Disability</li> <li>• Mobility challenges</li> <li>• Breathlessness</li> <li>• Break out in a sweat</li> <li>• Carrying a heavy load</li> <li>• Not enough energy</li> <li>• Too tired.</li> </ul>	<p><b>Psychological:</b></p> <p>Knowledge: Lack of awareness of evidence based recommended levels of physical activity &amp; consequences of lack of regular physical activity.</p> <p>Cognitive: Inability to plot and interpret BMI; inability to correlate energy consumption and output.</p> <p>Interpersonal: Influence of partner, family, colleagues.</p> <p>Self-regulation: Inability to monitor own level of exercise.</p>

UCL Partners NHS London | Step 2: Diagnosis: COM-B Analysis

Opportunity	Opportunity
<p><b>Physical</b></p> <p>Objects / Services / Locations: Lift is convenient as it is located as you walk through the entrance. Stairs are more difficult to access.</p> <p>Prompts: Staff and visitors are directed to use the lift.</p> <p>Space and Time: Lift is quick and convenient, part of daily routine. Lack of awareness of how to increase physical activity into daily routine.</p>	<p><b>Social</b></p> <p>Peer influences / Peer pressure: Colleagues all use the lift. Professionals don't arrive looking out of breath, flushed in the face or sweating.</p> <p>Norms around the behaviour: Everyone uses the lift in the morning.</p> <p>Social environment: Can talk with colleagues in the lift. Opportunity to socialise with people whilst you are waiting.</p> <p>Credible models: Healthy young good looking people take the lift, my colleagues, my manager take the lift.</p> <p>Culture and language: Everyone takes the lift. We work in a busy environment so need to move around quickly.</p>

**UCLPartners** UCL School of Public Health **Step 2: Diagnosis: COM-B Analysis**

Motivation	Motivation
<p><b>Reflective</b></p> <p>Identity: Professional</p> <p>Beliefs about change:</p> <ul style="list-style-type: none"> <li>To heavy/ over weight to take stairs</li> <li>Taking the stairs won't make much of a difference to my health or appearance</li> <li>Taking the stairs takes too long.</li> </ul>	<p><b>Automatic</b></p> <p>Reinforcement: Taking the lift is a nice experience. I can talk to colleagues and don't arrive out of breath.</p> <p>Habit: Always take the lift – every morning and every evening.</p> <p>Emotion: Taking the stairs is too much effort, taking the stairs makes me anxious about arriving flustered, out of breath, red in the face or sweating.</p>

**UCLPartners** UCL School of Public Health **Step 3: Design and Implementation**

Motivation	Motivation
<p><b>Reflective</b></p> <p>Identity: Professionals are active, environmentally friendly.</p> <p>Beliefs about change: Easy to fit into daily routine, quick way of moving about office.</p>	<p><b>Automatic</b></p> <p>Reinforcement: Releases endorphins making you feel good and eliminates drowsiness. Positive feedback from colleagues.</p> <p>Habit: Promoting routine stair usage. Planning to take the stairs everyday for 1 month.</p> <p>Emotion: Releases endorphins making you feel happy.</p>

**UCLPartners** UCL School of Public Health **Step 3: Design and Implementation**

Capability	Capability
<p><b>Physical:</b></p> <p>Promote health and wellbeing benefits of taking the stairs.</p> <p>Promote increase in physical activity as part of daily routine and healthy lifestyles not just stair use.</p> <p>Highlight other ways to be physically active.</p>	<p><b>Psychological:</b></p> <p>Knowledge: Fact sheets, sign postings</p> <p>Cognitive: Fact sheets, sign posting</p> <p>Interpersonal: Engaging whole organisation – settings based approach</p> <p>Self-regulation: Pedometers, self reported.</p>

**UCLPartners** UCL School of Public Health **Stage Three: Design and Implementation**

**Planning interventions using the Intervention Function**

**UCLPartners** UCL School of Public Health **Step 3: Design and Implementation**

Opportunity	Opportunity
<p><b>Physical</b></p> <p>Objects / Services / Locations: Locate signs at point of decision making, directional sign posting to stairs.</p> <p>Prompts: Motivational Signage, engage with reception staff.</p> <p>Space and Time: Part of daily routine, fact sheets.</p>	<p><b>Social</b></p> <p>Peer Influences / Peer pressure: Engaging whole organisation</p> <p>Norms around the behaviour: Routine stair use across organisation</p> <p>Social environment: Active, green organisation</p> <p>Credible models: Modelling by Public Health team</p> <p>Culture and language: Active, green organisation.</p>

**UCLPartners** UCL School of Public Health **Behaviour Change Wheel and Stair Use - Example**

<p><b>Physical Opportunity</b></p> <p>Objects / Locations / Services</p> <p>Staff reporting stair use is uncomfortable in formal footwear</p> <p>Space and Time</p> <p>Stairwells full of clutter / Pressure of time on consecutive meetings</p> <p>Prompts</p> <p>Access to stairs not clearly signposted / Routes from exit from stairs not clearly signposted</p>	<p><b>Enablement</b></p> <p>Relaxation of dress code &amp; campaign / Directive to address meeting time conflicts to enable time for stair use</p>	<p><b>Environmental Restructure</b></p> <p>Signposting to stairs &amp; exit routes improved / Prompts to use the stairs placed on entrance to lift areas / Clutter removed</p>
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## Appendix 13 – Presentation Slide for Fit Cities Fit World Conference

18<sup>th</sup> & 19<sup>th</sup> March 2013

**'Burn Calories Not Electricity'  
Physical Activity Campaign**

Fit Cities Fit World Conference 2013, London  
18<sup>th</sup> and 19<sup>th</sup> March 2013

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Public Health Strategist for City and Hackney



### Settings Based Approach

"Health is created and lived by people within the settings of their everyday life; where they learn, work, play, and love." The Ottawa Charter (1986)

- A Holistic, multi-disciplinary approach
- Maximise disease prevention "Whole systems" approach
- Schools, universities, workplaces, homes, estates, streets, cities, health and social care facilities, prisons etc...
- Community participation, partnership, empowerment and equity
- Integration of health promotion and sustainable development.
- Examples; Healthy Cities Programmes; Healthy Workplace Charter; Healthy Schools

### Physical Activity Campaign

#### • Aim:

- To increase daily physical activity in City and Hackney to improve the health and wellbeing of the workforce and population of City and Hackney using a settings based approach.

#### • Objectives:

- To target buildings in City and Hackney to promote stair usage.
- To introduce measures to make stairs more visible.
- To increase daily physical activity among staff, visitors and residents through increased use of stairs and reduced use of lifts.
- To increase awareness of the synergy between the health and sustainability agendas among stakeholders and the public.

### Evidence Base - Health Benefits

- Stair use burns calories and can also have a direct impact on cardiovascular health (Zimring, 2005; Brownell et al., 1980; Lee et al., 1998).
- Stair climbing has also been shown to raise individuals' good cholesterol levels (Boreham, 2000).
- Growing evidence base for beneficial effects of regular physical activity for cognitive and mental health (Hendrickx & Onderaa, 2008).
- Using the lift not only reduces physical activity, but also typically accounts for 3 to 10% of a building's energy use (U. S. Department of Energy, 2001).

### Evidence Base - What works?

- Stair use is one of the most accessible ways for people to integrate physical activity into their daily lives. The more general use of stairs can free up lifts for use by individuals with physical challenges.
- Stairs attract more use when they are highly visible from paths of travel and are easy to access (Nicol, 2007).
- Motivational signage can encourage stair use, particularly when combined with marked walking paths on sites leading pedestrians to the stairs which may often be hidden out of sight. This is particularly important near lifts when waiting for a lift can become less attractive if the stairs are presented as an easily accessible option (Bangum et al., 2007).
- Signage located at the lift or escalator that directs building users to a nearby stair and that emphasizes the health benefits of stair climbing can prompt people who would otherwise use the lift to take the stairs (Cerr, 2000, 2001, 2004; Anderson, 1998; Blamey, 1995).
- Across studies, this signage increases stair use by a median of 50%. (Guide to Community Preventive Services).

### 'Burn Calories, Not Electricity' Campaign

- A "Burn Calories, Not Electricity" campaign was launched by the City of New York (2008), using prompts across different building types in the city to encourage stair climbing.
- The intervention was evaluated in a before and after study and was found to be an effective way of increasing physical activity in diverse settings.
- Increased stair use was seen at all sites immediately after posting of the prompts (Range 9.2%–34.7%) and was sustained at 9 months (Lee et al., 2012).

## Burn Calories Not Electricity

- Settings based approach to health promotion to increase physical activity by encouraging people to use the stairs rather than the lift.
- Utilises bright green motivational prompts through posters and signage promoting people to choose to take the stairs rather than the lift.
- Intervention replicated by the Public Health Team in City and Hackney.
- Evaluated through pre and post intervention observational surveys.



## Implementation

- Identify a 'BCNE' champion with responsibility for implementing the campaign on the site.
- Designate at least one staircase in the building for everyday use to serve as a principal means of travel.
- Focus on stairs rather than lifts as the principal means of vertical travel for those who are able to climb stairs, especially for travel of four stories or less.
- Train reception staff and make available materials on healthy eating, physical activity and weight loss.
- **Campaign directional signage:** increase stair visibility by incorporating directional signage in the building's orientation areas and points of decision particularly near lifts.
- **Campaign posters:** use stair prompts to encourage use of stairs by providing informational or motivational signage at points where users must decide between taking stairs or lifts.
- Link campaign to *healthy workplace and sustainability* policies on site.

