

**Professional Doctorate in Health  
Psychology:**

**Competence Assessments**

Natasha Angela Anastasi

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## **Declaration**

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## **Preface**

This portfolio encompasses the five competencies that formulate the Health Psychology Professional Doctorate. The competencies are outlined by the British Psychological Society (BPS, 2009) and include the following: research via the completion of an original piece of research and a systematic review of existing literature; the development and evaluation of a consultancy; the development and evaluation of a health behaviour intervention; an evaluation of a taught lecture and review of the professional skills gained whilst completing the doctorate.

Throughout completing the doctorate, I worked in different positions within public health, the NHS and Local Authority. During the first two and a half years of the doctorate, I worked as a primary care Stop Smoking specialist within NHS Newham's Public Health team. During this time the new coalition government released the HM White Paper liberating the NHS (Department of Health; DoH, 2010). The white paper outlined fundamental changes within the NHS and led to a number of public health services, including the smoking cessation service transition from the NHS into Local Authorities. As a consequence, between April 2013 and March 2014 my role transitioned to the Local Authority and I began to work for London Borough of Newham instead of Newham NHS.

Following the transition, although my role did formally change, my job role objectives remained the same. My priority was to train and support primary care Stop Smoking specialists. This involved recruiting GP and pharmacy staff via actively promoting the benefits of providing an in house Stop Smoking service. I would often attend pharmacy and GP meetings and forums. I would also carry out regular clinical engagement meetings where I would meet with practice managers and outline the benefits of service provision. Furthermore I also arranged and carried out performance management meetings with advisors to report review performance and work with advisors to improve their performance by identifying possible barriers and suggesting solutions.

I worked within one of London's most diverse boroughs (The Greater London Authority, 2013). I was fortunate to work with people from a range of backgrounds. I was able to meet the requirements of such a diverse community by increasing my

knowledge and understanding of various cultures. Working in such an environment led me to become more culturally aware which I feel has made me a more competent health professional.

I led on the delivery and development of the local level 1 and 2 Stop Smoking advisors' trainings. During these I applied DoH (2012) and National Institute of Clinical Excellence (NICE) guidance (2013) to the theory and contents of the training in order to meet with national standards. During this time I was also able to complete my teaching and training competence as delivering and developing training sessions was part of my role. In addition I was able to deliver two health psychology MSc lectures at the London Metropolitan University, one of which was recorded and used towards the teaching assessments which can be found in the teaching competency section of this portfolio.

It was during my role as a primary care Stop Smoking Specialist that I established my professional experience and met the professional skills competence as I was able to effectively work within a team, as well as work autonomously in developing training and strategic documents such as medication protocols and service commissioner contracts. In addition, I was also able to effectively work with and influence a large range of health care professionals. With regards to my professional developments, I attended yearly smoking cessation conferences such as the UK National Smoking Cessation Conference (UKNSCC) as well as attending quarterly network meetings with the London Tobacco Control Network. I felt these opportunities gave me a broader knowledge of the smoking cessation field outside of primary care. Furthermore it was in this role that I was able to complete the consultancy within a public health setting. Through London Metropolitan University, I was able to network with Redbridge public health department where I carried out an evaluation of a pilot obesity prevention intervention. I felt that already working within a public health environment facilitated my understanding of the intervention and its impact on the local population.

In addition I also completed both parts of the research competency whilst working as a primary care Stop Smoking specialist. I found that working within the smoking cessation field enabled me to effectively recruit participants for my research project. The rationale for the research project came about from working within the

smoking cessation field. Working within such a setting inspired me to research this topic as I was interesting in finding out what influences Stop Smoking advisor success rates and if there should be a selection process or a requirement for additional training when recruiting primary care healthcare professionals to become advisors.

Whilst working in Newham, I also carried out a systematic review into British breast cancer awareness campaigns. I became interested in this topic whilst contributing to a local cancer awareness intervention covering breast, bowel and lung cancer. I carried out various health promotion and outreach events which alerted me to the fact that many women were not aware of the signs and symptoms of breast cancer. This was supported by research carried out by Robb et al. (2009), who found that a large proportion of women do not self-examine their breasts. This was especially so in women who were from ethnic minorities as reinforced by Suarez (1997) and Robb et al. (2009), where not speaking English was found to be significant predictor in lack of breast cancer awareness, perhaps implying that breast awareness campaigns were not reaching these groups of the population.

As of March 2014 I began to work as a Stop Smoking advisor within a secondary care setting. I decided to change job roles as I felt I wanted to pursue a role which involved working in a clinical environment helping people who are in most need of stopping smoking. Furthermore this role relied heavily upon clinical skills which I had not implemented for some time as my previous role focused on monitoring and supporting as opposed to providing the Stop Smoking service. I now provide face-to-face behavioural smoking cessation support and run regular out-patient clinics as well as carrying out ward visits to support in-patients. This role relies heavily upon working as part of a multidisciplinary team in order to identify the specific needs of patients. I regularly work with consultants and respiratory pharmacists and nurses. The primary objective of this role is to make best use of the patient's hospital experience. It has been shown that patients may view such experiences as teachable moments (McBride, Emmons & Lipkus 2003). According to McBride et al., (2003) a smoker's hospital admission could lead to cessation. Therefore it is important to support such patients as much as possible.

Whilst working within the hospital setting I acquired experience of designing and delivering a health promoting intervention, based on the Health Belief Model (HBM) by Janz and Becker (1984). The intervention was aimed at children and young adolescents (key stage 2 and 3). I identified the need for the intervention through working within a hospital setting and decided to develop a resource that could be used by both patients and staff. The objective of the intervention was to increase knowledge on the health effects of smoking and to raise awareness of the stop smoking service. The intervention was evaluated via the use of focus groups. This gave me the opportunity to work with a range of age groups meaning that I needed to adapt the intervention to suit a younger age group. I felt this experience has taught me a great deal about working with young people and children.

Upon reflection whilst completing this competency-led course, I was able to develop a vast range of skills which have supported my progression as a Health Psychologist trainee. I have learned how to identify gaps in literature and seek out opportunities that I would otherwise not have perused - for example, I presented at a mental health and wellbeing conference. Furthermore I changed my job role to fully address the competencies and gain further clinical skills and have therefore broadened my experience. I have learnt to adapt my work-life balance to facilitate the completion on the Doctorate. In summary, this portfolio demonstrates how I have grown professionally and academically as a Health Psychologist.

# **Professional Doctorate of Health**

## **Psychology:**

### **Competence 3.0**

#### **Research Project**

An analyses of NHS Stop Smoking advisors' smoking history, level of training and impact on self-reported advisor quit rate.

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## **Abstract**

Smoking is a deep-rooted and complex psychological, behavioural, social and physiological practice. Smoking is reinforced by positive reinforcement outcomes and negative withdrawal symptoms experienced during abstinence (Marks et al., 2006). Furthermore smoking is a primary contributing factor in health inequality (Raw, McNeill, & West, 1998). Current data suggests that smoking rates in England have fallen to their lowest rate in over eighty years (Brown & West, 2014). Despite the downwards trend in smoking prevalence, smoking remains the UK's biggest preventable cause of premature mortality (Twigg, Moon, & Walker, 2004). It has been acknowledged that the specialist Stop Smoking support programmes provided by the NHS have helped reduce smoking prevalence (Bauld, Bell, McCullough, Richardson, & Greaves, 2010). Whilst there has been a vast amount of research investigating the most effective behavioural and pharmacological support models (Lancaster, Stead, Silagy, & Sowden, 2000) there has been little research on the impact of smoking cessation advisor smoking status and clinical effectiveness (Lindson-Hawley, Begh, McDermott, McEwen, & Lycett, 2013). This study aimed to identify factors that contribute to NHS Stop Smoking advisor performance. Factors analysed included: advisor smoking status (historic and present); attitudes and beliefs towards smoking; level of training; proportion of time spent supporting patients; and number of patients supported. This study implemented a quantitative cross-sectional design. An online survey was used which consisted of three standardised questionnaires. The sample consisted of Stop Smoking advisors (n=159) from 24 London boroughs. The results were analysed using an ordinal logistic regression. The regression model showed no significant impact on the majority of the variables investigated. The non-contributing variables included: level of training; years practiced; level of advisor education; and number of patients supported in a given year. The model did however show that proportion of time spent delivering smoking cessation support significantly influenced quit rate. The results reinforce previous literature by Lindson-Hawley et al. (2013) which suggests smoking status does not significantly influence smoking practitioners' outcomes or attitudes towards smoking. Proportion of time spent providing support was found to be a significant factor in predicting quit rate. These results suggest that these factors should be considered when recruiting,

commissioning and training new smoking cessation advisors or provider organisations.

## **1. Introduction**

### **1.1. Nicotine addiction**

Whilst defining the impact of tobacco use on health, it is important to understand why people use tobacco and how its use can lead to dependency. Understanding nicotine dependence can help in treating users who wish to cease its use. This section will briefly outline the definition of nicotine, nicotine dependency theories and their impact on smoking cessation. To solely define tobacco use as a biological dependence would fail to encompass the multiple complexities that underpin this behaviour. There is a vast amount of evidence implying that nicotine dependence is a complex behaviour which is founded on a mixture of pharmacological, behavioural, environmental and psychosocial factors (Conrad, Flay, & Hill, 1992; Jarvis, 2004; Marks et al., 2006). Hence, the bio-psychosocial model has often been used to explain the uptake and maintenance of smoking (Griffiths, 2005; Olivier, Lubman, & Fraser, 2007). It is therefore important to treat tobacco addiction as a pharmacological and psychosocial dependence.

With regards to its pharmacological properties, nicotine is a highly addictive drug that is present in all tobacco-containing products, including smokeless tobacco and tobacco-containing shisha. In exceptionally high dosages, nicotine can be lethal (Mayer, 2014; Silvette, Hoff, Larson, & Haag, 1962). However the amount of nicotine obtained from smoking is low and users quickly build up an acquired tolerance making its toxicity relatively low (Silvette et al., 1962). Furthermore, nicotine - although addictive when consumed in low dosages - has not been shown to be harmful (Russell, 1991). Instead, it is the by-products produced by smoking that have been shown to be harmful (Rodu & Godshall, 2006; Russell, 1991).

Nicotine dependence has been recognised as a medical condition in the Diagnostic and Statistical Manual (American Psychiatric Association, 2013), as identified by research (Baker, Breslau, & Shiffman, 2012; Donny & Dierker, 2007). Tobacco dependence is also recognised in the World Health Organisation's (WHO) International Classification of Diseases (WHO, 1992; Baker et al., 2012). Furthermore, all forms of tobacco can result in nicotine addiction (Office of the Surgeon General, 2014). The compelling addiction to nicotine has also been

suggested to be as resilient as other addictive drugs such as heroin and cocaine (Henningfield, Cohen, & Slade, 1991; Pontieri, Tanda, Orziand, & Di Chiara, 1996; Hyman & Malenka, 2001). According to Russell (1974, p. 255), “there is little doubt that if it were not for the nicotine in tobacco smoke people would be little more inclined to smoke cigarettes than they are to blow bubbles or light sparklers”. This statement emphasises the overwhelming addictive properties of nicotine.

According to Russell (1990), it takes is a minimum of four cigarettes to become trapped into a lifelong nicotine addiction that can span almost half a century. More recent literature has implied that as little as one cigarette may be enough to induce nicotine addiction (Ursprung & DiFranza, 2010). In addition only 35% of regular smokers succeed in stopping permanently before the age of sixty, although the large majority want to stop and try to stop (Russell, 1990). It is estimated that approximately 70% of smokers would want to quit and a portion make at least one serious quit attempt in a five year or less period, but very few succeed (Hughes, Keely, & Naud, 2004; Hymowitz et al., 1997). This reinforces the nature of nicotine’s ability to immensely disempower human resolve. Furthermore, the likelihood of long-term cessation success is influenced by socioeconomic status, whereby smoking cessation is markedly lower amongst lower socioeconomic groups, including those who are unemployed or from a routine and manual occupational group (Hiscock, Amos, Bauld, Fidler, & Munafo, 2012). In comparison those from higher socioeconomic groups such as managerial and professional occupations have an increased likelihood of successfully quitting (Hiscock et al., 2012; Reid, Hammond, Boudreau, Fong, & Siahpush, 2010).

Similar to caffeine, nicotine possesses stimulant properties, keeping the body in a state of suspense ready for our primitive fight or flight reaction (Morrison & Stephenson, 1972). Nicotine binds to the nicotinic acetylcholine receptor whereby it acts as an agonist in the release of dopamine. In turn the release of dopamine creates a short-lived feeling of satisfaction and mood alleviation, which reinforces the behaviour (Carmody, 1989). It has been found that nicotine addiction is the reason why a great proportion of tobacco users are unable to stop their habit (Hilton, 2000; Jarvis, 2004). Even tobacco users with the strongest desire to stop smoking - for example those with progressed stages of smoking related illnesses

such as chronic obstructive pulmonary disease or lung cancer - may find it difficult to stop despite the pressing need for them to do so (Eklund, Nilsson, Hedman, & Lindberg, 2012; Gritz, Nisenbaum, Elashoff, & Holmes, 1991; Shahab, Jarvis, Britton, & West 2006).

Moreover, among the smokers that successfully stop, there is a strong chance that they could succumb and recommence smoking at any stage following cessation, even year's post cessation (Gilpin, Pierce, & Farkas, 1997; Hajek, Stead, West, Jarvis, & Lancaster 2009; Krall, Garvey, & Garcia, 2002). This implies that ex-smokers remain susceptible to relapse long after the behaviour of smoking has been pharmacologically extinguished; it therefore could be inferred that nicotine addiction is sustained psychologically long after the physiological exposure to nicotine has ceased. This could also suggest that current and ex- smokers may be predisposed to being lifelong smokers despite cessation attempts. Although all forms of tobacco when consumed produce the release of nicotine, the act of burning tobacco through smoking appears to be the fastest method of releasing nicotine into the blood (Le-Houezec, 2003). Inhaled tobacco travels through the lungs into the blood stream where it is circulated to nicotinic receptors in the brain within 10 seconds following inhalation (Le-Houezec, 2003; Rosea, Behmb, Westmana, & Colemand, 1999). Nicotine's rapid delivery via combustion and inhalation makes it a highly addictive drug (Stolerman & Jarvis, 1995). Failure to maintain high nicotine levels achieved by smoking result in the depletion of dopamine which results in withdrawal symptoms consisting of intensive cravings, increased anxiety and low mood (Benowitz, 1996; Benowitz & Henningfield, 2013). This creates a negative reinforcement cycle leading to smokers becoming more susceptible to smoking again in order to relieve the negative withdrawal symptoms (Benowitz, 2010; West, Hajek, & Belcher, 1989).

Many smokers will state that they smoke due to stress; however it is in fact their dependence to nicotine that causes an increase in stress, which surfaces as nicotine levels deplete, thus causing the smoker to crave nicotine (Jarvik et al., 2002; Parrott, 1995, 1998; Pomerleau & Pomerleau, 1991). This raises a paradox, known as the "nicotine paradox" (Lombardo & Epstein, 1986). Nicotine is in fact a stimulant and therefore cannot physiologically combat stress (Lombardo et al., 1986; Parrot,

1998). In other words, smokers may perceive that smoking is helping them to relieve stress when it is in fact nicotine depletion which attributes to stress. Once nicotine levels are replenished this in turn relieves the smokers craving for nicotine. This produces a sense of relief which is often mistakenly associated with the act of smoking, as opposed to the relief from nicotine withdrawal (Carmody, 1989; Lombardo et al., 1986; Parrott, 1995). Moreover, as suggested by Furlanetto et al. (2014), smokers are more likely to suffer from anxiety and depression in comparison to non-smokers. It therefore could be concluded that smoking in itself does not help to reduce anxiety or stress. In support of this, Isensee et al. (2003) and Chaiton, Cohen, O'Loughlin, and Rehm (2009) found that there is a causal link between tobacco use and mental health illnesses including illness such as depression and anxiety disorders. This implies that tobacco use does not solely affect physical health but can also impact on a smoker's mental health.

According to Cosgrove et al. (2009), it can take up to twelve weeks post smoking cessation for nicotinic acetylcholine receptor levels responsible the physiological nicotine dependence to return to similar levels as seen in non-smokers. Therefore withdrawal symptoms post cessation could be estimated to last at least twelve weeks, suggesting that cessation treatment and support should be provided for the same length of time. Without any behavioural or psychological support, the chances of successfully stopping smoking can be very low. Research suggests that only 3% to 5% of unaided quit attempts - also referred to as "cold turkey quit attempts" - result in a successful long term quit (Hughes et al., 2004).