## Key Activities

- Campaign posters and signage distributed and displayed at all participating sites.
- Promotion of campaign through communication channels such as; websites, intranets and newsletters.
- Engage reception staff and identify champions at all sites.
- Set up pre and post data collection schedules.
- Launch the campaign in conjunction with a health and wellbeing event/ activity.

## Monitoring and Evaluation

- Pre and post intervention observational surveys (one week before launch of campaign and one week after) conducted at each site during times of high footfall at two points in the day for five days.
- Pre and post intervention self reported surveys – qualitative and quantitative data.
- All vertical trips (lift and stairs) originating from the reception level of each site tallied on observation forms by the site champions.
- Researcher observations to be unobtrusive and prior to data collection, inter-rater reliability to be assessed at each site.
- Depending on capacity, observational surveys to be repeated six months after intervention to establish the long term effectiveness of the intervention.

## Highlight Leaner and Greener Benefits

- Stair climbing burns almost 700% the number of calories you burn standing in a lift.
- Just two minutes of stair-climbing each day burns enough calories to eliminate the one pound an average adult gains each year.
- one study showed that men who climb at least 20 floors a week (about 3 floors a day) have a 20% lower risk of stroke or death from all causes.
- Stair-climbing has been shown to raise good cholesterol and improve cardiovascular health.
- Stair use reduces energy consumption. An escalator that operates 24 hours a day, seven days a week, can use 28,000 kilowatt hours of energy over the course of a year. That's enough to create 43,000 pounds of carbon dioxide – more than three times the amount a car produces!

## Initial Findings

- Location 1 – NHS Workplace Building - 3% increase in stair usage overall however this was not statistically significant
- Location 2 – Local Authority Workplace Building - 13% increase in stair usage which was consistent among men and women
- Next Steps
  - Analyse data collected from location 3 (another NHS workplace building)
  - Collect base line data from location 4 – which is a housing estate
  - 6 month follow up location 2
  - Look for opportunities to roll out intervention across City and Hackney
  - Write up findings to submit to a peer review journal for publication

## Challenges to a Settings Based Approach

- Assumption one size fits all
  - doesn't take into consideration individual differences; motivation, values/ beliefs, cognitions, experiences, circumstances
  - Danger of settings work exacerbating health inequalities
- Need to consider:
  - What is to be implemented (expected outcomes)
  - How this will be done, How long it will take
  - Nature of setting
  - Consistency of roll out of intervention
  - Associated expectations
- Need for more critical analysis (Whiteaw, 2001).

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## Public Health and Active Design

- Physical activity is fundamental to our overall health and wellbeing and to addressing increasing trends in obesity among adults and Children.
- Active design provides opportunities to promote physical activity.
- Active design not only enhances public health but can also reinforce the goals of environmental sustainability and universal access.
- Need to adopt psychological frameworks and behaviour change techniques to support people to make healthier choices and sustain these.
- Call to Action: Integration of Planning, Design, Transport and Health Agendas.

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- The 'Burn Calories Not Electricity' campaign is based on information included in the *Active design Guidelines: Promoting Physical Activity and Health in Design* ©2010 City of New York.
- We would like to thank colleagues from the City of New York for granting us permission to use their campaign in our locality.

# SECTION D – Systematic Literature Review

## **A Systematic Literature Review of Interventions to Increase Uptake of NHS Health Checks**

### **1. Background**

Reducing avoidable premature mortality and reducing health inequalities are both Government priorities. Cardiovascular diseases (CVDs) are the most common cause of death and a contributor to health inequalities in the developed world. Cardiovascular risk assessment programmes are increasingly being implemented as part of efforts to address this burden. In 2009, the Department of Health introduced a phased implementation of the NHS Health check programme in England (Department of Health, 2009). It is an 'at risk' population-based approach, involving a cardiovascular risk assessment and management programme for all adults aged 40–74 years. It is designed to reduce the incidence of major vascular disease events by preventing or delaying the onset of diabetes, heart and kidney disease, stroke and certain types of dementia (Public Health England, 2013). Everyone age 40 to 74 years, who has not previously been diagnosed with vascular disease, will be invited, once every five years, to have a check to assess their risk of heart disease, stroke, kidney disease and diabetes, and will be given lifestyle support and advice to help reduce or manage that risk. It is a national programme, delivered by local arrangements to fit local context with the aim of promoting equity of access (Public Health England, 2014).

The programme is predominantly delivered through primary care and involves; initial invitation in most instances by a letter, measurement of cardiovascular disease (CVD) risk factors, generation of global risk estimates, risk communication and lifestyle counselling. As well as managing individual risk factors, such as smoking, hypertension, obesity, physical inactivity, alcohol, diet and cholesterol. In addition, people aged 65-74 will be informed of the signs and symptoms of dementia and sign posted to memory clinics where appropriate

(Public Health England, 2014). There is currently a national pilot underway to trial the implementation of a dementia risk reduction component for 40 – 64 year olds focused on how to prevent the development of dementia as this is not an inevitable part of aging and linked to lifestyle factors (Department of Health, 2016).

From 1st April 2013, local authorities took over responsibility for the national NHS Health check programme, previously the responsibility of Primary Care Trusts (PCTs). The provision of NHS Health check risk assessments is a mandatory requirement for local authorities (Department of Health, 2015). Local Authorities have flexibility on who they commission to provide the service and what locations are used to deliver the check. The tests and measurements however, are standardised to help ensure the safety, quality and effectiveness of the programme (Public Health England, 2016) along with the actions taken at certain thresholds, to assure a systematic and uniform offer across England, to maximise the public health impact of the programme. Beyond this, variation in delivery across local authorities is vast. A range of different invitation processes and services have been commissioned from a range of providers and delivered by a range of health care professionals.

Local authorities must achieve a 100% offer rate in their eligible populations after five years. Ideally local authorities will offer the NHS Health check to 20% of their eligible population each year, reaching 100% over five years. Nationally, there are over 15 million people in this age group who should be offered an NHS Health check once every 5 years (NICE, 2014). Funding has been allocated to support this scenario and is modelled on an uptake rate of 75% (Department of Health, 2008). Currently there are no set targets on uptake, however guidance states areas may wish to aspire over time to achieve take up rates comparable with other screening programmes which achieve take up rates in the region of 75% (Public Health England, 2013). Local authorities have a legal duty to seek

continuous improvement in the percentage of eligible individuals taking up their offer of a NHS Health check as part of their statutory duties. The higher the take up rates for the programme, the greater the reach and impact of the programme and the more likely the programme is to tackle health inequalities. Data shows, that there is considerable variation in offers and uptake across Local Authorities (Public Health England, 2016a).

Ensuring a high percentage of those offered a NHS Health check actually receive one is key to optimising the clinical and cost effectiveness of the programme (Department of Health, 2008a). This is especially important for populations with the greatest health needs and may impact on the programme's and local area's abilities to narrow health inequalities.

Learning from similar programmes has demonstrated that it takes time to increase uptake rates and with the programme still in its early stages, it was encouraging that the national take-up rate in 2011/2012 was 52%, although this has continued to drop to 49% in 2012/13, 49.04% in 2013/14, 48.8% in 2014/15, and most recently 47.9% in 2015/16 (Public Health England, 2016a). This initial drop may have been due to the Health Service transition of commissioning and delivery responsibilities for the programme, however these new arrangements should have been well established now. There is also a significant drop off rate from those invited to attend a health check, the number that respond, the number that attend the check and then the number that take up treatment. A study on the uptake of the NHS Health check in Stoke on Trent showed 63.3% of those invited to a health check responded, 43.7% attended a health check and 29.8% took up treatment (Cochrane, Gidlow, Kumar, Mawby, Iqbal, et al, 2012).

Few countries have introduced large scale cardiovascular risk assessment programmes and the evidence of increasing uptake in routine care settings is sparse (Dalton, Bottle, Okoro, Majeed, Millett, et al 2011). As far as the author is aware, the NHS Health Check programme in England is the first national programme designed to develop a systematic

and coordinated approach to the management of major vascular disease risk at the population level.

A recent Cochrane review by Krogsboll, Jorgensen, Gronhoj Larsen, and Gotzsche (2012) has suggested that the NHS Health check model is not evidence based (MacAuley, 2012; Torjesen, 2013). However, the limitations of the review as a guide to the expected benefits of the current NHS Health check programme were summarised and published by the Department of Health (Kearny & Waterall, 2016). The review notes that the type of health checks referenced in the review are not clearly defined and in many cases were not comparable to the systematic risk evaluation and management recommended by the current NHS Health check programme, which is based on NICE guidance on using cost-effective pharmacologic agents and behavioural approaches.

A recent systematic literature review published on the effectiveness of general practice-based health checks, concluded that general practice-based health checks are associated with statistically significant improvements especially in high risk patients, but these are small (Si, Moss, Sullivan, Newton, & Stocks, 2014). However, there is a need to ensure high quality research is conducted to ensure the programme is being delivered effectively and is delivering its aims as a population level primary prevention programme.

A recent review on general health checks found that those least likely to attend health checks were men on low incomes, low socio-economic status, unemployed or less well educated. Non-attenders also had a greater proportion of cardiovascular risk factors than attenders (Dryden, Williams, McCowan, Themessl-Huber, 2012). This is consistent with findings in general health checks, showing that of those who had been offered health check screening, females, non-smokers and those from higher social classes were more likely to attend (Waller, Agass, Mant, Coulter, Fuller, et al, 1990).

The use of an invitation letter is the most common route for inviting the eligible population for an NHS Health check. However it is unclear how effective this method is for different groups of people.

## **2. Justification for review**

Public Health England introduced a new national priority to drive uptake from 48% (2013/14) to 66% by the end of 2015 (Waterall, Greaves, Kearney & Fenton, 2015). There is therefore a current focus to identify interventions that increase uptake of the NHS Health Check Programme. Ensuring a high percentage of those offered a NHS Health Check actually receive one, is key to optimising the clinical and cost effectiveness of the programme. This is especially important for populations with the greatest health needs and will impact on the programme's and local area's abilities to narrow health inequalities. Coverage may be a better measure for assessing public health impact, however uptake is an important behavioural measure to investigate as this reflects an individual's contact with a programme.

There has been some recent activity in this area as Public Health England's Knowledge and Library Service has recently conducted a Literature Search on the uptake of the NHS Health Check programme and Health Checks in general (2014). The author of this Systematic Review contributed to the development of the search terms for the literature search. The University of Salford conducted a Rapid Review of the evidence of improved uptake of NHS Health Checks (2014) to inform practice in Salford (Cooper & Dugdill, 2014). They found limited evidence of demographic and health factors that impact on uptake. They also included papers from other screening programmes.

To the authors knowledge there has been no systematic literature review published on interventions to increase uptake of NHS Health Checks, or interventions to engage those

that typically do not engage with health services often referred to as 'hard to reach' (who may be of the greatest need) to attend NHS Health Checks.

### **3. Objectives**

The aim of this systematic literature review is to assess the effectiveness of interventions to encourage attendance at and increase uptake of NHS Health Checks. This review will also aim to identify;

- factors which influence uptake of NHS health checks including demographic, social, psychological and or behavioural
- any demographic, social and psychological differences between attenders and non-attenders of NHS Health Checks
- effective interventions to increase uptake of NHS Health Checks in hard to reach groups
- effective invitation methods to optimise attendance at NHS Health checks

The overarching aim of conducting this systematic review is to contribute to evidence based practice by translating evidence into current practice and service delivery, and help steer the future direction of research.

### **4. Inclusion and Exclusion Criteria**

#### **Inclusion Criteria;**

#### ***Types of studies***

Only studies focused on NHS Health Checks were included in this review published in 2009 onwards as this is when the programme was implemented.

This review intended to exclusively include randomised controlled trials, but due to the limited number of studies, quasi-experimental research design trials were also included.

### ***Type of participants***

The review included studies in which participants were eligible for an NHS Health Check. This includes individuals aged 40 – 74 with no pre-existing vascular condition.

### ***Types of Intervention***

All studies that provided a clear description of the local implementation of the programme, the patient and or practice characteristics, invitation process, and or intervention implemented to encourage attendance at an NHS Health Check were included.

### ***Types of Outcome Measures***

Studies were included if the intervention measured attendance or uptake of an NHS Health Check.

### **Exclusion Criteria;**

Any studies that were qualitative in design, a service evaluation or reported only subjective or self-reported outcomes were excluded. Any studies focused on children or individuals previously diagnosed with CVD or any interventions that focused on disease specific health checks or screening other than NHS Health Checks were excluded.

## **5. Search Methods for Identification of Studies**

The Patient-Intervention-Comparison-Outcome (PICO) framework was used to help develop the literature search strategy (Richardson, Wilson, Nishikawa, & Hayward, 1995).

Between January 2015 and May 2015, a systematic review of the literature was conducted and repeated in August 2016 on the following databases;

- a) Cochrane Library (Including Cochrane Database of Systematic Reviews and Cochrane Central Register of Controlled Trials)

- b) EBSCOHOST (Including CINAHL Plus with full text, Psych Info, Psych Articles and MEDLINE)
- c) Ovid (including Embase)
- d) SCOPUS
- e) Web of Science
- f) Google Scholar

The reference list of review articles and all studies included within the review were also searched in order to find other potentially eligible studies.

Only studies published in English and conducted in England were included.

A hand search was carried out in recent editions.

The following databases of systematic reviews were also searched;

- The Cochrane Library (<http://www.thecochranelibrary.com>)
- Database of Abstracts of Reviews of Effects (DARE) (<http://www.crd.york.ac.uk/crdweb/>)
- Trip Database (<http://www.tripdatabase.com/>)
- NICE Evidence Services (<https://www.evidence.nhs.uk/>)
- PubMed Health (<https://www.ncbi.nlm.nih.gov/pubmedhealth/>)

Please see Appendix 1 for the search terms used in this review and Appendix 2 for the hits by database.

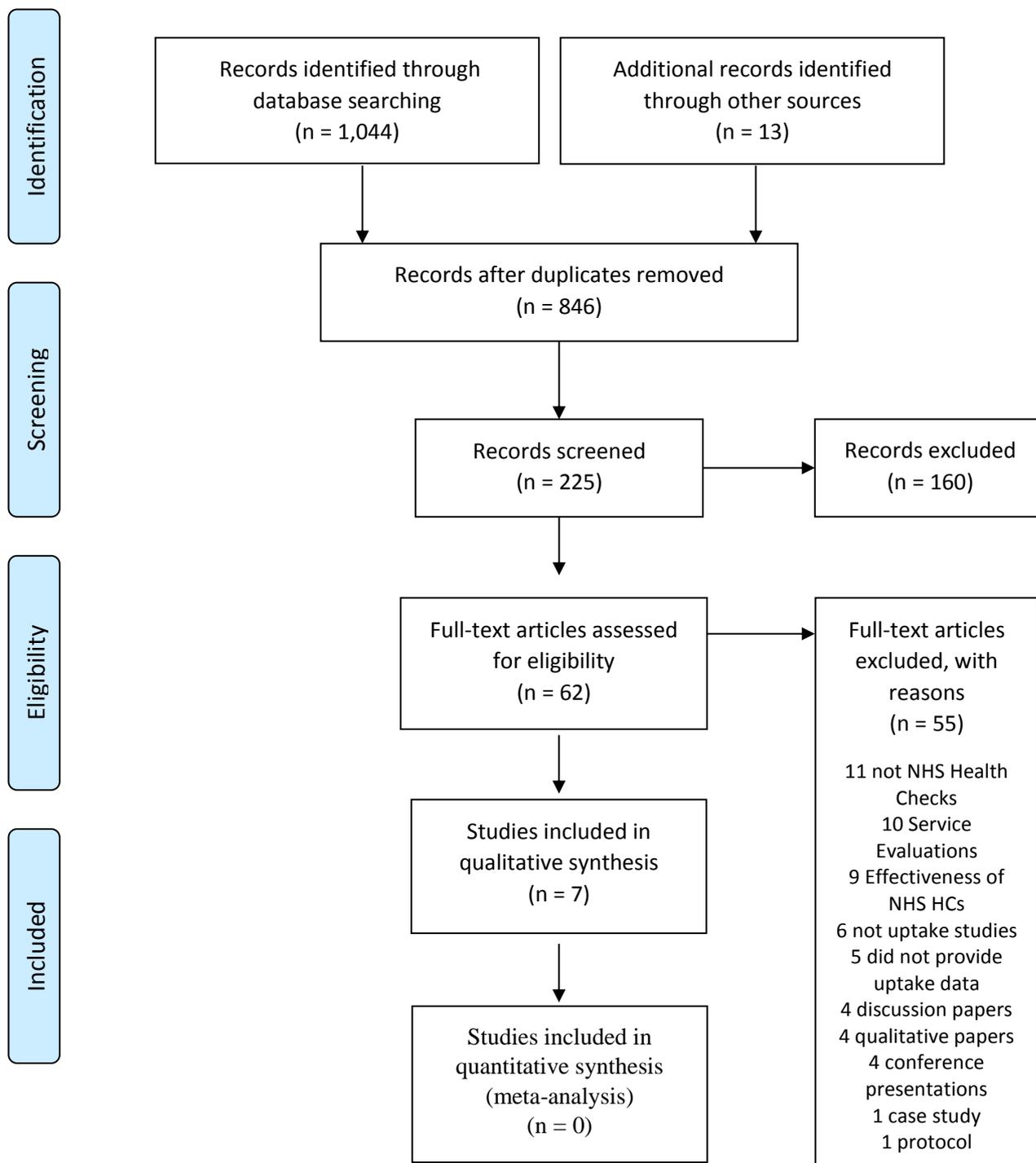


Figure 1. Flow diagram of review process using the PRISMA (2009) template.

## **6. Method of Review**

The Preferred Reporting Items for Systematic Reviews and Meta Analyses (PRISMA) 27 item checklist (Liberati, Altman, Tetzlaff, Mulrow, Gotzsche et al, 2009) and the Critical Appraisal Skills Programme (CASP) Systematic Review checklist (CASP, 2014), were used to structure and scrutinise the systematic review. The PRISMA four phase flow diagram was used to show the processes of identifying, screening and selecting studies for inclusion in the review.

### **6.1 Study Selection**

If the abstract of the study suggested that it might meet the inclusion criteria then it was selected for full review. This was also the case for studies where it could not be determined from the abstract.

### **6.2 Data Extraction**

A data extraction form was developed and populated with the relevant information from the study to be clear the study met the inclusion criteria. Please see Appendix 3 for a summary of the data extracted from the included studies.

### **6.3 Quality Assessment of Studies**

An assessment of the quality of the seven studies that met the inclusion criteria was carried out by two reviewers independently (A. Bunten and B. Hemmingway), using an adapted quality assessment checklist.