With regards to the psychosocial and behavioural elements of smoking uptake, it has been acknowledged that there are a variety of factors that could exacerbate smoking initiation (Conrad, Flay, & Hill, 1992; Van-Loon, Tijhuis, Surtees, & Ormel, 2005). Conrad et al., (1992) argue that these factors are predominantly based on social learning via exposure to peers' smoking environment, internal factors such as low self- efficacy and self-esteem, and being from a low socioeconomic group. In addition, the positive pharmacological reinforcement effects on mood felt from smoking act as an encouragement to replicate the behaviour in a similar manor as operant conditioning (Bouton, 2000; Conrard et al., 1992). Furthermore, there is evidence to suggest that children who are exposed to

older siblings and/or parents who smoke are more likely to become smokers than children who are not exposed to smoking (Griesbach, Amos, & Currie, 2003; Leonardi, Jere, & Britton 2011). This implies that smoking is a learnt behaviour that can be imprinted on younger generations. In addition, the increased likelihood of smoking uptake and maintenance post smoking exposure was also confirmed by a review commissioned by the Department of Health (DoH, 1992; Farkas, Gilpin, White, & Pierce 2000; Sargent et al., 2005). The DoH (1992) review compared countries that had banned smoking advertising with those that had not and found that in countries where the ban had been applied, there was a reduction of smoking uptake. In addition there was also a reduction in smoking reuptake in smokers who had stopped smoking. This suggests that environmental exposure to smoking should be reduced in order to reduce the likelihood of smoking onset and maintenance.

Psychological theories have also been applied to onset of smoking such as the theory of reasoned action (Ajzen, 1985), which has been used to predict its uptake using cognitive constructs. In addition the theory of planned behaviour (Ajzen, 1985) has also been used to predict the onset of smoking (Ajzen, 1991). Both the theory of planned behaviour and the theory of reasoned action are based on the concept that intention and attitudes can help to predict behaviour. Therefore, if attitudes could be altered prior to the onset of smoking this could potentially reduce uptake. According to Shankar, Conner, and Bodansky (2007), as well as predicting behaviour onset, the theory of planned behaviour can also be applicable in predicting health behaviour maintenance. However there is evidence to suggest that intentions do not always predict behaviour, as intentions may not be static over time (Stacy, Bentler, & Flay, 1994).

As per smoking initiation, smoking maintenance has also been suggested to be psychosocial; for example, Droungas, Ehrman, Childress, and O'Brien (1995) found that smoking is associated with specific behavioural, emotional and environmental cues, such as stress, food or alcohol. Smoking is predominantly used as a maladaptive behavioural response to these specific stimuli, especially stress (Nichter, Nichter, and Carkoglu, 2007). According to Nichter (2007), Piko (2001) and Resnick (1968), a smoker learns to use smoking as a maladaptive coping

mechanism when faced with a stressful situation. The behaviour is rewarded by the instant biological effect produced by smoking and is therefore reinforced for future reference. The maintenance and cessation of smoking has also been explained using the trans-theoretical model (Prochaska & DiClemente, 1983; West, 2005). The model is used to identify at which stage an individual is in the cycle of behaviour change (Levesque, O’Cummins, & Prochaska, 2004; Prochaska & DiClemente, 1983; Prochaska, DiClemente, & Norcross, 1992). The pre-contemplation stage has been identified as increasing the chances of smoking maintenance, whereas the action stage has been linked to an increase in the likelihood of cessation (Levesque et al., 2004).

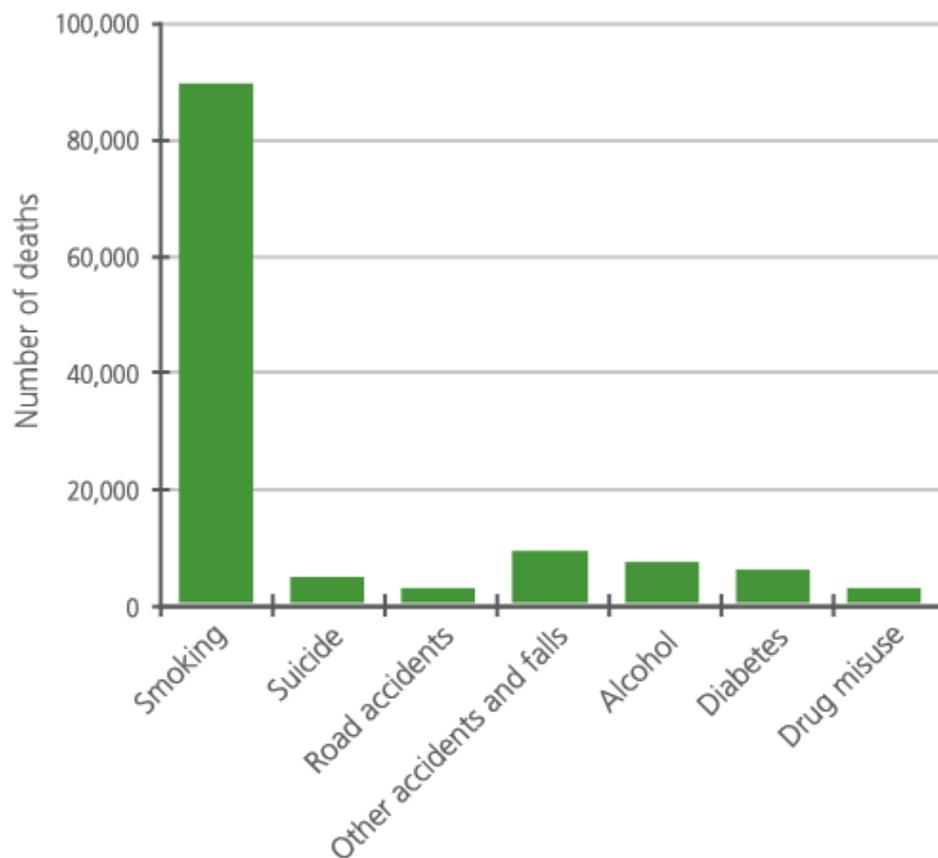
## **1.2. The cost of smoking: health and economics**

According to Action on Smoking and Health (ASH, 2012) the negative health effects of smoking were reported in the *Lancet* as early as 1856. Ironically this was the same year in which the very first cigarette manufacturing factory opened in the UK (ASH, 2012). Moreover, this implies that the negative impact of smoking on public health was identified over one hundred years before the US Surgeon General Report (1964) was published confirming an undisputable causal link between lung cancer and smoking. Smoking in the UK is the primary reason for the gap in life expectancy between the rich and the poor (Jarvis & Wardle, 1999). In addition smoking still remains the leading cause for premature death and health inequalities (Wanless, 2004; Zwar, Mendelsohn, & Richmond, 2014). Therefore reducing smoking prevalence particular among low income groups, such as routine and manual workforces and long term unemployed, may help to reduce premature mortality in the most deprived.

Worldwide smoking kills six million people each year (WHO, 2013). Additionally, longitudinal studies suggest that half to two thirds of all lifelong smokers will eventually be killed by their habit (Doll, Peto, Boreham, & Sutherland, 2004). It is estimated that approximately one person dies every six seconds due to tobacco - this accounts for one in ten adult deaths (WHO, 2013). Furthermore, it is estimated that each year in England alone 80,000 people die due to smoking-related illness (HM Government, 2010). What's more, there appears to be evidence suggesting that smokers on average die ten years earlier than non-smokers (Doll et al., 2004).

Unfortunately smoking also doubles the risk of cardiovascular disease (McEwen & Grothier, 2013). Smoking eventually kills one in two long-term users and is the main causes of death attributable to cancer, cardiovascular disease and lung disease (Parkin, 2011). This evidence sets smokers at a great disadvantage which can attribute to the high levels of health inequalities found in smokers (WHO, 2013).The primary causes of premature preventable deaths in the UK is demonstrated in Figure 1. The image is sourced from the Department of Health report “A Smokefree Future” (2010a), and shows how smoking is the leading cause of premature preventable deaths in the UK.

Figure 1. Causes of preventable deaths in the UK. Reprinted from “A Smokefree Future,” by Department of Health, 2010a, p. 3.



Second hand smoke (sometimes referred to as passive smoking) is also linked to poor health, increased risk of smoking-relating illnesses including lung cancer, asthma and cardiovascular disease, as well as premature mortality (Jamrozik 2004; Wilson, Elborn, & Fitzsimons, 2011). Moreover, the effects of second hand smoke

can be particularly profound in the very young (Cook & Strachan, 1997; Öberg, Jaakkola, Woodward, Peruga, & Prüss-Ustün, 2011). Each year approximately 9,500 hospital admissions of children in the UK with illnesses caused by second hand smoke are reported (Royal College of Physicians, 2010).

The economic cost to the NHS of treating smoking-related illness has been estimated to be between £2.7 billion (Callum, Boyle, & Sandford, 2011) and £5.2 billion (Allender, 2009). Moreover, this cost is merely a small fraction of the multiple billions of pounds expended on smoking-related costs. It does not include other costs, such as the cost to the Local Authorities of cleaning up cigarette butts, controlling illicit tobacco and the general loss of productivity to the workforce due to smoking breaks, or increased absenteeism due to smoking-related illnesses.

Other smoking-related costs that should also be acknowledged are the costs of supporting smokers to stop. This includes the financial cost allocated to commissioning local behavioural smoking cessation support services across the UK. In 2011-12 this was £88.2 million (The Health and Social Care Information Centre, Statistics on NHS Stop Smoking Services: England, April 2011-March 2012) with a further £66.4 million spent on smoking cessation aids such as nicotine replacement therapy and Varenicline (The Health and Social Care Information Centre, 2013; The Prescription Cost Analysis, 2012). Furthermore, the national and local costs attributed to the development and delivery of mass media stop smoking health campaigns such as Stoptober and National No Smoking Day also propose additional costs. For example, the expenditure for such mass media health campaigns during 2010-11 was £460,000 (House of Commons: Hansard, 2012). It is also important to take into account the fact that these costs are ongoing and directly proportional to smoking prevalence. Therefore the costs could be significantly lower if smoking prevalence were reduced.

### **1.3. An overview of tobacco history and current smoking prevalence in the UK**

Although tobacco was first introduced to England in the late-sixteenth century, it had been smoked via a pipe and it was not until the mid-nineteenth century when cigarette smoking was introduced (Action on Smoking and Health; ASH, 2012). According to ASH (2012) the first cigarette factory in England was opened in 1856 post the Crimean War. Though, it was not until 1902 that the British American

Tobacco (BAT) conglomerate was formed (Cox, 1997). By the beginning of the Second World War the BAT grew to be the world's most geographically-extensive manufacturing-based multinational enterprise (Cox, 1989). Soon after the Second World War the highest smoking rates in the UK on record were recorded (Wald & Nicolaides-Bouman, 1991). Approximately 82% of men and 41% of women reported using tobacco (Wald et al., 1991). Female smoking at this time, although lower than the male average, was recognised as being high in comparison to previous years (ASH, 2013). With over double the amount of men smoking in comparison to women, it could have been suggested that smoking was a gender specific behaviour. However, as smoking rates in males began to decline, female smoking prevalence remained constant until the early 1970s, when it peaked at 45% (Wald et al., 1991). As a result the gender gap between smoking prevalence began to close as smoking become less of a male dominant behaviour (ASH, 2013).

Although in the UK there has been a rapid decline in smoking rates over the last sixty years, during the previous decade prevalence has not declined as swiftly (ASH, 2013). In fact, according to the Office of National Statistics (ONS, 2013) smoking rates have remained almost constant between 2007 and 2012. This is in spite of the Smokefree Legislation introduced in 2007. The smoking ban has however dramatically reduced exposure to second-hand smoke (Hyland et al., 2009) - nevertheless its impact has been limited with regards to reducing smoking prevalence (Callinan, Clarke, Doherty, & Kelleher, 2010).

Despite a relatively static smoking prevalence, the amount of cigarettes consumed has decreased since the turn of the century, from an average of 15 cigarettes per day to an average of 11 cigarettes per day for women and 12 for men (ONS, 2013). Likewise, according to Beard et al. (2011), approximately 50% of the UK smoking population currently report that they are attempting to reduce their cigarette consumption. This implies that current smokers are smoking less. However this is not necessarily a positive phenomenon. Even smoking 1-4 cigarettes per day has been shown to cause negative health outcomes such as an elevated risk of heart disease (Bjartveit & Tverdal, 2005). Furthermore, smoking fewer cigarettes many smokers adopt what is known as compensatory smoking techniques (Adda & Cornaglia, 2006). This is when a smoker inhales many more deeper and intense

breaths in order to maximise the amount of nicotine inhaled, to maintain relatively stable nicotine levels despite smoking fewer cigarettes (Frost et al., 1995; Strasser, Lerman, Sanborn, Pickworth, & Feldman 2007).

According to calculations based on ONS (ONS, 2013) data there are an estimated 10 million adult smokers in the UK. Smoking prevalence in the UK remains at 20% amongst adults over the age of 16 years - 20% for men and 19% for women (ONS, 2013). Although according to a recent survey, smoking prevalence in England has now reached the lowest rate in eighty years (Brown & West, 2014). Less than 20% of people in the UK over the age of 16 report being smokers (Brown & West, 2014). However, the prevalence survey conducted by Brown and West (2014) only included the recorded usage of cigarettes. It did not include the usage of other forms of tobacco such as smokeless tobacco, the use of cannabis mixed with tobacco and the use of tobacco-containing water pipes. Underreporting may also account for the low prevalence rates recorded. Furthermore as Roth, Aitsi-Selmi, Wardle, and Mindell (2009) suggest, underreporting of tobacco use may be particularly common amongst females from certain cultures where smoking is stigmatised. Therefore, tobacco use rates may be higher than initially presumed.

Smoking prevalence is also associated with age, whereby those aged 20-24 years are most likely to be smokers with a prevalence of 29% (ONS, 2013). Prevalence then gradually reduces to reach 13% in those aged sixty years and above (ONS, 2013). It could therefore be argued that within the UK smoking prevalence decreases with age. The reasoning for this may be due to an increase in cessation rates in older age as a consequence of smokers' health declining due to smoking. Alternatively it could potentially be due to the premature mortality rate of smokers, resulting in fewer older smokers. Perhaps it is a combination of both increased cessation and premature mortality rates which results in fewer older smokers. As stated by Millward and Karlsen (2011), smoking rates in the UK vary considerably between ethnic groups. For example, as stated by Millward et al. (2011), Black Caribbean men (37%) and Bangladeshi men (36%) have a particularly high smoking prevalence when compared to the general population (20%), whereas women's smoking rates are highest among White English (26%) and Irish (24%) ethnic backgrounds, compared to the general population (19%). However, overall

smoking rates amongst ethnic minority groups are lower than the UK population as a whole (Millward et al., 2011). With regards to the prevalence of ex-smokers, data from ASH (2014) reports that 22% of women and 27% of men in the UK are now ex-smokers. This would imply that there are now more ex-smokers in the UK than smokers as more smokers cease to smoke. According to Warner and Burns (2003), the smokers that remain are the harder to reach smokers who are heavily nicotine-dependent and resistant to behaviour change and have therefore yet to stop.

As smoking remains the largest cause of preventable premature mortality in the UK (Wanless, 2004, Zwar et al., 2014) it is highly important that smoking rates are reduced. The decline in tobacco use witnessed in developing countries including the UK, may be due to a number of factors, including increased access to nicotine replacement therapy (Stead, Perera, Bullen, Mant, & Lancaster, 2008; Stead et al., 2012) and structured behavioural support programmes, such as the National Health Service's (NHS) Stop Smoking service (Lancaster & Stead, 2005). As suggested by West, May, West, Croghan, & McEwen (2013) and Stead et al. (2012), this phenomenon could primarily be due to NHS Stop Smoking services incorporating both a structured behavioural support programme with the use of pharmacotherapy. Therefore, smoking cessation services may play a key role in decreasing smoking prevalence across the UK.

Other factors that could explain the reduction in smoking prevalence may include the following: increased awareness of the dangers of smoking; the implementation of education programmes within schools (NICE, 2010); an increase in the financial cost of tobacco; and tobacco control legislations, such as the smoking in public places ban and the advertising ban (Aaffer & Chaloupka, 2000; Grassi, Enea, Ferketich, Lu, & Nencini, 2008; Townsend, Roderick, & Cooper 1995). In addition to the Stop Smoking service, the reduction in smoking prevalence could also be attributed to smokers' stopping smoking. The majority of smokers would like to stop - in fact around 40% try to stop at least once a year (Cooper, Borl, & Yong, 2011), although the effect is small as only 3-5% of unaided attempts are successful 6-12 months later (Hughes, Keely, & Naud, 2004). Despite the variation in effectiveness across localities, the NHS Stop Smoking intervention is still amongst the most cost effective life-preserving clinical interventions (Brose et al., 2011;

Raw et al., 1998). This is indeed a lifesaving intervention that can be adapted to take part in a vast range of settings which makes it readily available to a wider range of smokers thus increasing accessibility.

#### **1.4. Types of tobacco and their use in the UK**

In the UK pre-manufactured cigarettes have been confirmed to be the most common mode of tobacco use (ASH, 2013). However, other forms of tobacco are also commonly used. These forms of tobacco include loose tobacco, which is rolled by the user with purposely manufactured rolling paper, forming non-pre-manufactured cigarettes. Hence loose tobacco is often regarded to as hand-rolled tobacco (Young et al., 2006). The ONS (2013) states that in the UK, 38% of male smokers and 24% of female smokers use hand-rolled. According to Young et al. (2006) and Young et al. (2012), the amount of hand-rolled tobacco users in the UK is steadily increasing. Young et al. (2012) suggest that as a result of the recent recession, smokers are switching from pre-manufactured cigarettes to hand-rolled as the latter are the cheaper alternative. Additionally, there is evidence to suggest that smokers from a lower socioeconomic background are more likely to use loose tobacco in comparison to smokers from a higher socioeconomic background who are more likely to use pre-manufactured cigarettes (Young et al., 2006). Young et al. (2006) also found that loose tobacco users were more heavily nicotine-dependent than pre-manufactured cigarettes users. This suggests that the most deprived smokers may also be the most nicotine-dependent and in turn are more likely to suffer from smoking-related illness leading to premature mortality. This has been reinforced by ASH (2011), Dobson (2004), Lantz et al. (1998), and Pampel, Krueger, and Denney (2010).

Another form of tobacco used in the UK is smokeless tobacco, which is chewed. Chewed tobacco is most commonly used by the British Bangladeshi community with 9% of men and 19% of women among this ethnic group reporting that they use chewed tobacco (Sproston & Mindell, 2005). Although according to Roth et al. (2009), there may be a substantial amount of underreporting and therefore the prevalence may be higher than originally estimated. Smokeless tobacco is referred to as Paan or Gutkha (ASH, 2011). Paan is native to India and Bangladesh, and it is usually prepared with betel nut (also known as Supari), a known carcinogen

(Merchant et al., 2000). The user makes their own chewed tobacco made from a Betel leaf which forms a pouch for a number of ingredients which are then chewed. The ingredients consist of acacia nut, lime, cloves, spices to add flavouring and dried tobacco is added optionally. Gutkha refers to premade tobacco that already contains tobacco (ASH, 2011). According to Critchley and Unal (2003) the health effects of smokeless tobacco are very similar to smoked tobacco. These health effects include heart disease and oral cancer as well as an increased risk of diabetes (Boffetta, Hecht, Gray, Gupta, & Straif, 2003).

Water pipes also referred to as Shisha are commonly used in the UK (Grant, Morrison, & Dockrell, 2013). According to Grant et al. (2013), who carried out an online survey, the prevalence of water pipe usage amongst adults is 12% and frequent use is 1%. Shisha usage seems to have a higher prevalence in males, as they are three times as likely to use water pipes in comparison to females (Akl et al., 2011). Furthermore, according to Grant et al. (2013), water pipe use was more common among Asian and Black ethnicities than White adults, suggesting that this behaviour is limited to specific ethnic groups. However, according to the British Heart Foundation (2012), from 2007 to 2012 there has been a 210% rise in shisha bars in major towns and cities across the UK. This suggests that shisha is becoming more widely accessible therefore this behaviour is potentially on the rise and may be taken up by various culture groups across the UK. With regards to the health effects, shisha has been shown to have comparable detrimental health effects as smoking (Akl et al., 2010). Water pipes are largely used to smoke tobacco, which may be flavoured with fruits or sugar syrup, herbal mixtures are also commonly used (ASH, 2013). There is however an issue over the poor labelling of tobacco containing shisha (Nakkash, & Khalil, 2010). It is therefore difficult to distinguish between tobacco-containing shisha and non-tobacco-containing shisha. Although according to Akl et al. (2010), even without tobacco shisha can have detrimental health effects. In addition there is confusion and misunderstanding over the harmful effects of shisha. The most common misbelief is that water pipe smoking is less harmful and less addictive than cigarette smoking (Jawad, McEwan, McNeill, & Shahab, 2013).

When looking at tobacco use globally, surprisingly according to the WHO (2013), only one in four countries, representing just over a third of the world's population, monitor their population's tobacco user prevalence. Furthermore, samples are taken once every five years, suggesting that underreporting is extremely likely and that a true representation of tobacco use prevalence worldwide is unattainable. However from the countries that do collate this data, it is estimated that 1.22 billion people smoke (WHO, 2013). In addition, almost 80% of the world's smokers live in low and average income countries, and although tobacco use prevalence is decreasing in economically developed parts of the world including the UK, it is increasing in other areas that are not as economically developed such as Africa and India (WHO, 2013). This trend reinforces the theory that tobacco use and uptake is associated with financial deprivation.

Whilst it is an incredible achievement that in the UK the smoking rate has declined, the rest of the world does not share this phenomenon. Smoking rates in developing countries have been increasing at an average rate of 3.4% per year (ASH, 2009), and it is estimated that by 2030 a projected seven million people in developing countries will be killed by tobacco per year (Abdullah, & Husten, 2004). In addition, it is estimated that tobacco users from developing countries are more likely to spend a large proportion of their disposable income on tobacco as opposed to food and shelter (ASH, 2009), further increasing deprivation. As suggested by ASH (2009), this situation could be prevented if these countries joined the WHO Framework Convention on Tobacco Control. The framework outlines the mandate measures needed to reduce illicit tobacco consumption and reinforcing the placement of health warning signs on tobacco-containing products. This framework recognises and encourages the need for accessible smoking cessation support services. The introduction of these services, such as the ones delivered in the developed world, should also be considered when tackling the increase in tobacco prevalence across the developing world (Abdullah & Husten, 2004).

### **1.5. Introduction to the NHS Stop Smoking service**

As a result of the detrimental health and socioeconomic disparities associated with smoking, the Health Education Authority (HEA) set out National Smoking Cessation guidelines, published in the Thorax December 1998 (Raw et al., 1998).

This was later updated and reinforced by Raw et al. (2000). The recommendations covered how the NHS could treat tobacco dependence, its focus being to reduce the burden of death and ill health caused by tobacco via providing free local support to smokers, consisting of behavioural and pharmacological support. The behavioural support would either be one-to-one or group support therefore offering choice to the smoker (Brose et al., 2011). Following this guidance, the first local stop Smoking Services were initiated in 1999 and 2000, consequently spreading throughout the UK (Bell et al., 2006). The service consists of one-to-one or group face-to-face behavioural support, provided concurrently with pharmacology support, which has proven to be the most clinically-effective treatment for smoking cessation (Stead & Lancaster, 2012). The Stop Smoking Service is also delivered in various settings, including community settings and primary and secondary care settings. The service is commissioned by Local Authorities, although prior to the release of the White Paper (DoH, 2010b) services were commissioned and provided by local Primary Care Trusts (PCT's). The White Paper titled "Equity and Excellence, Liberating the NHS" outlined the need for local government to take ownership of a number of public health-related services including emergency contraceptives and health checks as well as smoking cessation services (DoH, 2010b). The majority of smoking cessation services are outsourced to primary care settings, including pharmacies and GP practices as opposed to core team specialist support advisors (Brose et al., 2011).

In addition to face-to-face support, some smoking cessation services provide telephone support in the form of quit-lines (Free et al., 2011). In some boroughs providing proactive telephone counselling is preferred, as it has been shown to be effective in helping smokers to quit (Free et al., 2011; Lichtenstein, Glasgow, Lando, Ossip-Klein, & Boles, 1996). It is also best suited to remote locations where patients would be required travel long distances to access support services, or where patients are physically unable to travel to a smoking cessation clinic (Gomm, Lincoln, Egeland, & Rosenberg, 2002). However, according to Lancaster et al. (2000), who carried out a systemic review of approved stop smoking interventions, face-to-face support was reported to be of higher clinical effectiveness when compared to telephone support.

According to the Information Centre for Health and Social Care (ICHSC, 2011) during 2010 -2011, 787,527 people accessed NHS Stop Smoking services within England; out of this figure, 383,548 people were successfully reported to be smoke-free at the four weeks treatment point. This implies that the smoking cessation service has a 49% quit rate. However this figure is not representative of all Stop Smoking services. Service uptake and quit rates vary dramatically, particularly within London, as stated by the DoH (2013) and Brose, McEwen, and West (2012). Effectiveness varies greatly from region to region, and there is considerable variation across different local services (Brose et al., 2011; West et al., 2013). In the UK, quit rates have been suggested to vary between 29%, the lowest rates reported, and 60%, the highest quit rates reported - these figures are based on the four week point of treatment (DoH, 2013). This implies a range of effectiveness levels across the UK.

Additionally, the type of support and setting can influence success rate. For example, as conducted by Brose et al. (2011), group support was linked to higher success rates than one-to-one support (OR 1.43, 95% CI, 1.16 to 1.76). In addition primary care settings were less successful than specialist clinics (OR 0.80, 95% CI, 0.66 to 0.99). In addition, the type of treatment offered can also have an impact on outcome as suggested by Brose et al. (2011), who found that the success rate was increased when combination Nicotine Replacement Therapy (NRT) or Varenicline was used. These findings imply that success rate variance exists between and within services. Aubin et al. (2008) correspondingly found Varenicline to be more successful than using a single form of NRT. Therefore, when conducting research into the service provision it is important to include a range of service providers in order to best contrast and compare services and achieve a universal sample. The effectiveness of the service is monitored and evaluated nationally by the Department of Health's National Monitoring and Guidance, as well as locally by individual Local Authorities' public health departments (DoH, 2013). With regards to service delivery setting, despite variance in performance, overall the service has been found to be effective in a variety of settings, including primary care, secondary care and even workplace settings (Cahill & Lancaster, 2014; Lancaster et al., 2000). There is also particularly strong evidence based on the effectiveness of pharmacy-led smoking cessation programmes, as they are suggested to be the most

cost-effective and convenient mode of service provision (Anderson, Blenkinsopp, & Armstrong, 2009).

There are a number of attributions that make up effective smoking cessation support. According to the National Institute for Health and Care Excellence (NICE, 2008) guidance and Department of Health's local stop smoking service Monitoring and Guidance (DoH, 2013), in the course of a year, a Stop Smoking service should aim to treat at least 5% of the local population of smokers, in line with best practice recommendations outlined by NICE (2014). According DoH (2012) and NICE (2014) guidance, this figure has been deemed to be sufficiently high enough to result in a reduction in smoking rates. This forms part of the recently implemented tobacco control plan for England (DoH, 2011). The plan outlines the government's ambitions for a reduction in smoking rates, which include: reducing smoking prevalence amongst adults to 18.5% or less by 2015; to 12% or less among 15 year olds by 2015; and to 11% or less amongst pregnant women by the end of 2015.

According to DoH (2012), who provide monitoring and guidance for local stop smoking services, stop smoking support should be based on current evidence and follow NICE guidance (2013). The current NICE (2013) guidance includes the following: the service should provide a multi-session intervention programme with the duration of no less than six weeks in length, to ensure that the bulk of the physiological withdrawal symptoms are experienced alongside specialist support (Cosgrove et al., 2009). The initial visit should last at least thirty minutes in length. This is to allow time to assess the patient's motivation to quit, addressing previous quit attempts, successes and failures, introducing programme and medication options, establishing a rapport and discussing a negotiated quit date (DoH, 2012; NICE, 2013). Moreover, NICE (2013) guidance states that prior to commencing treatment; patients must agree to attending the sessions and consent must be sought by the smoking cessation advisor for sharing patients' anonymised demographical data with the Department of Health. The anonymised data is then reported to the Department of Health and used to measure the service's performance with regards to service uptake levels and quit rate; the data is also used to define the variety of smokers who access the service, thus identifying if there are population groups who fail to access the service (DoH, 2012; NICE, 2013). Furthermore, this data is also

used to measure service uptake. The data is compared with all stop smoking services nationally. Moreover, according to the DoH (DoH, 2012), local stop smoking services should aim to achieve a quit rate of at least 35% after a four week period post a patient's quit date, meaning that patients are defined as being successful once they have managed to remain abstinent for a period of four weeks. A quit rate below 35% would imply that the service is less effective than if a smoker were to quit without specialist support, thus rendering the service redundant (NICE, 2014). Furthermore, the outcome is recorded at 25-42 days following the negotiated quit date (NICE, 2013). This outcome is referred to as the Russell Standard and is set out as a national standard for all smoking cessation services to follow (NICE, 2013). The 25-42 day outcome timeframe has been chosen as the goal standard, as it has been shown to be the most effective period of time post negotiated quit date, to predict long term abstinence and can be attributed to a supported quit attempt (West, Hajek, Stead, & Stapleton, 2005).

With regards to performance monitoring and management, it is the responsibility of each local Stop Smoking service to record and submit quit attempt details on a quarterly basis to the DoH (2012). The details required are referred to as the essential criteria. The essential criteria is set out by NICE (2014) and includes the following: patient demographics; treatment setting details (primary care, secondary care, community pharmacy, secondary care, maternity services or core team services); treatment medication details; type of intervention (group-based or one-to-one); treatment type; and lastly, but most importantly, the outcome. The possible four-week outcomes that may be recorded include: self-reported quit (a non-carbon monoxide validated quit outcome where no carbon monoxide reading was taken); carbon monoxide validated quit (an outcome with a carbon monoxide reading of 0-9 parts per million); or a not quit and lost to follow up (the outcome is unknown; DoH, 2012). The outcomes are reported to the DoH, and are used to measure service effectiveness (DoH, 2012). Furthermore, as a quality measure a stop smoking service should aim to achieve a carbon monoxide validation quit rate of 85% or more (DoH, 2012; NICE, 2014).

When it comes to training to become an accredited Stop Smoking advisor, the current method is to complete the Level Two Stop Smoking advisor Training

programme (DoH, 2013). This training is delivered and developed on a local level as it covers categorical elements of the service unique to specific localities population prevalence. The DoH (2013) Service Monitoring and Guidance states that training should consist of two localised Stop Smoking Advisor training sessions to equip the individual with the skills and knowledge needed to provide intensive one to one stop smoking advice to patients who would like to stop smoking. According to the DoH (2012) training should be focused on evidence-based treatment that combines the use of pharmaceutical treatments with behavioural support. The specification of the service is set out by Local Authorities who now commission the Stop Smoking Service (DoH, 2010). Each Local Authority commissions the service how they best see fit in order to meet the needs of their local population (NICE, 2013). It can therefore be implied that localities allocate funding to their service based on their populations' smoking prevalence and need for the service; hence those boroughs that have higher prevalence of smoking may wish to allocate additional funds to address smoking cessation within their borough in comparison to lower prevalence boroughs. According to DoH (2012), monitoring and guidance for this training should aim to be no shorter than two working days in length. However, as this is a recommendation it is therefore not fixed and some services may choose to adapt the length of their training. This could potentially cause variation in training length and contents, theoretically causing discrepancies in quality and standardisation of the training which could impact on service delivery.