Due to the limited number of randomised controlled trials identified and having selected studies with different study designs, a quality assessment tool that could accommodate randomised and non-randomised studies was required. The intention has been to use the quality assessment tool for quantitative studies developed by the Effective Public Health Practice Project (EPHPP) as a tool for knowledge synthesis (National Collaborating Centre for Methods and Tools, 2008). It is a standardized framework and is designed as a tool for

knowledge synthesis for public health studies. However this tool was developed principally for individual level observational and clinical studies based on populations and as such a number of the questions were not relevant to the study design of the studies included in the review.

Therefore an adapted version was developed incorporating questions the US National Institutes of Health National Heart, Lung, and Blood Institute (NHLBI, 2014) for observational cohort and cross sectional studies and the Downs and Black (1998) checklist for randomised and non-randomised studies to create an appropriate quality assessment checklist.

The quality assessment included 16 questions considering the appropriateness of study design to the research objective, the risk of bias, choice of outcome measure, quality of sample size (power) and analysis, quality of reporting, quality of the intervention and its generalisability.

Each question was scored with a final rating indicating the strength of the quality of the paper. Ratings were as follows; Strong = 16 – 19, Moderate = 20-23, Weak 24+. The reviewers scored the papers independently using a blank quality assessment checklist. The interrater reliability was calculated using Cohen's kappa (Cohen, 1960), which showed substantial agreement between the raters ( $k=0.772$ ,  $p<0.0005$ ) (McHugh, 2012). The two raters then met to resolve any discrepancies. When a final assessment of a component was unclear the lower assessment was set, adopting a conservative decision.

Please see Appendix 4 for the quality assessment questions and quality assessment of all included studies.

## **7. Description of studies**

### **7.1 Studies Identified**

A total of 846 studies were identified after searching the databases and performing electronic de-duplication within and between each database. Please see Appendix 2 for the number of hits by database. After initial screening, 225 titles and abstracts were identified as potentially relevant. Of these, 62 full papers were retrieved and assessed for eligibility. This was also the case for studies where it could not be determined from the abstract. A total of seven papers were included in the final review. No further studies were identified through hand searching or the reference lists of the papers included.

Please see figure 1 for the flow diagram of the review process.

### **7.2 Included Studies**

A total of seven studies met the inclusion criteria and were included in the review. The studies were conducted between 2011 and 2016, and used data from 2008 – 2014. The sample sizes varied from 1,380 patients (Attwood, Morton & Sutton, 2015) to 40,112 patients (Artac, Dalton, Majeed, Car, Huckvale, et al 2013). Please see Appendix 3 for the data tabulation summary of studies included in the review.

### **7.3 Excluded Trials**

A total of 54 studies were excluded from the review. The majority were excluded as they were either not NHS Health Checks but general health checks, service evaluations, studies on the effectiveness of the programme, not investigating uptake or did not provide uptake data.

### **7.4 Overview of Studies**

All studies included in the review explored the local implementation of an intervention to increase uptake of NHS Health Checks in a local area. They explored the response to an invitation and other factors associated with uptake of NHS Health checks in GP Practices.

Four studies specifically focused on deprived communities (Cochrane, Gidlow, Kumar, Mawby, Iqbal et al 2012; Gidlow, Ellis, Randall, Cowap, Smith et al 2014; Dalton, Bottle, Okoro, Majeed & Millett, 2011; Cook, Sharp, Randhawa, Guppy, Gangotra et al 2016). Three studies explored the impact of different invitation methods on uptake (Sallis, Buntin, Bonus, James, Chadborn et al 2016; Gidlow et al 2014; Cook et al 2016) one study explored the impact of financial incentive schemes (Artac et al 2013).

Artac et al (2013) aimed to assess the impact of a local financial incentive scheme paid to General Practitioners on uptake of NHS Health Checks and statin prescribing in Hammersmith and Fulham, London during the first two years of the programme. They also examined whether uptake and prescribing within the programme differed between socio-demographic groups. The first year of the programme 4,748 patients aged 40 -74 years with an estimated high 10 year CVD risk  $\geq 20\%$  were prioritised and invited for an NHS Health Check. The second year of the programme the remaining non high risk population, 35,364 patients aged 40 -74 years with an estimated CVD risk  $\geq 20\%$ , were invited for a health check. In year 1 the study included 27 practices and 29 practices in year 2.

Attwood et al (2015) explored equity of uptake of the NHS Health Check and a nested physical activity intervention trial. They aimed to explore the sociodemographic characteristics of participants and non-participants to the NHS Health Check and a nested research trial of very brief interventions for physical activity. Invitation methods involved one of more of the following i) mailed invitation letter ii) mailed reminder letters iii) face to face recruitment of eligible patients attending pre-existing GP appointments and iv) telephone invitation. 1,380 patients were invited across 4 GP practices in the East of England.

Cochrane et al (2012) examined the response to an invitation to attend an NHS Health Check in a relatively deprived industrial city, Stoke on Trent. The aim was to assess whether

individual characteristics or practice characteristics might influence the decision to attend a vascular risk health check or to take up treatments offered to confirmed high risk patients, along with other factors that may affect individual patients' ability to take up the services offered. 10,483 patients aged 32-74 years with an estimated CVD risk  $\geq 20\%$  in the next 10 years were invited for a health check. All eligible patients were invited and up to three reminder letters were sent before a non-response was recorded. The study recorded; response to the invitation; reason for non-response; attendance at the health check; reason for non-attendance; uptake of treatment(s) offered; reason for non-uptake and details of the treatment taken up. The Practices received between £15- £20 for each patient screened. The study included 37 practices.

Cook et al (2016) investigated the impact of ethnicity, gender and method of invitation of uptake of NHS Health Checks in Luton. The study aimed to identify if there are any systematic differences among socio-demographic differences in the uptake of NHS Health Checks in a culturally diverse town and to examine the methods of invitation to determine if some methods are more successful than others for the specific population groups by ethnicity and gender. The invitation method was categorised by i) verbal (face to face) invitation (invited at GP practice), ii) contacted by telephone by GP practice, iii) written (sent an invitation letter from GP to attend NHS Health Check). 13,063 eligible patients were invited across 30 GP practices.

Dalton et al (2011) explored the uptake of NHS Health Checks in response to an invitation letter in a relatively socio-economically deprived population with a high proportion of residents from ethnic minorities in Ealing, North London. The aim was to examine uptake of the Health Checks programme in the first year of implementation and explore whether participation in the programme differed with patient and practice characteristics. 5,294 patients aged 35-74 years with an estimated CVD risk  $\geq 20\%$  were invited for a health check.

Patients were invited by letter and practices received £15 per screen as part of a locally enhanced service. The study included 29 practices.

Gidlow et al (2014) explored the method of invitation and geographical proximity on uptake of NHS Health Checks in a deprived urban community in Stoke on Trent. The study examined anonymised data on all patients who had been invited to attend an NHS Health Check in 5 general practices in Stoke-on-Trent between September 2010- February 2014 (n=4,855). Invitation methods varied from i) letter, ii) telephone/verbal invitations, either alone or iii) in combination with a letter.

Sallis et al (2016) explored the effect of an enhanced invitation letter on uptake of NHS Health Checks in primary care in Medway, Kent. They explored the effectiveness of an enhanced invitation letter on uptake of NHS Health Checks compared to the standard national invitation template letter. The intervention letter included i) simplification - reducing letter content for less effortful processing ii) behavioural instruction - action focused language iii) personal salience - appointment due rather than invited and iv) addressing implementation intentions with a tear off slip to record the date, time and location of the appointment. 3,511 eligible patients were invited to attend across 4 primary care practices.

All studies reported uptake and attendance at NHS Health Check as a primary outcome measure.

## **8. Methodological Quality**

Five studies achieved a strong quality assessment rating (Sallis et al, 2016; Gidlow et al 2014; Cochrane et al, 2012; Dalton et al, 2011; Artac et al, 2013) and two achieved a moderate rating (Attwood et al, 2015; Cook et al, 2016).

There was only one randomised controlled study identified (Sallis et al, 2016), one observational cohort (Gidlow et al, 2014) and five cross sectional studies (Dalton et al, 2011; Cochrane et al, 2012; Artac et al, 2013; Attwood et al, 2015; Cook et al 2016) included in the review.

The sample sizes varied from 1,380 patients (Attwood et al, 2015) to 40,112 patients (Artac et al, 2012) and from the inclusion of four (Attwood et al, 2015 & Sallis et al, 2016) to 37 General Practices (Cochrane et al, 2012). The length of the studies (including the follow up period) varied from six months (Cochrane et al, 2012) to almost three years (Artac et al, 2013).

All studies included patients eligible for NHS Health Checks in England. Two studies had a slightly wider eligibility criteria from 35 years (Dalton et al 2011) and 32 years (Cochrane et al 2012) but Cochrane et al (2012) reported that only 28 patients (0.3% of sample) were aged below 40 years.

All studies reported the primary outcome measure of uptake or attendance at NHS Health check.

## **9. Results**

A narrative synthesis is used to present the findings of this systematic literature review using the guidance from the Economic and Social Research Council (Popay, Roberts, Sowden, Petticrew, Arai et al, 2006). A Meta-analysis has not been conducted as pooling results obtained from diverse non randomised study types is not recommended (Sterne, Egger, & Moher, 2008). Therefore a global summary has been provided in this instance using a tabulation method of data synthesis. Please see Appendix 3.

All studies included within this review identified a number of factors that influence uptake and attendance at NHS Health Checks.