In addition to the local Level Two training delivered by Local Authorities are also encouraged to recommend that their advisors complete the National Centre for Smoking Cessation Training (NCSCT; DoH, 2013). The NCSCT was introduced in 2011 as an online training set of modules used to subsidise Level Two training and encourage the standardisation of training across the UK (Brose et al., 2012). Its role is to facilitate effectiveness of evidence-based tobacco control programmes and smoking cessation interventions, provided by local Stop Smoking services. It includes specialist modules and is based on theory and practical based exercises through the use of multiple choice questions and videos. Although this training is not reinforced as mandatory it is mentioned in the current DoH guidance (DoH, 2012). It is currently viewed as supplementary training as not all Stop Smoking

Advisors are required to complete this training prior to commencing supporting patients. In order to reinforce this, advisors who complete this training can also obtain relevant Continuous Professional development credits and National DoH recognition (Borse et al., 2012). Therefore this training could appeal to a healthcare professional wishing to increase their continuous professional development portfolio. To date, 28,696 people are registered with the NCSCT training website and 17,381 have passed the knowledge (Stage 1) assessment, and 9,871 practitioners have gained full NCSCT certification by having also passed the practical (stage 2) assessment (NCSCT, 2014). This training is based on NICE guidance (NICE, 2013), which encompasses clinical effective smoking session evidence-based advice. A recent study found that the NCSCT training positively impacted Stop Smoking Advisors' performance as their theoretical knowledge was shown to have increased (Brose et al., 2012). However, as this training is not mandatory, variances may exist between and within services as some health care professionals may have qualified to become stop smoking practitioners and others may not. This may contribute to discrepancies in service efficacy.

With regards to service provision structure, the National Institute for Health and Clinical Excellence (NICE, 2008) provides strong evidence for intensive behavioural support alongside pharmacotherapy to aid smoking cessation. The guidance states that all healthcare personnel should repeatedly and consistently deliver smoking cessation interventions to their patients and that patients should be encouraged to use nicotine replacement therapy, Bupropion or Varenicline for best results. This guidance outlines the basic requirements for healthcare professionals in addressing smoking cessation at each available patient contact regardless of being trained as a level two Stop Smoking Advisor. The guidance reinforces the key message of making every contact count by providing Very Brief Advice (VBA; NICE, 2006) on smoking cessation advice. Providing VBA is a core element in stimulating a quit attempt - it is therefore an extremely viable aspect of stop smoking support. The importance and effectiveness of a health care professional making every contact with patients count has also been reinforced by the government in the NHS Future Forum Summary report (HM Government, 2012). Brief smoking cessation advice from a healthcare professional within a primary care setting has been shown to be effective in increasing the likelihood of a patient

making a quit attempt (Coleman, 2004; Kotter, Battista, DeFriese, & Brekke, 1988). Research suggests that its impact is small, increasing the quit attempt success rate by approximately 1-3% (Stead, Bergson, & Lancaster, 2008). In contrast, regular continuous intensive support has been suggested to increase favourable outcomes, increasing the quit rate four fold (Stead et al., 2012). However, Very Brief Advice - although not as effective as weekly face-to-face support - can increase the likelihood of a smoker accessing specialist smoking cessation support, increasing the likelihood of success. Therefore VBA should be a routine part of patient care (Stead et al., 2008). Furthermore, the effect of VBA is amplified when it is delivered in accordance with guidance set out by NICE, and when smoking cessation support is offered simultaneously (NICE, 2006).

In addition to effectively supporting smokers in stopping smoking, a Stop Smoking Advisor must be able to recruit smokers. Hence the VBA model is applicable to all healthcare professionals including Stop Smoking Advisors, as it aids in enlistment of smokers accessing the Stop Smoking service. The VBA model can also aid non-Stop Smoking Advisors in referring smokers to the Stop Smoking service.

According to West, McNeill and Raw (2000), primary health care teams should ensure that the records concerning patient smoking status are kept up-to-date and that patients are offered VBA routinely. However, unfortunately this is not often accomplished as according to McEwen and West (2001); there is little evidence to suggest that VBA is carried out routinely or that training in how to provide VBA increases GPs' referral rates. It is important to investigate if the lack of referral rate and patient uptake post-training is limited to VBA training, or whether it also applies to other smoking-related trainings, such as level two Stop Smoking Advisor training or additional training via the National Centre for Smoking Cessation Training. As VBA is a fundamental part of patient recruitment, should an advisor not be able to successfully identify and recruit patients the objective of reducing smoking prevalence will not be achieved. In order to address this predicament the NCSCCT (DoH, 2013) has developed a VBA online training module which all healthcare professionals are encouraged to complete.

Smoking cessation, similarly to other health-promoting interventions has been suggested to rely heavily upon the stages of change model (Prochaska &

DiClemente, 1983; Whitelaw, Baldwin, Bunton, & Flynn, 2000). The first stage, which consequently leads to patient recruitment, is providing effective VBA by addressing smoking status and assessing readiness to quit (NICE, 2006). Should the patient be ready to stop smoking the action stage would be applied and the patient would be recruited onto the smoking cessation programme. Should a patient be considering stopping smoking the contemplation stage is then applied (Prochaska & DiClemente, 1983). It is then the healthcare provider's role to facilitate the action stage, either via referring or signposting the patient to a smoking cessation specialist - or, should the patient be in the pre-contemplation stage, the healthcare professional should enable the smoker to contemplate stopping smoking and facilitate accessing support when ready. The model can also be used to inform and direct patients to the most effective method of stopping smoking via the Stop Smoking service, as opposed to trying to stop without the appropriate aid, therefore increasing patients' chances of success (DoH, 2012).

With regards to service efficacy, the service has been shown to be clinically effective by a vast amount of empirical research (Bauld et al., 2010; Chesterman, Judge, Bauld, & Ferguson 2005; NICE, 2008; West, May, West, Croghan, & McEwen, 2013). Although the standard length of treatment recommended by NICE (2014) is six weeks, the length of treatment may vary across the UK. Some boroughs provide up to twelve weeks of support, whereas others provide the minimum recommended standard of six weeks (The Health and Social Care Information Centre; HSCIC, 2012). Variances in length of treatment offered may cause inconsistencies in service efficacy as research suggests the longer the length of treatment the higher the success rate (Silagy, Lancaster, Stead, Mant, & Fowler, 2004). This implies that the service is unstandardised and that services' success rates may be inconsistent due to smokers being offered varying lengths of treatment depending on their post code.

The average reported quit rate of the NHS Stop Smoking service in 2010/11 was 49% - however this varied tremendously between localities ranging from 29% to 69% (HSCI, 2012). As some services do not appear to be reaching the minimum quit rate standards required by NICE (2014) and DoH (2012) this could have an impact on future funding, particularly following the government's restructuring of many NHS public health funded services which has classified Stop Smoking

service as a non-mandate part of public health services. Furthermore, therefore, should a local smoking cessation service no longer prove to meet its service requirements or not be viewed as a fundamental element of public health services, Local Authorities may decide to decommission such services or possibly consider outsourcing them on a wider scale, resulting in privatisation. Alternatively Local Authorities may choose to merge their service with other localities, resulting in the redundancy of a local smoking cessation service and the introduction of a non-localised generic service which is not based on the needs of the local population which may lead to a reduction in service uptake and service accessibility.

Despite variance in service effectiveness, current research suggests that patient satisfaction rates are high amongst NHS Stop Smoking service users (May & McEwen 2011). Furthermore, current smoking cessation interventions which deliver both pharmacological and psychological support have been suggested to be the most clinically effective forms of treatment for patients who wish to stop smoking (Bauld et al., 2010; Munafò, Rigotti, Lancaster, Stead, & Murphy, 2001).

#### **1.6. Health care professionals and smoking**

It could be argued that regardless of smoking status or smoking history, a healthcare professional is responsible for the care of his or her patients, and therefore should promote and support smoking cessation. Healthcare professionals' own smoking resolve should not have an impact on their ability to encourage patients to stop. However, as previously suggested by Vogt, Hall, and Marteau (2010), it may be that the patient views the smoking cessation advisor as unable to help due to their preconceived notions, and generalises all healthcare providers as newer smokers and being unable to identify or empathise with smokers. However there is some evidence to suggest that smokers and ex-smokers may be more likely to perceive smoking as psychologically favourable with regards to reducing stress (Dijkstra & Borland, 2003). This would imply that smokers and non-smokers have different perceptions of smoking. This may therefore impact ex-smokers' attitudes towards smoking, increasing the likelihood of their perception of smoking being positive.

Prior to the danger of tobacco use being associated with catastrophic health consequences, healthcare professionals were commonly renowned for recommending tobacco use. Tobacco use was once physician-tested and endorsed (Gardner & Brandt, 2006). However, as the health risks of smoking were defined this practice became less common. Recent evidence suggests that health care professionals are less likely to smoke than non-healthcare professionals (Adriaanse & Van-Reek, 1991; Nagle, Schofield, & Redman, 1999). Presumably this may be because healthcare professionals have first-hand experience of treating smoking-related illnesses and are particularly aware of the severity of such conditions. Current physicians may therefore be less susceptible to commencing smoking, or if they had smoked they may be more likely to have extinguished their habit when compared to non-healthcare professionals. It is however important to note that healthcare professionals may be less likely to self-report as being tobacco users, as they may fear losing credibility with patients or fellow healthcare professionals (Chapman, 1995). Therefore, a true representation of healthcare professionals regarding tobacco use may remain unknown. Fundamentally this could potentially also be applied to Stop Smoking Advisors - hence, the proportion of Stop Smoking Advisors who use tobacco is unattainable.

Although there has been a significant reduction in healthcare professionals' smoking prevalence over the historic few decades, this decrease has been reported to vary in its significance. Studies have shown that some healthcare professional groups are more likely to smoke than others. For example, mental health support workers and nurses have been shown to have higher smoking rates than other healthcare professionals (Xiang et al., 2014). This trend has also been supported by Nagle et al., (1999) who discovered that Australian psychiatric nurses were found to have elevated rates of smoking in comparison to other health professions. This may be attributed to increased work stress and exposure to smoking, as smoking is still highly prominent within psychiatric settings. It is estimated that smoking rates amongst psychiatric patients is as high as 70% (Lasser et al., 2000). Smoking rates amongst health professionals have been shown to vary across the globe. A recent global study by Smith and Leggat (2007), in which smoking prevalence levels amongst medical students were collated, found that smoking prevalence varied greatly from country to country. Higher smoking prevalence rates were found

amongst Spanish and Turkish medical students. In comparison, the lowest smoking rates were found amongst Australian and American medical students. It was concluded that the results reflected smoking prevalence across each population; hence if smoking rates were found to be high amongst the general population they would also be high amongst healthcare professionals. Thus smoking prevalence may be comparable across healthcare and non-healthcare professionals alike.

Assuming that smoking is prevalent amongst various healthcare professional groups it is important to assess what effect, if any, a positive smoking status has, and if it could impact attitudes towards patient smoking behaviour or the likelihood of successfully supporting patients in stopping smoking. There has been little research into this, as many healthcare professionals and trained Stop Smoking Advisors in particular may not wish to disclose their smoking status as this could potentially jeopardise their position. Withholding smoking status could be justified by a fear of criticisms from other healthcare professionals and patients, or feelings of guilt and hypocrisy when advising patients in stopping smoking (Lindson-Hawley et al., 2013). It is possible that many stop smoking advisors face an interpersonal struggle with their tobacco use. There is therefore the need to address this, as it may have an impact on their patient care. For example, Nagle et al. (1999) found that in comparison to nurses who did not smoke, nurses who smoked were less likely to refer patients who smoked to speciality smoking cessation services. They were also less likely to motivate patients who smoked into stopping smoking. However, in contrast with this research, Lindson-Hawley et al., (2013) who recently carried out research into confidence levels and success rate of Stop Smoking Advisors whilst controlling for current and historic smoking status, found that smoking status of Stop Smoking Advisors did not affect their success rate. It therefore could be suggested that smoking history does not have an impact on Stop Smoking advisor success rate and that perhaps other factors which require further investigation may be attributed to smoking advisor effectiveness. Lindson-Hawley et al. (2013) did however highlight the recommendation for addressing smoking status in training in order to address confidence levels for advisors who had never used tobacco. At the moment, smoking status is not included in the current training programme (DoH, 2010).

## 1.7. Theoretical framework

The Stop Smoking service is founded upon best clinical practice principles outlined by the DoH (2012) and NICE (2013). Fundamentally, these principles rely heavily on effective healthcare professional and patient communication in relation to initial smoking status assessment, recruitment onto the programme and delivery of tailored support. Furthermore, patient-centred care has been effectively applied to smoking cessation (Gould, 2013). According to Gould (2013), patient-centred care evokes higher quit rates as it enables the adoption of flexible solutions and shared goals for all smokers including those wishing to cut down or quit at a later date. According to Ong, De-Haes, Hoos, and Lammes (1995), communication can be seen as the main ingredient in medical care. Furthermore it has been suggested that effective communication can significantly improve a patient's health outcomes (Jagosh, Boudreau, Steinert, MacDonald, & Ingram, 2011). Therefore, doctor-patient communication is a central part of patient care. This has been further supported by recent research (Ha, Anat, & Longnecker, 2010; Talen, Muller-Held, Eshleman, & Stephens 2011). According to Kaba and Sooriakumaran (2007), effective doctor-patient communication elicits holistic care by attentive listening, nonverbal engagement, attentiveness to patient and healthcare provider emotions, and shared decision-making. In addition to these core elements, receptiveness for healthcare providers to share a common perspective provides the basis of patient-centred care which has been shown to benefit patient outcomes (Guadagnoli & Ward, 1998; Stewart, 1995).

There appears to be a significant amount of variability in the way healthcare professionals treat and diagnose patients, resulting in variances in prognosis (Anderson, Freeling, & Patel, 1983; Hanbury, Wallace, & Clark, 2009). It is important to understand why such variances exist and what can be done to ensure standardised effective care. These significant variances may be influenced by the manner in which healthcare professionals determine diagnosis (Newell & Simon, 1972). Intrinsically according to Newell and Simon (1972), healthcare professionals use a problem-solving model to help diagnose and identify treatment options. This is based on the healthcare professional's understanding of the patient's problem, being able to attribute a cause and identify a solution. Therefore, to correctly identify a

diagnosis and implement an effective treatment plan, a healthcare professional must firstly be able to understand and interpret patients' ailments. Healthcare professionals must be able to access accurate information from patients. This reinforces the need for effective healthcare professional-to-patient communication. With regards to smoking cessation, healthcare professionals must be able to ascertain smoking status and assess desire to quit. Furthermore, profile characteristics of healthcare professionals have also been shown to influence patient care. For example, Stokes and Rigotti (1988) found that non-smoking doctors were more likely to spend more time counselling about smoking when compared with their smoking counterparts. This implies that smoking status could impact on the level of support provided by healthcare professionals. In addition, a healthcare professional's age, gender and ethnicity have also been suggested to impact on patients' care (Maly, Leake, & Silliman, 2003; Shah & Ogden, 2006). It is therefore important to take profile characteristic factors into account when assessing Stop Smoking Advisor efficacy.

According to Friedman et al. (2008), doctor-patient communications and health-related beliefs of patients contribute to patient medication adherence resulting in variances in patient care. In light of this, it is important to note that a patient's health belief and interpretation of their ailments may influence how they describe their condition to their healthcare provider, thus impacting on diagnoses and prognoses (Crawley, Marshall, Lo, & Koenig, 2002). For example, a patient may not feel that their smoking is presently affecting their health and therefore may believe that they do not need to stop smoking; or they may hold a negative view towards smoking cessation aids and be less likely to adhere to their usage. Moreover, healthcare professionals' views on health and health behaviours have also been shown to influence patient care and health beliefs (Friedman et al., 2008, Ogden et al., 2003). As stated by Misselbrook and Armstrong (2001), the manner in which treatment options are presented to a patient can influence treatment decision-making and adherence levels. Although according to the General Medical Council (GMC, 2013) guidance, healthcare professionals should not be influenced by their beliefs and should provide effective patient care, advice or support in line with good medical practice, whatever their personal beliefs. As suggested by Curlin, Lantos, Roach,

Sellergren, and Chin (2005), both patient and physician cultural and religious beliefs with regards to health can influence patient care.

In addition, illness cognition theories used to interpret illness and treatment such as the self-regulatory model of illness have also been shown to impact on health belief and health outcome with regards to smoking and smoking-related illnesses (Browning, Wewers, Ferketich, Otterson, & Reynolds, 2009). The self-regulatory model provides a framework for understanding how individual symptoms and emotions experienced during a health threat or diagnosis influence perception of illness and guide subsequent coping behaviour (Leventhal, Hudson, & Robitaille, 1997). According to Leventhal et al. (1997), the self-regulatory model of illness behaviour is deployed as a way to cope with a health condition and consists of three stages which include: stage one, the interpretation of illness; stage two; the way in which a patient copes with their illness; and lastly, stage three, which consists of appraisal of condition and coping mechanisms used to deal with an illness. Browning et al. (2009) applied the self-regulation model of illness to smoking behaviour in lung cancer and concluded that characteristics that contribute to continued smoking amongst lung cancer patients are not well understood. As highlighted by Browning et al. (2009) and Leventhal et al. (1997), cognitive representations of illnesses and coping efforts on patients' responses towards health threats can impact on patient care and prognosis.

With regards to smoking cessation behaviours, the self-regulatory model of illness behaviour has been effectively applied to smoking cessation by Hall, Weinman, and Marteau (2004). Hall et al. (2004) found that illness perception influenced intentions to quit smoking. Furthermore, Hall et al. (2004) found that having a coherent model linking behaviour with threat can subsequently promote health behaviour change. It is therefore important to take patients' cognitive representations into account when treating patients. In addition to cognitive health and illness belief formulations, the nature of the therapeutic relationship between healthcare provider and patient may also play a role in predicting patient outcome. For example, as suggested by Leahy (2008), the therapeutic relationship reflects interpersonal schemas, earlier attachment problems, emotional processing, failures in validation and compassion, and a variety of processes underlying non-compliance or resistance. According to Martin, Gorske,

and Davis (2000), patient outcome is linked to therapeutic validation and compassion: therefore poor therapeutic skills can lead to poor patient outcome. Interestingly, as concluded by González, Bennasar, Pericàs, Seguí, and De Pedro (2009), smoking status can affect a healthcare professional's therapeutic capabilities when delivering smoking cessation interventions. According to González et al. (2009), nurses delivering smoking cessation interventions who smoke are unlikely to be able to establish effective therapeutic relationships, which may result in poorer patient outcomes. Smoking status could impact negatively on a healthcare professional's ability to form effective therapeutic relationships with patients, ultimately having a negative effect on patient care. There is a need, therefore, to further investigate the implications of being a nicotine-dependent Stop Smoking Advisor and the impact this could have on patient care.

Whilst there has been research carried out on the impact of the Stop Smoking service, there has been little research focusing on NHS Stop Smoking Advisors' smoking attitudes and histories and their impact on quit rate. Vogt et al. (2010) investigated the reason why smokers may be reluctant to seek stop smoking support, and identified that the primary reason for reluctance was due to the smoker's preconceived perception of smoking cessation practitioners. Smokers often assumed that advisors had never smoked, and therefore would not be able to empathise with smoking cessation, resulting in smokers being less likely to seek their support (Vogt et al., 2010). It has also been suggested that healthcare professionals' attitudes towards smoking and their own smoking status may have an impact on clinical effectiveness in providing smoking cessation support (Bradford, Sheffer, Crews, Payne, & Smith, 2008; Parna, Rahub, & Rahu, 2005; Pipe, Sorensen, & Reid 2009). In addition, it has been suggested that attitudes held by healthcare professionals can impact the way in which other health-related behavioural interventions including healthy eating and weight management are delivered (Harvey, Summerbell, Kirk, & Hills, 2002). Therefore, it may also be important to incorporate healthcare professionals' views and attitudes towards certain health-related behaviours during trainings. However, these studies included participants that were not trained NHS Stop Smoking Advisors and therefore the results cannot be applied to NHS Stop Smoking service advisors.

In sum the theoretical underpinning of this study is based upon the a hybrid of several health psychology models including illness cognition theories such as the self-self-regulatory model of illness determined by health beliefs in addition to factors that influence doctor patient communication and therapeutic relationship such as health care professional characterises including proportion of time spent delivering support and advisor tobacco use status.

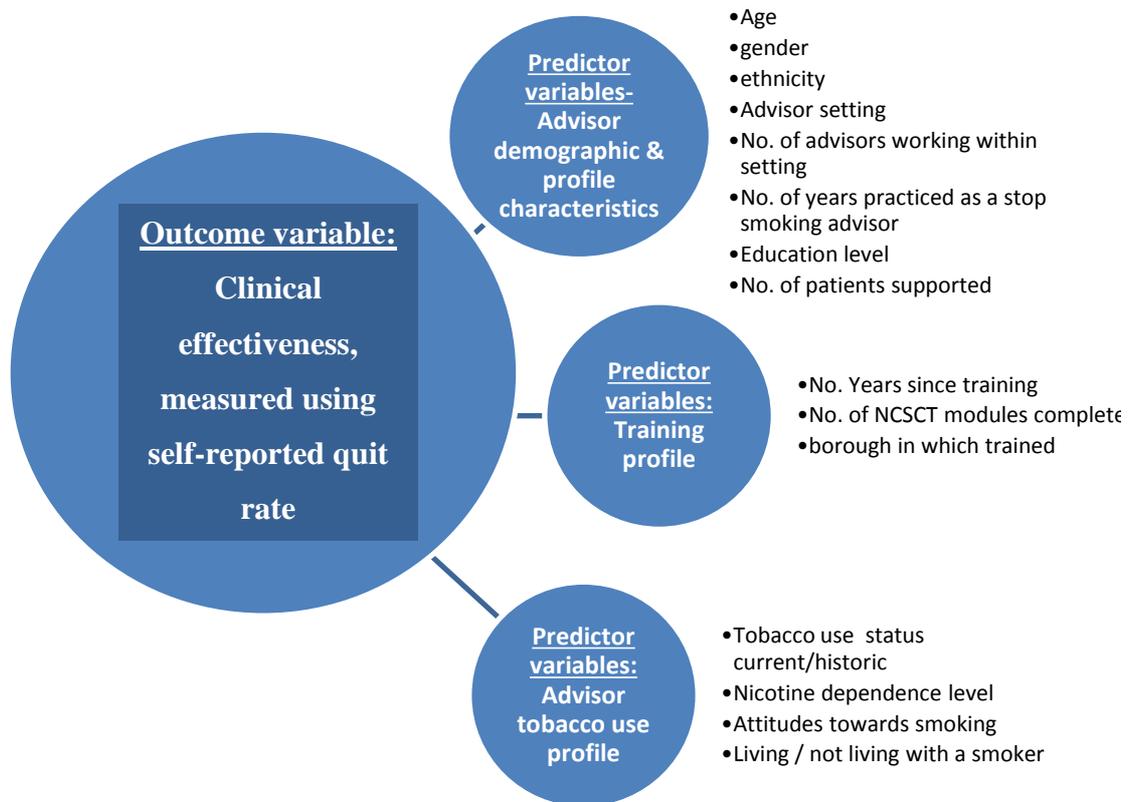
### **1.8. Study aims and hypotheses**

Smoking cessation services vary in quality of service and service uptake within the United Kingdom (Brose et al., 2013; DoH, 2012). There may be a number of reasons as to why these variances exist. This study aimed to explore potential variables contributing to the variability within Stop Smoking services. Factors influencing variance may be attributed to the way in which Stop Smoking Advisors differ in how effectively they assess smoking status and recruit and support smokers. The ability to assess smoking status may be endorsed by the manner in which therapeutic relationships are formed using effective communication between healthcare professional and patient. As stated by Friedman et al. (2008), effective healthcare professional-patient communication, which includes patient-centred care, can lead to better patient outcomes. Therefore, it could be implied that greater recruitment and quit rates are attributed to better advisor communication skills. Furthermore, smoking behaviour assessment and treatment may be affected by the way in which smoking behaviour is interpreted by both patient and Stop Smoking Advisor. Hence the self-regulatory model of illness (Leventhal et al., 1997) used to interpret illness may be influenced by attitudes towards smoking in both patient and healthcare professional (Browning et al., 2009). In addition, smoking status and smoking history has also been shown to influence attitudes towards smoking and healthcare professional effectiveness in supporting smoking cessation (Bradford et al., 2008; Pipe et al., 2009). This study will therefore collate advisor smoking status (historic and current), attitude towards smoking, and number of patients recruited onto the stop smoking programme, and assess what impact, if any, they have on clinical effectiveness.

Other factors such as Stop Smoking Advisor demographic profile characteristics may also play a role in advisor effectiveness and variances in service (May et al., 2003; Shah et al., 2006). These factors may include age, gender, education level and ethnicity, and will therefore be examined as possible determinants in explaining advisor effectiveness variances. Training level may also contribute towards variances in service effectiveness. Currently, each Local Authority within the United Kingdom is responsible for developing and delivering its own training package, meaning that training may vary from borough to borough (DoH, 2012). According to Brose et al. (2013), it is predicted that advisors who have completed the additional NCSCT training will have higher smoking quit rates in comparison to non NCSCT trained advisors. Training healthcare professionals within primary care has been an effective way of implementing smoking cessation services on a wider scale (Lancaster et al., 2000). However, Lancaster et al. (2000) found that although training healthcare professionals to provide smoking cessation support increased ability to identify smokers and to provide smoking cessation support, it did not significantly increase clinical effectiveness in helping patients to stop smoking. It is difficult to determine the exact reason for this, as there may be a number of causal factors contributing to this phenomenon, including the number of days and hours healthcare professionals attended training, number of years practicing as an advisor, advisor confidence, and proportion of time dedicated towards smoking cessation work in comparison with their primary role. Therefore, the level of training undertaken and proportion of time spent delivering smoking cessation support may also be a contributing factor in determining advisor effectiveness variances and will be measured accordingly.

The aim of this study was to identify what makes an effective Stop Smoking Advisor, thus determining what key contributing factors are involved in influencing high quit rates. This study aimed to investigate variables that contribute towards Stop Smoking Advisor variances in patient outcome. Figure 2, below, shows predictor variables hypothesised to influence Stop Smoking Advisors' clinical effectiveness.

Figure 2. Hypothesis model of predictor variables.



As shown in Figure 2, the predictor variables were segmented into three constructs: advisor demographic profile characteristics; training profile; and tobacco profile. This was done to gain a broader measure of advisor profile characteristics. Furthermore, the hypothesised model of predictor variables aimed to identify the impact of each predictor variable on clinical effectiveness.

## 2. Method

### 2.1. Participants

In order to increase statistical power and reduce the risk of a type II error, the appropriate sample size would be required. According to Clark-Carter (1997), statistical power is defined as the probability of avoiding a type II error, thus rejecting the research hypothesis even though it is true. This is symbolised by the power analysis test which is  $1 - \beta$ . Clark-Carter (1997) also recommends that a reasonable level of power to aim for, under normal circumstances, is 0.8; whereby the probability of making a type II error ( $\beta$ ) is  $1 - 0.8 = 0.2$ . Therefore an effect size calculation was carried out prior to data collection. The G Power statistical programme was used to predict the number of participants required to result in a significance level of 0.05, which was found to be 153. Therefore, the sample size needed to be equal to or more than 153. In total, 161 participants were recruited. However, two participants were excluded as they were not active Level Two Stop Smoking Advisors and therefore could not be included in this study. In spite of this, the remaining 159 participants met the G Power analysis' required sample size, suggesting that sufficient statistical power was obtained.

A cross-sectional sample of London-based NHS Level Two trained Stop Smoking Advisors were recruited, primarily from Newham's Stop Smoking service; only formal Level Two trained Stop Smoking Advisor professionals were invited to take part, including clinical and non-clinical staff, and core team Stop Smoking Advisors. The sample was made out of 52 (32.7%) males and 107 (67.3%) females. Participants' ages ranged from 20 to 65 years of age, with a mean of 39.94 and standard deviation (SD) of 12.04. Participants' ethnicities included a range of diverse ethnicities. With regards to education levels, a total of 103 (64.8%) participants were graduates, out of which 34 (21.4% of total sample) were postgraduates and 56 (35.2%) were non-graduates. In addition, 34 (21.4%) participants had practiced as stop smoking advisors for 1 year or less, 52 (32.7%) had practiced for 2-4 years, 41 (25.8%) had practised for 5-7 years and 32 (20.1%) had practiced for 8 years or more.

Furthermore, participants were classified by their job titles: sessional stop smoking advisors; core team/service commissioners; healthcare assistants; practice nurses; GPs; administrators; pharmacy counter assistants; dispensers; and pharmacists. This was done in order to be able to compare and contrast the different job role settings of service provision (GP, pharmacy or core team/specialist settings). Out of the 159 participants, 41 (25.8%) were pharmacists, 6 (3.8%) were pre-registration pharmacists, 11 (6.9%) were counter assistants working within a pharmacy setting, 23 (14.5%) were dispensers and pharmacy technicians. Furthermore, 18 (11.3%) participants were healthcare assistants working in a GP setting, 2 (1.3%) were GPs, 6 (3.8%) were GP administrators and 23 (14.5%) were practice nurses. In addition, 28 (17.6%) were core team Stop Smoking service advisors and 1 (0.6%) participant was a service commissioner or advisor.

## 2.2. Materials

This study used a number of scales to measure the predictor variables being explored. The materials constructed a multi-scaled survey used in this study, which was comprised of various standardised scaled questionnaires. The predictor variables were categorised into the following categories as: advisor demographic and profile characteristics; advisor training profile; and advisor tobacco use profile. Each category consisted of a number of factors which were measured using three standardised scales.

The survey consisted of the following measures:

**I. Advisor demographic and profile characteristics.** To measure Stop Smoking Advisor profile characteristics, the following data was collated: advisor gender, age and ethnicity; borough in which practiced; number of years practiced as a stop smoking advisor; number of advisors worked with; type of setting worked in (pharmacy, GP practice or specialist setting); number of patients supported per year; proportion of time spent delivering smoking cessation support; advisor education level; and self-reported quit rate.

**II. Advisor training profile.** In order to assess training level, the following were measured: number of National Centre for Smoking Cessation modules completed; number of years since training; and borough in which trained.

**III. Advisor tobacco use profile.** In order to achieve a well-rounded knowledge of advisor tobacco usage (current and historic), two standardised scales were used to measure nicotine dependence (current and historic). These included: the Fagerström Test for Nicotine Dependence (FTND; Fagerström & Schneider, 1989); and the Fagerström Test for Nicotine Dependence - Smokeless Tobacco (FTND-ST; Ebbert, Patten, & Schroede, 2006) as a measure of oral tobacco consumption. Questions regarding quantity and use of tobacco products such as roll-up tobacco, cigars, and pipes' weekly quantity smoked in addition to weekly and monthly frequency of shisha use. This was done primarily for descriptive purposes, in order to build a tobacco use profile of the sample. These questions gave a direct indicator of tobacco usage that was not otherwise included in the FTND questionnaire. Attitudes towards tobacco were also measured using two standardised scales including the Global Attitude Towards Smoking (GATS; Trafimow & Sheeran, 1998), which was used to measure how favourable/unfavourable, anti/pro and positive/negative participant attitudes towards smoking. In addition, the Attitudes Towards Smoking Scale (ATS-18; Etter, Humair, Bergman, & Perneger, 2000) was used to measure attitudes towards the psychological aspects, health effects, and pleasures derived from smoking. Furthermore, as an extraneous controllable variable, it was recorded whether or not the advisor lived with a smoker.

The FTND measures were used in this study to measure current and historic tobacco use. The survey questions addressed if participants had tried or used tobacco-containing products regularly, thus producing four categories: current tobacco user; historic tobacco user; those that had tried a tobacco-containing product; and those that had never tried tobacco-containing products. Furthermore, the FTND and the FTND-ST scales were used since the ability to measure level of nicotine dependence is required when treating nicotine addiction, in order to identify the level of support required with regards to nicotine replacement therapy (Andreas, Chenot, Diebold, Peachey, & Mann, 2012). Nicotine addiction within the NHS Stop Smoking service is measured using the Fagerström Tolerance

Questionnaire (Fagerström & Schneider, 1989; Heatherton, Kozlowski, Frecker, & Fagerström, 1991). It consists of questions relating to quantity and frequency of tobacco use, as well as previous experiences of abstinence. It uses a scale to measure nicotine dependency, ranging from low to high dependency; the scale ranges from 0-14 points, with higher numbers indicating more nicotine dependence. Once the level of addiction has been identified, the appropriate level of Nicotine Replacement Therapy for treatment can be applied. The scoring of this questionnaire is used to determine whether nicotine dependence was low, low to moderate or high - the higher the scoring, the higher nicotine dependency levels. The Fagerström scale is very flexible and has been adapted to suit various forms of tobacco use; for example it has been applied to assess smokeless tobacco use dependency level (Auf et al., 2012; Ebbert et al., 2006). In addition, the FTND-ST was also used to measure oral tobacco usage (Ebbert et al., 2006).