## **What factors influence attendance at an NHS Health Check?**

### **Impact of socio-demographic factors on uptake of NHS Health Checks**

#### ***Age***

All studies found that attendance at NHS Health Checks was significantly higher in older patients and lower among younger patients. Attwood et al (2015), Cochrane et al (2012), Sallis et al (2016) and Gidlow et al (2014) all found that older age was associated with increased attendance. Artac et al (2013), Cook et al (2016) and Dalton et al (2011) found significantly lower uptake among the younger age groups and in particular younger men. Cochrane et al (2012) found older age to be a predictor of increased likelihood to respond (1.92,  $p<0.001$ ), increased likelihood to attend an NHS Health Check (1.64,  $p<0.001$ ) and increased likelihood to take up treatment (1.65  $p<0.001$ ). Artac et al (2013) and Dalton et al (2011) found older age to be associated with increased attendance (2.05,  $p<0.01$  and 2.27,  $p<0.001$  respectively). Attwood et al (2015) found that with every year of increased age, patients showed a statistically significant 5% increase in the odds of Health Check participation (1.05,  $p<0.01$ ). Sallis et al (2016) found that older patients were 62% more likely to attend with every additional ten years of age (AOR 1.62  $p<0.01$ ). Gidlow et al (2014) found there was higher attendance in older age groups with a 4% increase in likelihood of attending for every additional year of age (1.04  $p<0.001$ ).

Cook et al (2016) found higher uptake rates in the older age groups for both males and females. For males aged 65-69 they report an uptake rate of 0.71 ( $p<0.001$ ) and for females age 70-74 an uptake rate of 0.80 ( $p<0.001$ ).

#### ***Gender***

The findings from the studies present a mixed picture in relation to gender and that this is also linked to age. Sallis et al (2016), Cook et al (2016), Attwood et al (2015) and Gidlow et

al (2014), all found attendance was significantly higher in females than males at approximately 50%. Both Sallis et al (2016) and Attwood et al (2015) found female gender to be significantly associated with attendance for an NHS Health Check, finding female patients to be 50% more likely to attend than males (1.50,  $p < 0.01$ ). Cook et al (2016) found a lower uptake in males (0.38,  $p < .001$ ) when compared to females (0.50,  $p < .001$ ). Gidlow et al (2014) found female patients were 47% more likely to attend than men (1.47,  $p < 0.001$ ). Artac et al (2011) also found females were more likely to attend in year 1 reporting 0.80 ( $p < 0.01$ ).

Dalton et al (2011) found that there was a significant interaction effect between age and sex, with women in the youngest age group being more likely to attend the health check than men (1.71  $p < 0.01$ ). In contrast, Cochrane et al (2012) found male gender to be a predictor of increased likelihood to attend an NHS Health Check (0.7,  $p < 0.001$ ) and of increased likelihood to take up treatment (0.66  $p < 0.001$ ).

### ***Deprivation***

The effect of deprivation on uptake of NHS Health Checks varied across the studies. Findings from Cook et al (2016), Cochrane et al (2012) and Sallis et al (2016) suggest that the lowest uptake of the NHS Health Check were patients who resided in the most deprived wards for both males and females. Cook et al (2016) also found the significantly lowest uptake of the NHS Health Check was from patients who resided within the most deprived wards (quintile 5) for both males and females with an uptake rate of 0.31 and 0.38 respectively ( $p < .001$ ). In contrast, higher uptake of the NHS Health Check was found for patients who resided in the least deprived wards (quintile 1) with an uptake rate of 0.53 and 0.60 for males and females respectively ( $p < .001$ ).

Cochrane et al (2012) also found greater affluence to be a predictor of increased likelihood to respond with odds ratio of 1.17 ( $P < 0.05$ ). Sallis et al (2016) found deprivation was shown to be significant, with the most deprived least likely to attend and the least deprived were 61% (1.61,  $p < 0.01$ ) more likely to attend. Being in the least deprived quintile was significantly associated with attendance at the health check compared to the most deprived quintile. Similarly, Gidlow et al (2014) found there was an overall effect for deprivation. Those living in a more affluent area were 59% (1.59  $p < 0.000$ ) more likely to attend in comparison to the most deprived quintile of neighbourhood areas. These findings suggest that patients invited to have an NHS Health Check who resided in the most deprived quintiles were less likely to have an NHS Health Check compared to patients within the least deprived quintiles.

Interestingly in contrast however, Artac et al (2013) found higher uptake in patients living in deprived areas in year 2 of the programme (22.9% AOR 1.00). Attwood et al (2015) also found in multivariate analyses controlling for GP surgery, participating in an NHS Health Check was predicted by lower area level deprivation. Dalton et al (2011) found no significant effect in deprivation on uptake.

### ***Ethnicity***

Ethnicity appears to present a mixed picture across the studies where some found that attendance was significantly higher in South Asian patients and others found that uptake did not differ by patient ethnicity. Artac et al (2013) found uptake was higher in patients of South Asian and Black ethnic backgrounds. In this particular study, individuals estimated to be at a 20% or greater 10 year CVD risk were prioritised and invited for a Health Check in the 1<sup>st</sup> year. In year 2 practices were incentivised to provide a health check to 30% of the remaining non high risk population using opportunistic methods. Dalton et al (2011) found attendance was significantly higher among patients from South Asian (53.0%) or mixed

(57.8%) ethnic backgrounds. Findings from Cook et al (2016) also revealed that both 'Asian Indian' ( $p < .001$ ) and 'White British' ( $p < .01$ ) patients also had a significantly higher uptake rate compared to other ethnic groups with an uptake rate of 0.61 and 0.57 respectively. Gidlow et al (2014) and Attwood et al (2015) found that there was no significant difference by ethnic group. Attwood et al (2015) found that uptake did not differ by patient ethnicity (0.59  $p < 0.01$ ).

### ***Level of Risk***

Only two studies reported level of risk as a factor, and in both cases those at increased risk had a lower uptake.

Cochrane et al (2012) found a trend towards decreased likelihood of attendance for high risk patients (0.9  $p < 0.1$ ). Artac et al (2013) also found lower uptake among patients assessed as high risk. In year 1 and 2 of the programme respectively, they reported uptake of patients with CVD co morbidities as 1.53 ( $p < 0.01$ ), 1.75 ( $p < 0.01$ ), family history of CVD 2.49 ( $p < 0.01$ ), 2.01 ( $p < 0.01$ ) and smoking status 0.71 ( $p < 0.01$ ), 0.83 ( $p < 0.01$ ).

### ***Practice Differences***

Interestingly, all studies found considerable variance between practices and this was statistically significant apart from Cook et al (2016) who did not report on practice variance. Attwood et al (2016) found that GP practice had a substantial effect on the strength and direction of associations between socio-demographic variables and uptake. Artac et al (2013) found 19.4% of the total variance in year 1 and 37.3% in year 2 were attributable to unexplained practice level factors. Sallis et al (2016) found there to be a statistically significant interaction between invitation letter and practice. This indicated that the effectiveness of the letter varied by practice.

Cochrane et al (2012) found the variance between practices to be significant ( $p < 0.001$ ), 13.4, 12.7 and 23% for response, attendance and uptake respectively. Dalton et al (2011) found there was considerable variation between practices, reporting 28% of the total variance being due to practice level factors. Gidlow et al (2014) again found large variation by practice (47.5–83.3%,  $p < 0.001$ ) and logistic regression analysis showed practice to be significantly related to attendance and accounted for most of the variance, along with method of invitation with the addition of patient characteristics. Interestingly, they found that distance to GP practice was not a significant predictor of attendance.

### ***Lifestyle factors***

Only two studies reported on other lifestyle factors and uptake (Dalton et al 2011 and Artac et al 2013). Both Dalton et al (2011) and Artac et al (2013) found that smokers were less likely than non-smokers to have an NHS health check.

### ***Psychological factors***

No studies directly explored the psychological factors that influence uptake of NHS Health Checks. However, Sallis et al (2015) investigated the application of behaviourally informed techniques to the invitation letter. These included simplification, which was aimed at reducing the cognitive effort for processing the information, making the letter action oriented by making the instruction of booking an appointment more prominent, and making it more personally salient by using the name of the patient and stating 'you are **due** to attend your NHS Health Check'. It also included a tear off slip to address the intention–behaviour gap through planning prompts. These address cognitive biases to encourage the desired action of response to the invitation letter.

### **The Effect of the Invitation Method**

The majority of studies explored how patients were invited to an NHS Health Check appointment. It is currently the responsibility of a GP practice to invite eligible patients for an NHS Health Check, however there is currently no standard protocol for inviting patients. Inviting patients to attend an NHS Health Check therefore differs across GP Practices. In the majority of cases these involve sending an invitation letter by post, but also include face to face invitation, telephone invitation, and reminder letters.

Gidlow et al (2014) found that most practices invited eligible patients to attend via an invitation letter (72%) but this varied between practices. Using telephone/verbal invitations either alone or in combination with the letter was linked with significantly higher attendance (OR 2.87, 95% CI =2.26-3.64). They found both practice and method of invitation were significantly related to attendance and accounted for most of the variance. They found that the use of verbal/telephone invitations were independently and positively related to uptake. Individuals invited to a Health Check using a telephone/verbal approach were almost three times more likely to attend than those invited only by a letter.

Cook et al (2016) found that face-to-face invitations had the highest overall uptake rate of 71.9 % with uptake rates for both telephone (43 %) and letter (29.5 %) invitations markedly lower. Moreover, there was a variation of uptake across ethnicity by invitation method. An invitation letter was the most common form of invitation with 12,209 letters sent to eligible patients. This method was most effective for 'Mixed White and Asian' male and 'Chinese', 'Irish' and 'African' female patients. However, was least successful for individuals registered as 'Any Other White Background' and 'Pakistani' female patients who were revealed to have the lowest NHS Health Check uptake rates. In their study a face-to-face invitation was delivered to 801 eligible patients. This method was found to be most effective for 'White British' male and female patients. However, findings suggested that verbal invitation was the least effective method for inviting 'Bangladeshi' and 'Pakistani'

males. Finally, invitation by telephone was the least common method, with 210 patients being invited to an NHS Health Check using this approach. However, where this method was used, it was most effective for Asian (Bangladeshi, Pakistani, Asian Other) patients but least effective for 'White British' and 'Any Other White Background' patients.

Sallis et al (2016) found 33.5% of those receiving the intervention invitation letter attended their NHS Health Check in comparison to 29.3% of those in the control. Patients receiving the intervention letter were 26% more likely to attend an NHS Health Check appointment than patients receiving the control letter. This was an absolute difference of 4.2% and a 14.3% relative difference in attendance at an NHS Health Check. They also found however, that there was a significant interaction between the letter and the practice ( $p < 0.01$ ). The intervention letter was statistically more effective in one practice than another. However, they state that the results should be interpreted with caution as the study was not powered to detect interaction effects.

### **Financial Incentives**

Only one study explored financial incentives. Financial incentives are increasingly employed to promote preventative interventions such as smoking cessation in primary care. General Practices are commonly paid to screen and manage patients under the NHS Health Check programme. These are often structured through a local enhanced service.

Artac et al (2013) aimed to assess the impact of a local financial incentive scheme on uptake and statin prescribing in the first 2 years of the implementation of the NHS Health Checks programme in NHS Hammersmith and Fulham. It was implemented ahead of the national schedule in July 2008 and organised under a local incentive framework for general practice. Year 1 components of the Health Check were incentivised individually. Practices were awarded with points if they met indicators in 40%-90% of their eligible practice

population. Year 2 Practices were awarded points for the number of complete Health Checks. Practices were awarded; 40 points for completion of Health Checks in 70-95% of their eligible practice population with estimated high risk, 63 points for completion of Health Checks in 5-30% and an extra 23 points for 30-45% of the rest of the population not with estimated high risk. They also examined whether uptake and prescribing differed between socio-demographic groups.

In the first year 4,748 patients aged from 40 -74 years with an estimated risk greater than 20% were targeted and the remaining 35,364 patients were eligible for the Health Check in year 2. In year 1, 32.7% of high risk patients had a complete Health Check, with 20% uptake in the second year. Unfortunately the study design did not allow for the isolation of the impact of the financial incentives on the performance of the health check. However, the researchers argue that the uptake in the study area was higher than that in a similar urban setting where no such financial incentives scheme was in place. They conclude that further evaluations are required to assess the impact of financial incentives on uptake of NHS Health Checks.

## **10. Discussion**

Previous literature has found limited evidence of factors that impact on uptake of NHS Health Checks (Cooper & Dugdill, 2014) and a lack of evidence based interventions to encourage uptake of NHS Health Checks (Dryden, Williams, McCowan, & Themessl-Huber, 2012). The prominent focus in this topic area has been on the efficacy of the programme. As uptake is central to achieving the programmes aims more research needs to be conducted to identify different interventions that have a significant positive effect.

This systematic review assessed the factors that influence the uptake of NHS Health Checks and the effectiveness of interventions to increase uptake. All studies found that attendance at NHS Health Checks was significantly higher in older patients and lower among younger

patients. This review finds that individual patient and practice characteristics have a significant impact on the uptake of NHS Health Checks. In general older people, females, and those at low risk are more likely to attend an NHS Health Check. In addition, patients respond differently in response to an invitation to attend an NHS Health Check according to the invitation method used.

The findings present a mixed picture in relation to gender and that this is linked to age. The results show that men without previous CVD are less likely to attend an NHS Health Check. This is a concern as they may be at greater risk of CVD than women. This follows the gender pattern of engagement with health services, in particular general practice.

There is also a mixed picture in relation to ethnicity across the studies where some found that attendance was significantly higher in patients from South Asian and others found that uptake did not differ by patient ethnicity. One explanation for this variance is that some practices may target inviting particular ethnic or deprived groups as they are perceived to be at greater risk of CVD.

The effect of deprivation on uptake of NHS Health Checks varied across the studies. However, the majority of the studies found that patients invited to have an NHS Health Check who resided in the most deprived quintiles were less likely to have a Health Check compared to patients within the least deprived quintiles. The level of socioeconomic deprivation may vary due to the location of where the studies look place. This demonstrates how important local context may be on the uptake of NHS Health Checks and indeed health services.

There was a trend towards a decreased likelihood of attendance for high risk patients which includes those who engage in unhealthy behaviours such as smoking. This is an important finding and warrants further investigation as these are the patients that are

most at risk of developing CVD, and are therefore the patients who services want and need to engage with urgently.

Interestingly, all studies found considerable variance between practices. The level of variation produced by the practices themselves indicate the importance of considering GP practice specific factors when exploring reasons for uptake. This includes the local delivery of the programme, including the invitation process. There may also be disparities in patient deprivation distribution across GP surgeries, which may also contribute to this effect.

With practice characteristics having such an effect on uptake this suggests that practice level factors may have a greater impact in determining equity in uptake than individual patient characteristics. This demonstrates what an important factor context is for the successful implementation of an intervention and the effect it has on behaviour change.

The invitation to attend a Health Check appointment is the initial step in engaging with the eligible target group. Currently the most common route of inviting patients to attend an NHS Health Check is through an invitation letter. This is a very cost effective way of inviting patients to other screening and health check appointments (Everett, Bryant, Griffin, Martin-Hirsch, Forbes, et al 2011). Sallis et al (2016) made changes to the existing national template letter using behavioural insights and found an increase in uptake for those that received the intervention letter. This was a low cost, easily scalable intervention. Gidlow et al (2014) found that individuals invited to an NHS Health Check using a telephone/verbal approach were almost three times more likely to attend than those invited only by a letter. Cook et al (2016) found verbal invitations to be the most effective. However, there appears to be an interaction between method of invitation and ethnicity found by Cook et al (2016) which needs to be explored further. Gidlow et al (2014) argues that as verbal/telephone invitations emerged as a strong predictor of attendance this method should be considered as a way to improve Health Check uptake where postal invitations are typically used.

However, telephone/verbal invitations may not be feasible or cost effective for all eligible patients, therefore it is suggested that further research is needed to identify which patients may benefit from this the most to target resources effectively. Evidence from increasing attendance at hospital appointments has shown the effectiveness of reminder messages (Hasvold & Wootton). The addition of a verbal invitation in addition to a letter may be acting as a reminder or prompt. Therefore it would also be important to explore the use of primers, prompts and reminders alongside an invitation letter.

There is some evidence that patients may not fully understand or comprehend the purpose of the NHS Health Check and see it as a general health check rather than to assess CVD risk and review of lifestyle behaviours to reduce their level of risk. This may be a barrier before the patient even receives the invitation.

This review shows that there are very few published high quality studies on trialling interventions designed to increase uptake of NHS Health Checks. There are many more studies in the screening literature, however the NHS Health Check programme is quite unique in its scope and reach. It not only includes an element of health screening but also has a preventative focus using a risk reduction approach. Literature indicates there may be a difference in how people respond to preventative versus screening messages, which is important to consider for the NHS Health Check (O'Keefe & Jensen, 2009).

Further research is needed to identify the most effective invitation method to optimise attendance at NHS Health Checks. The review identified a number of promising research trials that are underway. A research protocol for a randomized controlled trial was identified on enhanced invitation methods to increase uptake of NHS health checks, the results of which are eagerly awaited (Forster, Burgess, McDermott, Wright, Dodhia, et al, 2014).

A recent paper presents a case study of a randomised controlled trial led by the Department of Health to increase uptake of NHS Health Checks (Alpsten, 2015). The study included 13,800 participants across 28 GP practices and was carried out between November 2013 and December 2014. Participants were randomly allocated to receive either the standard template letter, or to receive one of three intervention letters. Participants were also randomly allocated to either receive no text messages, a primer text message or a reminder text message; or both primer and reminder text messages. The most successful invitation combination included a letter with a 'deadline commitment' accompanied by both a primer and reminder text message. This combination resulted in an uptake of 30%, a 12% absolute increase and a 65% relative improvement in uptake of NHS Health Checks compared to 18% for the standard letter and no text messages. The Department of Health were contacted for more details on this trial, and it was confirmed this is currently being written up for publication along with a number of trials run by the Behavioural Insights Team in Public Health England. These findings are also eagerly awaited.

### **11. Limitations of the Review**

It may be argued that the ultimate aim of a systematic literature review should be to present a meta-analysis to summarise the results of independent studies (Glass, 1976 in Sterne et al, 2008). Estimate of effects of interventions can then be presented from all relevant studies. . In this instance it was not possible to conduct a meta-analysis due to the differing study designs included in the review (Sterne et al, 2008). Therefore a comprehensive narrative review is presented which allows for comparison of studies using different designs and different interventions.

This systematic review only looked exclusively at literature on NHS Health Checks. This was because as far as the author is aware there are no other population level preventative

health check programmes of this scale looking at identifying and reducing CVD risk, including diabetes prevention, tackling lifestyle factors such as alcohol, smoking and BMI, dementia risk reduction (for 40 – 74 year olds) or early diagnosis for over 65 year olds, and onward referral to lifestyle support programmes.