Another potential diagnostic measure which could have been used to assess nicotine dependence is carbon monoxide monitoring (Middleton & Morice, 2000). Carbon monoxide is produced in relatively high quantities when tobacco is burnt and is primarily inhaled by smokers but can also be inhaled in smaller quantities by passive smoking contributing to the ill health effects experienced by passive smokers (Goniewicz et al., 2009; Russell, Cole, & Brown, 1973). Carbon monoxide levels have been suggested to be positively correlated with nicotine yields inhaled from smoking, suggesting that carbon monoxide levels may be used to predict nicotine dependence levels (Middleton et al., 2000). Controversially, according to Montalto and Wells (2007) and West (2004), measuring nicotine plasma levels via saliva, blood or urine samples is a more accurate indicator of nicotine dependence levels. However as West (2004) concludes, carbon monoxide monitoring gives instant feedback to the smoker and is a more cost effective method of measuring progress in comparison to testing saliva, blood or urine. Measuring carbon monoxide levels has also been shown to be effective in monitoring patients' progress and maintaining motivation throughout treatment (Fagerström, Hughes, Raamussen, & Callas, 2000). It is therefore generally accepted that measuring carbon monoxide is an adequate way to measure abstinence when treating smokers, hence quit rates are indicative of carbon monoxide validated quits (DoH, 2012).

Carbon monoxide monitoring, however, may not always be effective. Smokeless tobacco such as Paan and Snus (primary used in Sweden; Foulds, Ramstrom, Burke, & Fagerström, 2003) are forms of oral tobacco. Oral tobacco is chewed and not burnt and therefore does not produce carbon monoxide; thus, carbon monoxide monitoring cannot be used to assess smokeless tobacco users' dependence levels throughout treatment. Alternative specialist support is available for those who chew tobacco. However, this is not offered as part of the mainstream NHS Stop Smoking service. Specialists' services are adapted to treat oral tobacco users, and address dependence based on assessing frequency of use to gain a deeper insight to the levels of nicotine consumed.

With regards to measuring performance this study assumed that performance was related to mainstream smoking cessation services, which does not relate to Stop Smoking Advisors who treat smokeless tobacco users. This study used the FTND-ST and the FTND as they measured both smoked and smokeless tobacco dependence. Carbon monoxide testing was not used as it was deemed to be unsuitable due its limitations in assessing smokeless tobacco usage. Furthermore, carbon monoxide monitoring can only measure recent tobacco usage therefore cannot be applied to casual tobacco users (West, 2004). In addition, carbon monoxide and cotinine level testing were deemed to be invasive and participant-identifiable measures as participant blood or expired breath would be required. This may have resulted in limited participant engagement in the study. In addition, when measuring advisor attitude towards smoking, a further two standardised questionnaires were used. This included the Global Attitude Towards Smoking (GATS) which was used to measure how favourable/unfavourable, anti/pro and positive/negative participants' attitudes were towards smoking (Trafimow & Sheeran, 1998). Each response was rated on a nine-point Likert-type scale and a mean score for the scale was recorded per participant. In addition the Attitudes Towards Smoking Scale (ATS-18; Etter et al., 2000) was used. The ATS-18 is a three-dimensional scale consisting of 18 questions that measure attitudes towards the psychological aspects of smoking, health effects of smoking, and pleasures derived from smoking. The questionnaire uses a five-point Likert-type scale. The results from each of the three dimensions were added up to produce scores for the following: a mean score relating to attitudes towards the psychological aspects of

smoking; the mean score relating to attitudes towards the health effects of smoking; and, lastly, the mean score relating to attitudes towards the pleasure derived from smoking.

These questionnaires were chosen as they represented different aspects of measuring attitudes towards smoking behaviour. Furthermore, the questionnaires addressed relevant issues with regards to smoking and how smoking may be perceived. The GATS was used as it defines and summarises views on smoking and how tolerant a Stop Smoking Advisor may be towards smoking. The ATS-18 scale was used as it addressed views on addiction, health, and perceived psychological gains of smoking. The survey was counterbalanced in order to reduce the likelihood of order effect. Both versions of the survey can be found in Appendices 2 and 3.

This study measured advisor clinical effectiveness, by taking into account self-reported estimates of the number of patients supported, together with quit rates estimated in percent. This measured the total number of patients each advisor had supported within a given year and the proportion of those who had successfully quit. This gave an overall view of the advisors' self-reported clinical effectiveness. The measures of quit rate and number of patients recruited were measured on a scale of six categories. These questions were added as according to the DoH (2012), the effectiveness of a smoking cessation service can be measured by service uptake and quit rate, hence these questions were highly relevant in this study. In addition to the standardised questionnaires used, other questions were used in order to control for contributing factors which may have played a role in increasing advisor quit rate. These control variables included: number of years practiced as a stop smoking advisor; the number of boroughs concurrently providing stop smoking support; the number of advisors within a setting; the number of NCSCT modules completed; age; education level; job title; gender; and proportion of time spent delivering smoking cessation support.

This study used a cross-sectional design based on a cohort of current Stop Smoking Advisors. A number of controls were used to measure the impact of perceived attitudes towards smoking on self-reported quit rate. These factors included eight predictor variables and one outcome variable (based on an ordinal scale consisting of five levels). The predictor variables consisted of age, gender, years practiced,

number of supporting advisors, advisor setting and number of settings in which advisors provided support, number of supplementary training modules completed, proportion of time spent delivering stop smoking support and number of patients supported in a year. The outcome variable was the self-reported quit rate (split into percentile groups). This was measured on an ordinal scale consisting of five percentile groups (0-10%, 11-20%, 21-30%, 31-50%, 51-70% and 71% or above).

### **2.3. Procedure**

Ethical approval was sought and achieved from London Metropolitan University prior to commencing the recruitment phase of the study. As a goodwill gesture, service commissioners and managers were contacted prior to recruitment and informed of the study brief. The Local Pharmaceutical Committee of North East London was also briefed.

With regards to consent and study briefing and debriefing, once the percipient accessed the survey via a link, they were confronted with the front page of the survey which comprised a consent form and a briefing sheet. The consent and briefing sheet outlined the purpose of the study and how the data would be used. It also stated that participants selecting the next button would be agreeing to complete the survey and consenting to their data being used in the study. The consent and briefing form can be found in Appendix 1.

Participants were informed that should they wish to withdraw their data from the study at any time, they could do so at any time by emailing the researcher using the details included in the consent and debrief sheet, found at the beginning and end of the survey. Although definable participant details were not collated in the survey, their results could have been identified based on the date and time they completed the survey; hence, should participants wished to have withdrawn from the study, they could have been as their data may have been located and removed from the data set if requested.

Upon completion of the survey, participants were thanked for taking part and were debriefed fully with further information relating to the study (found in Appendices 2 and 3). Participants were also reminded that should they wish to withdraw from

the study they could do so by contacting the researcher. Participants that took part via face-to-face recruitment were asked to sign the consent form instead of continuing straight on to the survey. The consent form used in the online survey was also used in the paper-based version. As with the online version, the paper version also used the same debrief sheet and this was given to the participants upon completion of the survey.

Participants were primarily recruited via email. North-East London pharmacy advisors were recruited via an email link sent with the participation of the North East London Local Pharmaceutical Committee. Further data was collected via a snowball effect in which advisors forwarded the research links to colleagues. The participants were recruited from twenty London boroughs. A large proportion of participants - 82 (50.9%) - was recruited from the London Borough of Newham. Participants were also recruited via the research being promoted at a London Local Tobacco Control Network meeting, at which the link of the study was circulated.

Face-to-face recruitment techniques were also conducted via pharmacy and GP visits. During these visits, Stop Smoking Advisors were asked to take part and complete a paper version of the survey. Both the paper version of the survey's data and the online survey's data were collated and included in the analysis.

In order to have a randomised sample, participants were recruited from across London Stop Smoking services, from a range of Stop Smoking Advisor settings and professional backgrounds within primary care and community settings. In addition, to ensure that data collected was complete, Survey Monkey was programmed to not permit skipping questions. Should a participant not fully complete the survey, their data was not used. Each question required answering before participants could move on to the next question; therefore, only fully-completed surveys were included in the study. The survey did not collate any advisor-definable questions such as name, date of birth or place of work; thus the data received was non-identifiable.

Moreover, the survey did not permit any non-Stop Smoking Advisors to progress onto the questionnaire stage as all participants were screened to confirm that they were indeed Level Two-trained Stop Smoking Advisors. This screening took place

in the first question in the survey. Those who attempted to take part but were not Level Two-trained were unable to take part in the study and would have received a message thanking them for their time; however they did not meet the inclusion criteria of the study.

The study link directed participants to a Survey Monkey (an online service which hosted the survey) questionnaire which formulated the study, including: the FTND; the adapted FTND to suit smokeless tobacco (FTND-ST); the ATS-18; and the GAT. The variables measured included: advisor attitude towards smoking (quantified); tobacco use status (current and historic); tobacco dependence (current and historic); and advisor performance (measured by self-reported quit rate, being number of patients who accessed the service divided by number of patients who successfully stopped smoking). In order to control for potential extraneous variables that may affect advisor performance, factors such as estimated proportion of time spent providing Stop Smoking support, years spent delivering the service and occupation were measured. Furthermore, questions which control for the number of advisors per base and the level of further training were also included in the questionnaire.

#### **2.4. Reflection of ethics and anonymity**

It is important to note that although the survey responses were anonymised, participants could potentially be identified via the advisor demographic data collected. This was particularly so where data was collected with the researcher present. Furthermore, the researcher was acquainted with the participants from Newham as the researcher worked in Newham. This implied that the researcher could potentially identify participants. This could have impacted on the responses given by participants and therefore may potentially have influenced the results of the study. Where possible, participants were encouraged to complete the survey online instead of in person, therefore reducing the chances of identifiability. Nonetheless, as suggested by Lather (1995), when participants are anonymised, the researcher has more autonomy in the interpretation and reporting of results resulting in greater risk of false validity. In contrast, as suggested by McDonald, Kidney, and Patka (2012),

participants believe that their contribution to the research will be transparent in the results and are therefore in favour of identifiability and active participation. According to Parker (2004), there is no such thing as confidential research; therefore participants ultimately could still be identified despite any anonymity measures. In sum, this research attempted to anonymise participants as much as possible by offering online participation and not collating any identifiable data. In light of possible participant indefinability the implication of this should be considered when interpreting the study's results.

### **3. Results**

#### **3.1. Data analysis**

- I. Independent variables were analysed using descriptive statistical analyses using SPSS. This included: calculating the mean age; categorising advisor setting (GP, pharmacy and core service); categorising smoking status (current tobacco user historic tobacco user, tried tobacco and never been a tobacco user); and nicotine level of dependence (non-dependent, medium and high, applied to historic and present). In addition, based on tobacco-use questions, participants were categorised into tried tobacco and never-tried tobacco users. The following variables were grouped into ordinal data categories: NCSCCT training level; education level; number of advisors worked with; number of years practiced; number of years since training; and number of patients supported. The ATS-18 scale was categorised into three subscales measuring: attitudes towards the negative effects of smoking; attitudes towards the psychological effects of smoking; and attitudes towards the pleasure of smoking. The GATS scale was measured using mean total: a higher GATS score indicating a negative regard towards smoking, i.e., implying an anti-smoking stance.
- II. The key outcome variable of self-reported quit rate was grouped into 0-10%, 11-20%, 21-30%, 31-50%, 51-70%, and 71% or more.
- III. In order to identify the key predictor variables of self-reported quit rate, a univariate correlation analysis was conducted using a Pearson's correlation matrix. This was carried out to identify which predictor variables correlated

with the outcome variable of self-reported quit rate. The significantly-correlated identified variables were then further analysed using a regression modelling analysis.

- IV. Once the influential predictor variables were identified via correlation analysis, they were entered into a logistic regression model. An ordinal regression analysis was conducted as the categories of the outcome variables were ordinal.

### **3.2. Describing the independent variables**

- I. Participants' characteristics can be observed in Table 1. With regards to where Stop Smoking Advisors worked, 30.8% worked in a GP practice, 50.9% worked in a pharmacy and 18.2% worked as part of a core Stop Smoking service setting. Furthermore, Table 1 shows the diversity of participant ethnicity; this is representative of the population of London boroughs, in particular Newham (London Borough of Newham, 2014)

Table 1. Participant characteristics.

<b>Characteristics</b>	<b>Current tobacco user</b>		<b>Historic tobacco user</b>		<b>Tried tobacco</b>		<b>Never tried tobacco</b>		<b>Total sample</b>	
N	33 (20%)		41 (25%)		52 (32%)		33 (20%)		159	
<b>Age</b>	<b>Mean</b>	<b>(S.D.)</b>	<b>Mean</b>	<b>(S.D.)</b>	<b>Mean</b>	<b>(S.D.)</b>	<b>Mean</b>	<b>(S.D.)</b>	<b>Mean</b>	<b>(S.D.)</b>
	41.39	(12.40)	42.68	(12.13)	36.25	(11.37)	40.9	(11.72)	39.94	(12.04)
<b>N. of stop smokign advisors worked with</b>	2.67	(3.84)	4.46	(8.16)	1.23	(1.52)	2.82	(2.93)	3.61	(7.43)
<b>No. NCSCCT modules completed</b>	1.45	(1.44)	2.24	(1.95)	1.23	(1.52)	0.88	(1.11)	1.47	(1.62)
<b>Gender</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
Male	7	(21)	15	(37)	15	(28)	15	(45)	52	(32.7)
Female	26	(79)	26	(63)	37	(71)	18	(55)	107	(67.3)
<b>Number of years practiced</b>										
0-1 years	8	(24)	8	(20)	11	(21)	6	(18)	33	(20.75)
2-4 years	8	(24)	18	(44)	15	(29)	11	(33)	52	(32.7)
5-7 years	11	(33)	6	(15)	19	(37)	5	(15)	41	(25.79)
8 years or over	6	(18)	9	(22)	7	(13)	11	(33)	33	(20.75)
<b>Setting</b>										
GP	14	(42)	11	(27)	14	(27)	10	(30)	49	(30.82)

<b>Characteristics</b>	<b>Current tobacco user</b>	<b>Historic tobacco user</b>	<b>Tried tobacco</b>	<b>Never tried tobacco</b>	<b>Total sample</b>
Pharmacy	13 (39)	16 (39)	29 (56)	23 (70)	81 (50.94)
Core service	6 (18)	14 (34)	9 (17)	0 (0)	29 (18.24)
<b>Proportion of time delivering support</b>					
0-10%	8 (24)	11 (27)	13 (25)	14 (42)	46 (28.93)
11-20%	7 (21)	7 (17)	10 (19)	8 (24)	32 (20.13)
21-30%	3 (9)	6 (15)	15 (29)	5 (15)	29 (18.24)
31-50%	7 (21)	6 (15)	6 (12)	3 (9)	22 (13.84)
51-70%	2 (6)	3 (7)	3 (6)	2 (6)	10 (6.29)
over 71%	6 (18)	8 (20)	5 (10)	1 (3)	20 (12.58)
<b>No. Patients supported</b>					
0-10 patients	5 (15)	9 (22)	11 (21)	3 (9)	28 (17.61)
11-20 patients	11 (33)	8 (20)	12 (23)	11 (33)	42 (26.42)
21-50 patients	10 (30)	12 (29)	24 (46)	12 (36)	58 (36.48)
51-99 patients	5 (15)	6 (15)	6 (12)	2 (6)	19 (11.95)
over 100 patients	2 (6)	6 (15)	4 (8)	5 (15)	17 (10.69)
<b>Self-reported quit rate</b>					
0-10%	3 (9)	2 (5)	2 (4)	6 (18)	13 (8.18)