There may well be relevant literature within CVD screening, diabetes screening or generalised health checks (which were all excluded in this review). However it is important to acknowledge the difference between preventative rather than detective interventions as literature has indicated that this may have a difference on how patients perceive a health programme, the level of risk and their subsequent health behaviours (O’Keefe & Jensen, 2009).

From the studies included in the review it was possible to identify factors that have an influence on uptake and how this varies across different social and demographic variables. However, only one looked at the psychological factors that may influence uptake (Sallis et al 2015).

Many studies that examined interventions to increase uptake of NHS Health Checks, especially within hard to reach groups, were conducted as service evaluations by local areas. Unfortunately, due to their weak study designs they could not be included in this systematic review but may hold important information about implementation locally. If Local Authorities were to collaborate with academics to utilise more robust research designs to enable more vigorous evaluations, this would enable more evidence to be collected quickly and easily about programmes such as NHS Health Checks to help inform best practice.

## **12. Conclusions**

### **12.1 Implications for Practice**

This systematic review assessed the factors that influence the uptake of NHS Health Checks and the effectiveness of interventions to increase uptake. All studies found that attendance at NHS Health Checks was significantly higher in older patients and females, and those at low risk are more likely to respond to an invitation letter and attend an NHS health check. Therefore practices may need to consider additional targeted approaches to encourage the younger cohort, men and those more at risk. This review finds that individual patient and practice characteristics play a large role in influencing uptake. Practices should review their invitation processes and health check pathway to identify barriers that may prevent attendance. Further research is needed to understand these specific practice characteristics that impact uptake and attendance.

This review shows that people respond to an invitation to attend an NHS health check differently. Which type of invitation and what types of messages work best for which populations and within which context requires further investigation. However relatively simple, low cost changes to recruitment methods, such as changing wording to invitation letters, could be used to increase uptake (Sallis et al 2016). Verbal invitations in combination with an invitation letter or on their own appear to be effective in increasing uptake (Gidlow et al, 2014). Due to the potential considerable increase in resources required, practices should consider the use of verbal or telephone invitations in addition to the invitation letter for those more at risk and less likely to attend. Practices may also want to consider the use of prompt and reminder messages and evaluate whether these are effective at increasing uptake.

Commissioners should examine the effects of implementing different payment approaches and the use of financial incentives. Evaluating the structuring of these incentives is

important to assess whether this has an impact on uptake of NHS Health Checks and to identify the optimum payment strategy.

During the review process, a number of qualitative studies were identified but excluded due to the parameters of this review. Further work could include conducting a qualitative systematic review exploring experiences of patients and uptake to contribute to this work. With lifestyle factors now the biggest cause of death in the Western World it is imperative to reduce these lifestyle risk factors to achieve better health and wellbeing and reduce the associated health care costs. Finding more effective ways to communicate with patients and the public about their health and health services will help to increase engagement, uptake rates and the adoption of healthier behaviours.

**Registration:** This systematic review was registered with PROSPERO on 22.02.2016. Registration number CRD42016035626.

**Conflict of interest:** The Author Amanda Bunten works for the Behavioural Insight Team in Public Health England and is second Author of one of the studies included in the review.

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## Appendix 1 – Search Strategy

Table 1 Search Strategy

#	Search Term
1.	“NHS Health Check”
2.	NHS Health Check*
3.	(nhs and health check*)
4.	intervention*
5.	invit*
6.	opportuni*
7.	appointment*
8.	Communit*
9.	offer*
10.	Encourage*
11.	“hard to reach”
12.	inequalit*
13.	depriv*
14.	divers*
15.	minorit*
16.	Uptake
17.	(take up or taking up)
18.	accept*
19.	attend*
20.	book*
21.	appointment*
22.	S1 or S2 or S3
23.	S4 or S6 or S7 or S8 or S9 or S10 or S11 or S12 or S13 or S14 or S15
24.	S16 or S18 or S19 or S20 or S21
25.	S22 and S23 and S24

"NHS Health Check" OR nhs health check\* OR (nhs and health check\*)

AND

intervention\* OR invit\* OR opportunit\* OR appointment\* OR communit\* OR offer\*  
OR encourage\* OR "hard to reach" OR inequalit\*OR depriv\* OR divers\* OR minorit\*

AND

uptake OR (take up OR taking up) OR accept\* OR attend\* OR book\* OR appointment\*

For the Cochrane Library the following terms were used;

NHS health Check OR health check OR check up

AND

“uptake” OR “attend”

## Appendix 2 – Hits by Database

Table 2 Hits by database

Database	Number of References	Duplications within own database	Distinct References
EBSCO Host (Including CINAHL Plus with full text, Psych Info, Psych Articles and MEDLINE)	404	165	239
Ovid (including Embase)	326	23	303
SCOPUS	160	4	156
Web of Science	152	4	148
CDSR	2	0	2
<b>Total</b>	<b>1,044</b>	<b>232</b>	<b>848</b>

Appendix 3

Table 3 Tabulation Summary – Characteristics of included studies

Author	Study Objective	Study Design	Participants	Intervention	Outcome Measure	Analysis Used	Results and Key Findings	Quality Score
Artac et al (2013)	To assess the impact of a local financial incentive scheme on uptake and statin prescribing in the first 2 years of the programme.  Including whether uptake and prescribing within the programme differed between socio-demographic groups.	Cross-sectional study  Data extracted from GP system 2008 – 2011.  Sample size: Year 1 - 4,748 Year 2 - 35,364 patients invited to attend at NHSHC.	Year 1 - patients aged from 40 to 74 years with an estimated risk greater than 20% were targeted.  Year 2 - the remaining patients eligible for a Health Check.  Participant age range: 40-74 years.	Invitation to attend based on level of risk and practice incentivisation.  Individuals estimated to be at 20% or greater 10-year CVD risk were prioritized and invited for a Health Check in Year 1 of the programme (1 July 2008–30 November 2009).  In Year 2 (1 December 2009–31 March 2011), practices were incentivized to provide a Health Check to 30% of the remaining non-high risk population using opportunistic methods.  Existing risk factor data in electronic medical records was used to estimate CVD risk in all individuals aged from 40 to 74 years without diabetes and CVD, (hypertensive and chronic kidney disease patients were not excluded from the programme, as per national guidance, but were excluded from analyses) using the Joint British Societies 2 risk algorithm.  Context: GP practices in Hammersmith and Fulham. 27 out of 31 practices in year 1 and 29 practices in year 2.	Uptake of complete NHS Health Check	Multi-level logistic regression used to examine the predictors of uptake.	Year 1 – 1,551 (32.7%) uptake  Year 2 – 7,076 (20.0%) uptake  Uptake lower in younger patients, smokers and patients with no ethnicity record.  South Asian and Black more likely to attend.  Higher uptake in patient groups living in deprived areas in year 2.  High practice variation.	19 (strong)

Attwood et al (2015)	To explore the socio-demographic characteristics of patients examining age, gender, ethnicity and deprivation level.	Cross sectional study.  Data collected as part of a RCT pilot trial.  Sample size: 1,380 patients invited to attend a NHS HC.	Eligible patients were those invited to attend a Health Check.  Participant age range: 40-74 years.	Mailed invitation letters, mailed reminder letters, face-to-face recruitment of eligible patients attending pre-existing GP appointments and telephone recruitment.  Context: Four GP Practices in East of England	Participation in the NHS Health Check and in a nested physical activity trial.	Univariate binary logistic regression analyses were conducted to compare age, gender, ethnicity and IMD scores. Interactions were explored using multivariate binary logistic regression analyses.	1,165 (84%) uptake  Uptake associated with age.  50% higher for women than men.  Uptake did not differ by ethnicity.  Mixed results for deprivation – confused by practice.	20 (moderate)
Cochrane et al (2012)	To evaluate the influence of individual and practice level factors on health check outcomes	Cross sectional review  Data - Aug 2009 – Jan 2010 (First 6 months of programme.)  Sample size: 10,483 patients invited to attend a NHS HC.	Dedicated software was used to stratify practice lists by estimated 10-year CVD risk using the British Societies 2 risk score. Patients free of established vascular disease and having a CVD risk of $\geq 20\%$ over the next 10 years were considered eligible for a HC.  Participant age range - 32 – 74 years (only 28 patients	Each practice was provided with a list of patients to invite. Practice nurses or project support workers in each practice went through their lists systematically contacting patients until all eligible patients had been invited. Up to 3 reminder letters were sent.  Practices receive a per capita payment of £15 - £20 as part of a LES (depending on the level of service provided) for each patient who completes an NHS HC.	Attendance at health check and uptake of treatment.	Difference in proportions – z tests. Multi-level non-linear regression analysis conducted to evaluate potential effects of the higher	6,634 (63.3%) invited responded, 4,580 (43.7%) attended a HC, 3,127 (29.8%) took up treatment.  Females more likely to respond but males more likely to attend and take up treatment offered. Oldest age group more likely to respond, attend and take up treatment, while the youngest age group were less likely to respond and to	19 (strong)