<b>Characteristics</b>	<b>Current tobacco user</b>	<b>Historic tobacco user</b>	<b>Tried tobacco</b>	<b>Never tried tobacco</b>	<b>Total sample</b>
11-20%	2 (6)	6 (15)	1 (2)	3 (9)	12 (7.55)
21-30%	3 (9)	5 (12)	9 (17)	5 (15)	22 (13.84)
31-50%	9 (27)	16 (39)	20 (38)	10 (30)	55 (34.59)
51-70%	12 (36)	12 (29)	19 (37)	6 (18)	49 (30.82)
over 71%	4 (12)	5 (12)	1 (2)	3 (9)	13 (8.18)
<b>Education level</b>					
Some secondary school or equivalent	5 (15)	2 (5)	4 (8)	1 (3)	12 (7.55)
Secondary school graduate or equivalent	5 (15)	2 (5)	2 (4)	2 (6)	11 (6.92)
Trade technical or vocational training	3 (9)	5 (12)	6 (12)	2 (6)	16 (10.06)
Collage graduate	2 (6)	6 (15)	5 (10)	4 (12)	17 (10.69)
University graduate	14 (42)	15 (37)	19 (37)	21 (64)	69 (43.4)
University post graduate	4 (12)	11 (27)	16 (31)	3 (9)	34 (21.38)
<b>Live with a smoker</b>					
Yes	9 (27)	8 (20)	4 (8)	3 (9)	24 (15.09)
No	24 (73)	33 (80)	48 (92)	30 (91)	135 (84.91)
<b>Ethnicity</b>					
Asian or Asian British	9 (27)	14 (34)	25 (48)	32 (97)	80 (50.31)

<b>Characteristics</b>	<b>Current tobacco user</b>	<b>Historic tobacco user</b>	<b>Tried tobacco</b>	<b>Never tried tobacco</b>	<b>Total sample</b>
Black or Black British African	6 (18)	2 (5)	4 (8)	0 (0)	12 (7.55)
Black or Black British Caribbean	6 (18)	4 (10)	1 (2)	1 (3)	12 (7.55)
Chinese	2 (6)	0 (0)	3 (6)	0 (0)	5 (3.14)
Mixed - White and Black African	0 (0)	1 (2)	1 (2)	0 (0)	2 (1.26)
Mixed - White and Black Caribbean	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Mixed - any other Mixed background	1 (3)	0 (0)	0 (0)	0 (0)	1 (0.63)
White British	4 (12)	13 (32)	11 (21)	0 (0)	28 (17.61)
Any other White background	4 (12)	6 (15)	4 (8)	0 (0)	14 (8.81)
Any other	0 (0)	1 (2)	0 (0)	0 (0)	1 (0.63)
Do not wish to state	1 (3)	0 (0)	2 (4)	0 (0)	3 (1.89)
<b>FTND score –Current</b>					
score 0 non user	0 (0)	41 (100)	52 (100)	33 (100)	126 (79.25)
score <3 light user	4 (12)	0 (0)	0 (0)	0 (0)	4 (2.52)
score 3-4 low dependence	14 (42)	0 (0)	0 (0)	0 (0)	14 (8.81)
score 5 medium dependence	10 (30)	0 (0)	0 (0)	0 (0)	10 (6.29)
score 6-7 high dependence	1 (3)	0 (0)	0 (0)	0 (0)	1 (0.63)
score 8-10 very high dependence	4 (12)	0 (0)	0 (0)	0 (0)	4 (2.52)
<b>FTND score -Historic</b>					
SCORE 0 non user	0 (0)	0 (0)	52 (100)	33 (100)	85 (53.46)
score <3 light user	2 (6)	2 (5)	0 (0)	0 (0)	4 (2.52)

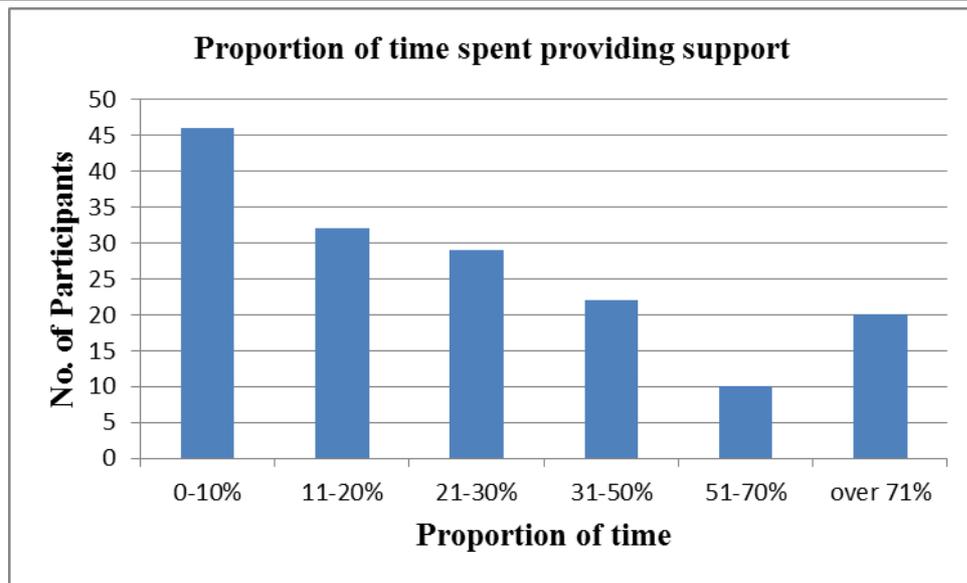
<b>Characteristics</b>	<b>Current tobacco user</b>	<b>Historic tobacco user</b>	<b>Tried tobacco</b>	<b>Never tried tobacco</b>	<b>Total sample</b>
score 3-4 low dependence	8 (24)	17 (41)	0 (0)	0 (0)	25 (15.72)
score 5 medium dependence	8 (24)	12 (29)	0 (0)	0 (0)	20 (12.58)
score 6-7 high dependence	3 (9)	7 (17)	0 (0)	0 (0)	10 (6.29)
score 8-10 very high dependence	12 (36)	3 (7)	0 (0)	0 (0)	15 (9.43)

II. Table 1 shows that a quarter of participants reported being historic tobacco users, a fifth had never tried tobacco, and a third reported that they had only ever tried tobacco once. This implies that three quarters of participants were currently non-tobacco users. In addition, as shown in Table 1, current FTND scoring showed that only 5 (3%) of participants scored high or very high FTND scores. Furthermore, 18 (11%) participants were classified as scoring as light user to low dependency. This implies that overall very small proportions of the sample were highly dependent tobacco users. With regards to historic FTND, as shown in Table 1, more than two thirds of participants were reported to be non-historic tobacco users and over two fifths had at some point been tobacco dependent with a medium to very high FTND score.

Table 1 also shows the number of additional completed NCSCT training modules reported to have been completed by participants. The range varied from 0-6 with a mean of 1.45 (SD 1.44). The result showed that 59 (37%) participants had not completed any additional modules, whilst six (3.7%) participants completing all six variables modules (NCSCT stage one training, stage two training, very brief advice training, second hand smoking training, pregnancy training and mental health training module). This indicates that very few participants had completed all modules; in addition the majority of participants had not completed any of the NCSCT modules.

Figure 3 shows the breakdown of the proportion of the time spent delivering Stop Smoking support. The majority (46; 28.9%) of participants reported that they spent just 0-10% of time during their job role providing smoking cessation support; whereas 10 (6.3%) participants reported that they spent 71% or more of their time providing stop smoking support.

Figure 3. Proportion of time spent providing stop smoking support.



In total, 28 (17.6%) of participants supported 0-10 patients, 41 (25.8%) supported 11-20 patients, 57 (35.9%) supported 21-50 patients, 18 (11.3%) supported 51-99 patients and 15 (9.4%) had supported 100 or more patients.

Table 2 shows attitudes towards smoking scores via the scoring of the ATS-18 and GATS results. The scoring represents the mean total scores; the higher the scoring, the higher the negative attitude. A high negative rating for the ATS-18 indicates negative perceptions expressed towards smoking with regards to its health impacts, the psychological impact and the general act of smoking. The GATS scale is measured as a mean total, the higher the GATS scoring the greater the negative regard towards smoking, implying an anti-smoking stance.

Table 2. ATS-18 and GATS scorings.

Scale	Sub-Scale	Mean	SD
ATS-18	Negative effects of smoking	4.37	0.70
	Psychological effects of smoking	2.28	0.82
	Pleasure of smoking	1.31	0.72
GATS	Total	7.80	1.33

### 3.3. Describing the outcome variable

The outcome variable of self-reported quit rate was measured in six ordinal categories. Table 3 demonstrates the self-reported quit rate categories used to measure advisors performance and the results obtained.

Table 3. Smoking advisor self-reported quit rate performance.

N. cases below quit rate group						N. cases at/above quit rate group	% cases at/above quit rate group	
	0-10%	11-20%	21-30%	31-50%	51-70%			71% or more
48					71%+		147	92.5%
54				51%+			99	62.3%
21			31%+				45	28.3%
11		21%+					24	15.1%
13		11%+					13	8.2%

Table 4 shows that the majority (34%) of the sample disclosed their self-reported quit rate to be within the range of 31-50%. This was followed by the 50-70% quit rate group (30%). Therefore, over 60% of participants rated their success rate to be 30% or higher. This is in line with the department of health guidance standards of achieving a quit rate of 35% or above and would indicate that although these were self-reported estimates of quit rates the results are in line with national data.

### 3.4. Investigatory analyses

In order to identify key predictors of reported quit rate, a univariate correlation analysis was conducted using SPSS. This was carried out to identify which predictor variables correlated with the outcome variable of self-reported quit rate to be included in further analyses. As the majority of the predictor variables were measured on an interval scale that was not normally distributed, a Spearman's correlation was conducted (Brace et al., 2012). Table 4 shows a correlation matrix including all the predictor variables.

Table 4. Spearman's correlation with Stop Smoking advisor effectiveness (n=159)

Predictor variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
1) Gender																				
2) Age	.03																			
3) ATS negative effects	-.17*	-.03																		
4) ATS psychological effects	-.00	0.11	-.23**																	
5) ATS pleasure of smoking	.00	0.06	-.19*	.24**																
6) Graduate	.20**	-.08	-.16*	.10	-.01															
7) GATS Mean score	-.20**	.00	.18*	-.01	-.21**	-.08														
8) NCSCT no. of modules	-.06	0	-.20*	0.12	0.04	.23**	-.12													
9) No. of stop smoking advisors	-.012	-.06	-.03	0.05	0.02	0.14	-.05	.23**												
10) Self-reported quit rate	-.002	-.01	0.03	0.04	-.02	-.02	-.02	-.03	.14											
11) Current tobacco user vs. historic	0.1	0.14	-.04	-.03	0.06	-.07	-.16*	.25**	0.14	.03										
12) Current tobacco user vs. tried	-.03	-.03	-.04	0.02	-.03	0.09	-.07	0.08	0.01	0.01	-.30**									
13) Current tobacco user vs never tried	-.01	0.05	0.11	-.05	-.18*	0.08	.21**	-.23**	-.17*	-.01	-.54**	-.43**								
14) Core service vs. pharmacy	.52**	-.11	-.07	-.08	-.04	0.15	-.07	-.30**	-.28**	.00	-.013	0.07	.12							
15) Core service vs.GP	-.41**	.21**	0.06	0.12	0.1	-.34**	.16*	-.011	-.03	-.02	-.06	-.014	.03	-.68**						
16) Live with a smoker	0.01	-.05	0	0.05	-.08	-.17*	-.04	-.01	0.01	-.05	0.03	-.09	-.06	0.06	-.02					
17) No. of pts. Supported per year	-.03	0.09	-.012	0.05	0	0.02	-.02	0.09	.28**	.19*	0.03	0.02	0	-.20**	0.15	-.03				
18) Proportion of spent supporting	-.015	-.03	0.04	-.01	0.1	-.012	0.06	0.08	.38**	.28**	0.16	.18	-.25**	-.23**	.10	-.11	.423**			
19) No. of years practiced	.20*	.49**	-.03	.08	-.03	0.01	-.03	-.03	0.11	0.08	-.01	0.02	0.03	0.12	-.01	-.01	0.12	.05		

Notes. \* Correlation is significant to 0.05 level \*\* Correlation is significant to 0.01 level (2-tailed)

As demonstrated in Table 4, only two of the predictor variables correlated with self-reported quit rate. The results of the correlation indicated a significant positive correlation between self-reported quit rate and proportion of time spent delivering smoking cessation support ( $r = .280$ ,  $N = 159$ ,  $p < .005$ , two-tailed). Furthermore, self-reported quit rate was also found to be significantly positively correlated with the number of patients supported ( $r = .194$ ,  $N = 159$ ,  $p < .005$ , two-tailed). This suggests that the greater proportion of time spent delivering stop smoking support and the greater the number of patients supported increase in the likelihood of success rate. Therefore the proportion of time spent delivering stop smoking support and number of patients may be significant factors in increasing advisors' quit rates. Service setting was not found to be significantly correlated with quit rate ( $r = .002$ ,  $N = 159$ ,  $p > 0.5$ ). Moreover, smoking status was not found to be significantly correlated with self-reported quit rate ( $r = -.098$ ,  $N = 159$ ,  $p = .984$ ); and neither was the number of NCSCT training modules completed ( $r = -.026$ ,  $N = 159$ ,  $p = .745$ ). In addition, the number of patients supported was found to be significant positively correlated with proportion of time spent delivering stop smoking support ( $r = .423$ ,  $N = 159$ ,  $p < .005$ , two-tailed). Likewise, core service setting when compared with pharmacy setting was found to be significantly negatively correlated with number of patients recruited ( $r = -.206$ ,  $N = 159$ ,  $p < .005$ , two-tailed). This suggests that pharmacy setting advisors recruit more patients in comparison to core service advisors. Interestingly, no other correlations with self-reported quit rate were observed, suggesting that level of training, number of years practiced as a Stop Smoking Advisor, gender and education level did not influence quit rate.

The correlation results suggested that proportion of time and the number of patients supported may significantly act as predictor variables in contributing to a successful quit rate. It was therefore concluded that in addition to proportion of time spent delivering smoking cessation support and number of patients supported, pharmacy setting and the sample that had never tried tobacco predictor variables would also be included in the ordinal regression model. However, in order to clarify to what extent the predictor variables influenced the outcome variable; a regression analysis was needed to further investigate this phenomenon.

### 3.5: Regression model formation

Although the outcome variable (self-reported quit rate) was continuous, it naturally lends itself to a multinomial scale and therefore could be classified as ordinal data. Correspondingly, the scale used was not dichotomous, and therefore could not be defined as binary. Perhaps the data could have been re-classified into binary outcomes - however it was decided that this could consequently reduce the power of analyses following the removal of the ordinal classification of data. The data was treated as ordinal, under the assumption that the levels of self-reported quit rate status had a natural ordering (low to high), but the distances between adjacent levels are unknown. This decision also gave meaning to each percentile tiered group required for a more accurate analysis. This turned the ordinal scale into a number of cut-off points, which could then be analysed using an ordinal regression. As stated by Brace, Kemp, and Snelgar (2012), if the ordinal data is treated as nominal data, it could give wrong p-values due to violation of the normality and equal variance assumptions. Furthermore, the data could not be classified as scale data, as it does not fully comply with the definition of scaled data (Brace et al., 2012). It was therefore decided that the outcome variable of self-reported quit rate would be treated as ordinal data. Hence, a nonstandard regression was required as opposed to standard multiple regression. A number of predictor variables were classed as ordinal data. These included group ranges of the predictor variable predictions (i.e. the explanatory variables that had a natural ordering): the proportion of time spent delivering the stop smoking service; the estimated number of patients supported; and how many years were spent training as a stop smoking advisor. The ordinal outcome was shown to meet the assumption of normal distribution required for the statistical analyses. Should these assumptions not have been met, this could have meant a method designed better suited for nominal, quantitative outcomes could have been used.

The outcome predictor was quit rate measured in percent which was recorded using an ordered ranking of quit rate ranges. In order to maintain statistical power and not lose information obtained by the rankings, the outcome variable was not dichotomised. It was treated as ordinal data, thus preserving its ordinal ranking

information. The regression assumptions relating to samples sizes were met using G Power analyse.