			below 40 years) were selected from general practice.	Context: 37 out of 57 GP Practices in Stoke on Trent		level predictors of practice size and the degree of deprivation on outcome measures.	take up treatment. Patients in the largest practices were less likely to take up treatment, patients from practices in more affluent areas were more likely to respond and to attend a HC whereas patients from practices in more deprived areas were less likely to respond and to attend a HC though there was no difference in the likelihood of taking up treatment.	
Cook et al (2016)	To identify systematic differences among socio-demographic differences in the uptake of NHS Health Checks in a culturally diverse town of England accounting for age, gender, deprivation and examine the methods of invitation to determine if some methods	Cross sectional study  Data set from April 2013 – March 2014 analysed.  Sample size: 13,063 patients offered an NHS HC.	All patients who were eligible for an NHS Health Check in Luton over the 12 month period 1 <sup>st</sup> April 2013 – 31 <sup>st</sup> March 2014.  This included patients who were eligible, had been offered and who had an NHS Health Check.  Excluded anyone who is receiving treatment or support for coronary heart disease, chronic kidney disease (CKD) which has been classified as stage 3, 4 or 5 within, diabetes, hypertension, atrial fibrillation, transient ischaemic attack,	Investigating the impact of ethnicity and gender and method of invitation on uptake of NHS Health Check.  Invitation method was categorised by 1) verbal (face to face) invitation (invited at GP Practice) 2) contacted by telephone by GP practice 3) written (invitation letter sent from GP practice to attend NHS HC)  Context: All 30 GP Practices in Luton	Uptake of NHS Health Check	Chi Square analysis to determine the actual usage of NHS HCs for each ethnic group.	5,703 (44%) uptake.  Variation in uptake in relation to age, gender, ethnicity and level of deprivation. White British, Black Caribbean and India patients most likely to take up NHS HC.  Different invitation methods are effective for different ethnic and gender groups.  Further research needed to explore ethnicity and invitation method.	23 (moderate)

	are more successful than others for specific population groups by ethnicity and gender.		hypercholesterolemia, heart failure, peripheral arterial disease, stroke are not eligible. Also anyone who has been prescribed statins, and during a previous NHS Health was found to have a 20 % or higher ten year risk of developing CVD.  Participant age range: 40 – 74 years.					
Dalton et al(2011)	To examine uptake of the Health Checks programme in the first year of implementation and explore whether participation in the programme differed with patient and practice characteristics.	A cross sectional study  Data - September 2008 – January 2010.  Sample size: 5,294 patients invited to attend a HC.	Disease free individuals estimated to be at or greater than a 20% 10-year risk of a CVD event were targeted in the first year of the programme (1 <sup>st</sup> Sept 2008 – 31 Aug 2009). It included patients with diagnosed hypertension and those prescribed statins.  Participant age range -35 – 74 years.	The PCT provided each general practice with a list of patients to be invited in year one, and the practice then contacted patients by an invitation letter inviting them to attend a Health Check.  Local Enhanced Service scheme whereby practices receive £15 per person screened. Disease-free individuals estimated to be at, or greater than, a 20% 10-year risk of a CVD event were targeted in the first year of the programme (1 September 2008 to 31 August 2009); the method of risk estimation is detailed subsequently.  Context: 29 of 86 GP practices in Ealing, North London.	Attendance for screening	Multi-level logistic regression to analyse health check attendance.	2,370 (44.8% uptake).  Attendance significantly lower among younger patients (19.2%), smokers (40.1%).  Attendance significantly higher among patients from South Asian (53.0%) or mixed (57.8%) ethnic backgrounds, those with diagnosed hypertension and patients registered with smaller practices.  High practice variation.	19 (moderate)

Gidlow et al (2014)	To assess the impact of invitation method and geographical proximity on uptake in deprived urban communities.	Observational Cohort Study  Data – September 2010 – February 2014.  Sample size: 4,855 patients invited for an NHS Health Check	Patients who had been invited for a Health Check between Sept 2010 and Feb 2014.  Participant age range - 40 – 74 years	Method of invitation method – verbal/ telephone invite either alone or in combination with an invitation letter.  Context: Five out of 53 GP Practices is Stoke on Trent	Attendance at NHS Health Check	Two-stage binary logistic regression analysis was used to explore predictors of Health Check attendance.	2,989 (61.6% uptake).  High practice variance  Higher attendance in older age groups and women.  No significant difference by ethnic group.  Small effect for deprivation – living in less deprived areas was associated with higher uptake whereas living closer to the practice was not associated with uptake.  Most invited through letters (72%)  Using telephone/ verbal invitation either alone or in combination with letter was linked with significantly higher attendance.	19 (strong)
Sallis et al (2016)	This study aimed to test the impact of an enhanced invitation letter on attendance at an NHS HC appointment compared to the standard	Quasi Randomised Controlled Trial  Sample size: 3,511 patients invited to attend an NHS HC.	All patients eligible for an NHS HC in 2013/14 registered at one of the four practices in Medway were included.  Participant age range - 40-74 years.	Comparing the standard national invitation template letter (control) to an enhanced invitation letter using insights from behavioural science (intervention). The intervention letter includes i) simplification reducing letter content for less effortful processing ii) behavioural instruction - action focused language iii) personal salience - appointment due rather than invited and iv) addressing implementation	Attendance at NHS Health Check	Logistic Regression explored the association between control and intervention group and attendance	1,102 (31.4%) uptake.  29.3% - control letter  33.5% - Intervention letter.  Behavioural insights applied to letter more	16 (strong)

	national template letter.			<p>intentions with a tear off slip to record the date, time and location of the appointment.</p> <p>Invitation letters were sent by post May 2013.</p> <p>Context: Four GP practices in Medway, Kent, were purposively selected due to having large numbers of eligible patients, suitable IT systems and centrally administered systems for distributing the letters.</p>		<p>at a health check.</p>	<p>effective than standard template letter</p> <p>Being in the least deprived quintile was significantly associated with attendance compared to the most deprived.</p> <p>Significant practice interaction.</p>	
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## Appendix 4 – Quality Assessment

Table 4 Quality Assessment of included papers.

	Artac, Dalton, Majeed et al (2013)  Uptake of the NHS Health Check programme in an urban setting	Attwood, Morton & Sutton (2015)  Exploring equity in uptake of the NHS Health Check	Cochrane, Gidlow, Kumar et al (2012)  Cross-sectional review of the response and treatment uptake from the NHS Health Checks programme in Stoke on Trent	Cook et al (2016)  Who use NHS Health Checks? Investigating the impact of ethnicity and gender and method of invitation on uptake of NHS health checks	Dalton, Bottle, Okoro et al (2011)  Uptake of the NHS Health Checks programme in a deprived, culturally diverse setting	Gidlow, Ellis, Randall et al (2014)  Method of invitation and geographical proximity as predictors of NHS Health Check uptake	Sallis et al (2016)  The effectiveness of an enhanced invitation letter on uptake of NHS Health Checks in Primary Care
1. Was the research question or objective clearly stated? Yes – 1 No – 2	1	1	1	1	1	1	1
2. Are the individuals selected to participate in the study likely to be representative of the target population? Yes – 1	1	1	1	1	1	1	1

No – 2 Unable to determine – 2							
3. Were inclusion and exclusion criteria pre-specified and applied uniformly to all participants? Yes - 1 No - 2 Unable to determine – 2	1	1	1	1	1	1	1
4. Are the characteristics of the participants included in the study clearly described? Yes - 1 No – 2	1	1	1	1	1	1	1
5. Are the outcome measures used appropriate/ relevant to the research question? Yes - 1 No – 2	1	1	1	1	1	1	1

6. Was a sample size justification, power description, or variance and effect estimates provided? Yes - 1 No - 2	1	1	1	2	1	1	1
7. Were participants randomised to intervention/ control groups? Yes - 1 No - 2 Unable to determine - 2	2	2	2	2	2	2	1
8. Was the method of randomisation described appropriate? Yes - 1 No - 2 Not applicable - 2 Unable to determine - 2	2 N/A	2 N/A	2 N/A	2	2 N/A	2 N/A	1
9. Are the interventions of interest clearly described? Yes - 1 No - 2	1	2	1	2	1	1	1
10. Were the outcome assessors blinded to the exposure status	2 U	2	2	2	2 U	2	1

of participants? Yes -1 No - 2 N/A – 1 Unable to determine – 2							
11. Were the study participants unaware of the research question? Yes -1 No - 2 Unable to determine – 2	1	1	1	1	1	1	1
12. Was the study response rate reported? Yes -1 No – 2 Unable to determine – 2	1	1	1	1	1	1	1
13. Were lost to follow up rates reported? Yes – 1 No – 2 N/A* - 1	1 N/A	1	1	1 N/A	1 N/A	1 N/A	1 N/A
14. Are the outcome measures reported? Yes - 1 No – 2	1	1	1	1	1	1	1
15. Are the statistical tests used to assess	1	1	1	2 U	1	1	1

the main outcomes appropriate? Yes – 1 No – 2 Unable to determine – 2							
16. Was there adequate adjustment for confounding factors in the analyses? Yes -1 No – 2 Unable to determine – 2	1	1	1	2	1	1	1
Total	19	20	19	23	19	19	16

\*Withdrawals and drop outs do not occur when the total local or national level data collection is done. N/A – Not applicable to this study design.

The minimum score is 16 representing the strongest study quality and the maximum score is 32 representing the weakest study quality.

When a final assessment of a component was unclear the lower assessment was set, adopting a conservative decision.

Score	Rating
16- 19	Strong
20 – 23	Moderate
24 – 32	Weak

## Appendix 5 - References of Excluded papers

Aghili A., Greenwood C., Bhakta D. (2013). 12-month follow-up evaluation of the NHS Health Checks programme for Islington PCT: The community setting. Nutrition Society. Conference.

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