Prior to carrying out the regression analysis, the violation of basic assumptions were tested (i.e. sample size, normality, homoscedasticity absence of multicollinearity and outlier assumption). The regression assumptions were met. These assumptions included ensuring: sufficient numbers of cases of data were collected; the dependent variable was indeed ordinal and recognised as such; the assumption of multicollinearity; and proportional odds assumptions were met. The assumption of linearity for the ordinal outcome variable (self-reported quit rate percentiles) was verified and met. However, the majority of the predictor variances were binary and therefore did not apply to this assumption. The key assumption in ordinal regression is that the effects of any explanatory variables are consistent or proportional across each ordinal categorical level. In this case the assumption would imply that each self-reported percentile group would consist of proportional scores across each group. This assumption was tested as part of the statistical analyses: ordinal regression in the test for parallel lines. Should the test for parallel lines have been shown to be significant, it would have implied that the explanatory variables have the same effect on the odds, regardless of the threshold, thus violating the assumption of proportional odds. In addition, prior to the data analysis and the process of categorising, the type of data for each predictor variable was classified and the nominal variables were identified. Nominal data included gender, graduate vs. non graduate, current tobacco use (historic, current, tried, or never tried), living with a smoker and service setting (GP, Pharmacy or core team service). When carrying out the ordinal regression, dummy coding was used in order to compare nominal data with two or more levels. The dummy variables were used to create reference categories to compare nominal variables. In addition, the data was screened for outliers and missing data via the use of cumulative frequency analyses, no outliers were identified. Conversely, two participants responded “no” to the question of being a current Stop Smoking Advisor, resulting in their data being removed and not being included in the analyses.

The SPSS Ordinal Regression procedure is an extension of the general linear model to ordinal categorical data (Brace et al., 2012). This regression model was chosen as

the outcome variable; self-reported quit rate was not dichotomous and therefore was split into ordinal participant groups, and therefore suited an ordinal pattern. The binary logistic model was considered. Yet, it was concluded that this would result in loss of data, as binary data would merge percentile group, resulting in unevenly distributed of data.

An ordinal logistic regression model was chosen to analyse the relationship between self-reported quit rate and identified predictor variables. The proportional odds assumption was checked to ensure that the model was appropriate. These assumptions included sample size adequacy. As this study included a large number of predictor variables, it was therefore important to have a large number of participants to validate each predictor variable. According to Brace et al., (2012), normal distributions for all numeric predictor variables associations are to be reported as odds ratios (OR) with 95% confidence intervals (CI).

A main effect ordinal regression analysis was carried out using a PLUM (Polytomous Universal Model) to determine the impact of the predictor variables on the outcome variable. The PLUM model has been supported by McCullagh (1980): it has been found to be effective as it produces a single regression coefficient estimate of the covariates of each outcome variable response category and therefore can easily be interpreted when addressing the association between variables responses. The predictor variables included in the ordinal model were shown to be significant in the preliminary Spearman correlation analyses. These included the following: number of patients supported in a given year; proportion of time spent delivering stop smoking support; number of NCSCT training modules completed; mean ATS scoring for pleasure of smoking; mean ATS scoring for the negative effects of smoking; mean ATS scoring for the psychological effects of smoking; GATS mean scoring; current smoking status vs. never tried smoking; pharmacy setting vs. core team service setting. In order to justify the analysis outcome an ordinal model justifying the significance of the predictor variables was required.

Prior to looking at the effects of each explanatory variable in ordinal model, it was necessary to determine whether the model improved the ability to predict the outcome. This was done by comparing the model without any explanatory

variables. Following this, each predictor variable was added one at a time, in order to identify the most effective model. The predictor variables included in the ordinal model consisted of the variables that were shown to be significant in the Spearman correlation analysis. Table 5 shows the ordinal model's main components and odds ratio.

Table 5. Ordinal Logistic Regression Model with significantly correlated predictor variables.

<b>Predictor Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>Wald</b>	<b>p value</b>	<b>Odds Ratio</b>
No. of patients supported	0.22	0.14	2.4	0.12	0.11
Proportion of time	0.28	0.10	7.4	0.01	0.06

Notes. Assuming other independent variables are constant.

As shown in Table 5, the number of patients supported and the proportion of time spent delivering stop smoking support influenced self-reported quit rate; however, in the parameter estimates of the main model analysis, it was found that proportion of time spent delivering stop smoking support was the one significant variable that positively impacted on self-reported quit rate. The main ordinal models' chi-square statistic was significant ( $p < .0005$ ), indicating that the final model gives a significant improvement over the baseline intercept-only model. This further suggests that the model gives better predictions compared to the null hypothesis. It can therefore be suggested that self-reported quit rate is influenced by the predictor variables, and the experimental hypothesis has been supported. The goodness-of-fit of the model was also addressed using a pseudo,  $R^2$  (the coefficient of determination). This was used to summarise the proportion of variance in the outcome that can be accounted for by the predictor variables. The pseudo  $R^2$  was shown to contribute for 12% of the variance (e.g., Nagelkerke = 0.120). The test for parallel lines was also carried out. This was shown to be non-significant ( $p > 0.05$ ). Parameter estimates were also used to reinforce suitability of the ordinal regression model. An increase in

proportion of time spent delivering smoking cessation support (expressed in percent) was associated with an increase in the odds of a high self-reported quit rate, with an odds ratio of 1.32 (95% CI, 0.78 to 0.48), Wald  $\chi^2(1) = 45.816$ ,  $p < 0.05$ .

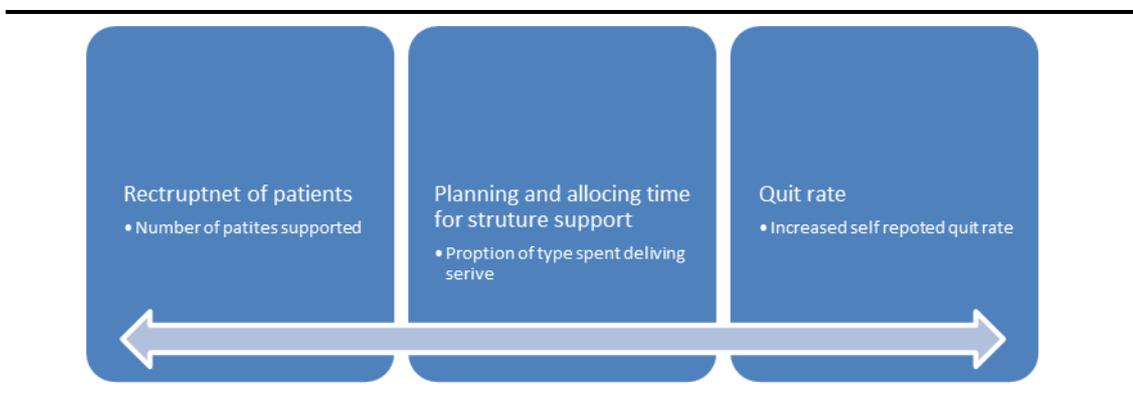
Further regression analyses were carried out to identify other factors that could influence self-reported quit rate. Smokers who had only tried tobacco were more likely to score higher on quit rate in comparison to current tobacco users (OR=1.33). Those who had never tried tobacco reported higher self-reported quit rates. As data on setting type was collected in the survey, it was possible to compare the difference in self-reported success rate of each setting (core service, GP and pharmacy setting support). Pharmacy setting advisors were more likely to score high quit rates (OR=0.69) in comparison to core stop smoking advisors (OR=2.43) and GP setting advisors (OR=2.43). On further analysis however, this difference did not prove to be significant.

## 4. Discussion

### 4.1. Summary of results

The results showed that proportion of time spent delivering smoking cessation support can positively impact self-reported quit rate. In addition although number of patients supported is positively correlated with self-reported quit rate, it has not been shown to significantly influence self-reported quit rate using the regression model. The results also showed that smoking status, number of years practiced, number of NCSCT training modules completed, attitudes and beliefs about tobacco use, and smoking status (current or historic) did not have an impact on Stop Smoking Advisor self-reported performance. However, the proportion of time spent delivering smoking cessation support was shown to positively predict quit rates, suggesting that more time spent delivering Stop Smoking support the increased likelihood of success. The number of patients supported was also shown to possibly have an impact on proportion of time spent delivering Stop Smoking support. It should therefore be acknowledged that the number of patients supported, and the time spent delivering Stop Smoking support, may both play a role in predicting self-reported quit rate. Although it should be noted, proportion of time spent delivering Stop Smoking support was the only variable to significantly account for the variance. Figure 4 shows how the summary of the results can be interpreted. It suggests that self-reported success rate is on a continuum with number of patients recruited, and proportion of time spent delivering Stop Smoking support.

Figure 4. Quit rate continuum model.



Whilst it is vital to not underestimate the importance of the patient-advisor relationship, this research suggests that non-tobacco users and tobacco users are equally as likely to rate themselves as having high quit rates. Furthermore, smoking history does not appear to have an impact on attitudes towards smoking. Ex-smokers rated smoking as negatively as non-smokers. In addition, FTND and FTN-ST scaling did not appear to have an impact on attitudes towards smoking, as no correlation was observed. However the proportion of the samples that reported being current tobacco users was small and therefore it is difficult to significantly decipher the impact of being a current smoker on attitudes and beliefs towards smoking. It was also important to note that the sample size met the effect size preliminary criteria and therefore did meet the power analysis requirements. However the sample was restrictively small and a larger sample size could have resulted in increased the replicability of this research. Therefore, sample size could potentially have been a limitation in this study. Had the sample been larger, it may have created a wider variety in the data, highlighting potential variances between smokers, non-smokers and non-smokers, and perhaps further observations could have been detected.

Upon reflection many of the advisors recruited as participants may not have been fluent in English. This became apparent when recruiting participants via face-to-face visits. This factor may have acted as a barrier when participants were completing the online database. Perhaps the language used in the survey may have required further piloting prior to being sampled, in order to assess if it met the required level of understanding for participants whose first language was not English. It is important to highlight the potential constraints of this study's design, for example using self-reporting estimated methods and self-reporting methods of activity and performance was used; self-reporting was also used to measure current and/or previous tobacco usage. This may not have been a true reflection of advisor activity it was based on estimated and self-reported figures. Perhaps other methods could have been used to assess and record tobacco users, such as the use of carbon monoxide monitors to determine whether tobacco was used. However, this could have reduced the probability of participant recruitment, as it may have been perceived as an inconvenience or even a personal invasion of privacy, as smoking status could be assumed without consent.

The sample size, although relatively representative of the diverse population of London, has its limitations, as the majority of participants were from one borough, thus reducing variability in the sample. It is also important to note that advisors may have felt self-conscious in disclosing their current or even historic smoking status; this may have explained the exceptionally low numbers of tobacco users in the sample, despite the anonymity reinforced whilst completing the survey. It is also important to note that the FTND scoring for the current tobacco users was exceptionally low; suggesting that the sample consisted of only light smokers, thus reducing the variability in range of tobacco users recruited potentially limiting the sample's generality.

The majority of the sample (51%) came from London borough of Newham. It may be that quit rates could potentially differ in this sample group in comparison to other London borough Stop Smoking services. This may be due to Newham being one of the most deprived boroughs in London, and it has been suggested that smokers from lower socioeconomic backgrounds are less likely to successfully quit smoking than smokers from higher socioeconomic backgrounds (Hiscock & Bauld, 2011). Therefore, having a more varied sample which included more affluent boroughs may have made this study more representative and statistically viable.

It was acknowledged that the prevalence of smoking within the sample of stop smoking advisors was below the general smoking prevalence of 20% (ONS, 2013). Only 7% of the participants stated being current tobacco users, this implied that stop smoking advisors are less likely to be smokers when compared to national average of 20% (ONS, 2013). Therefore, this research reinforced previous research, which showed that health care professionals are less likely to be tobacco users (Adriaanse et al., 1991; Nagle et al., 1999).

#### **4.2. Consideration of findings in relation to previous literature**

The results of this study are supportive of previous literature, which suggests time spent delivering smoking cessation support is the most significant factor in predicting success rate (Johnson, Budz, Mackay, and Miller, 1999). Although it is important to note that the results of this study are limited, as the sample used was primarily restricted to NHS Stop Smoking advisors located in east London. The

results may therefore not be nationally representative. In addition, the measure used to assess smoking cessation advisors' effectiveness was self-reported and measured against the national average, for a primary care service of 35% (DoH, 2012) or more, as the majority of advisors rating them at this rate or above this suggests that they classify themselves as an effective service. However, the data collected was based on self-reported outcomes and therefore may not be as reliable as if the researcher had collected the data from service commissioners.

The findings from this study did however reinforce the results from previous research of smoking cessation advisors; for example, Moxham, Dwyer, and Reid-Searl (2013) argued that further training did not have an impact on practice nurses' amplitude at introducing the topic of smoking cessation with their patients. Although Moxham et al. (2013) did not sample NHS-trained Stop Smoking advisors, they did identify differences between nurses who reported being smokers in comparison to the nurses who were non-smokers. The nurses who reported being smokers differed in their attitudes towards smoking when compared with nurses who were non-smokers. Moreover, nurses who smoked were more likely to score in favour of smokers' rights, and this in turn did influence their actions when it came to assisting patients to cease their tobacco use. In addition, the age of the nurse was also shown to influence their effectiveness in assessing patient smoking status and reinforcement of a quit attempt. Therefore, Moxham et al. (2013) found that smoking status and age can have an impact on a healthcare professional's ability to influence their patients into stopping smoking. This contradicts the findings of this study which found age and smoking status to have no consequence on smoking cessation performance. In contrast however, the results from this research reinforced previous literature results, which imply smoking status does not affect smoking cessation advisor success rate (Lindson-Hawley et al., 2013). Furthermore, as Lindon-Hawley et al.'s (2013) research did consist of NHS Stop Smoking advisors, it can be assumed that its results are comparable with this study, and that smoking status does not influence success rates of NHS Stop Smoking advisors. However, this assumption is limited to NHS Stop Smoking advisors, and therefore cannot be applied to non-NHS trained smoking cessation advisor healthcare professionals.

Furthermore in contrast to the findings of this study, Harvey, Sumerbell, Kirk, and Hill (2002) argued that healthcare professionals have been found to be influenced by their attitudes towards health behaviours; and this, in turn, may influence patient outcomes. Harvey et al. (2002) found that dieticians rated obese people more negatively than overweight people, and believed, to an extent, that obese patients were responsible for their own condition. Although the behaviour of smoking differs from that of excessive eating and weight gain, smoking can be compared to obesity as it is the result of lifestyle behaviour. Both behaviours require self-change and change maintenance (Polivy & Herman, 2002). Furthermore, both the habit of overeating and that of smoking require willpower and resolve to overcome and have been applied to the attribution theory (Glanz, Daltroy, Lewis, & Rimer, 1990). The attribution theory implies that behaviour can be attributed as consequence to environmental and emotional factors (Glanz et al., 1990). This implies that these behaviours share similarities in causation and maintenance. Therefore healthcare professionals may view the two behaviours in a similar manner and may view heavier smokers in a more negative regard compared to lighter smokers.

Additionally, recent research by Dogar and Siddiqi (2013) has promoted the effectiveness of pharmacotherapy, such as the use of a combination of nicotine replacement therapy, bupropion and Varenicline to be used alongside behavioural support in supporting heavily dependent smokers in stopping smoking. As smoking cessation services vary in length of treatment programme and medication availability these factors may contribute to confounding variability when measuring Stop Smoking advisors' performance. It may be important to address this in future studies, as the inability to practice using certain treatments can have an impact on quit rate. Furthermore, it is important to note that smoking cessation services are generally only accessed by approximately 8% of the smoking population (West, May, West, Croghan, & McEwen, 2013). Therefore, it is only a small proportion of smokers who access the stop smoking service; hence the model developed in this study may not be suited to all tobacco users but may only be used to explain the contributing factors effecting success rates in smokers who access NHS support.

The method used in this study incorporated a varied recruitment techniques including online surveying (via Survey Monkey), and face-to face-treatment during

advisors' gatherings and trainings; the snowball effect was used for recruitment. This was made possible as some smoking cessation services shared services and advisors, hence producing a greater opportunity for enhanced participant recruitment and variability as participants could complete the survey remotely. The survey used was also very effective at collecting data on advisor performance without requesting participant identifiable information. The data was completed anonymously, thus increasing the likelihood of honest tobacco use data collection. The survey was also able to collect data on a number of potential predictor variables including attitudes and beliefs towards smoking, various tobacco use history, level of dependence and number of additional training modules completed, alongside demographic characteristics such as age, gender and location of service providing. This permitted for a range of predictor variables to be analysed and their impact to be monitored.

One of the strengths of the study is that it is one of the first studies to investigate such a phenomenon (Lindson-Hawley et al., 2013). It is also one of the first studies to assess the impact of NCSCT training. Therefore, its results could help to support the future trainings and recruitment of Stop Smoking advisors. Previous literature that has investigated self-reported quit and level of training in smoking cessation advisors did not include NCSCT training (McDermott, West, Brose, & McEwen, 2012). McDermott et al.'s (2012) study did however find that the number of hours spent training was positively correlated with an increased self-reported quit rate. In addition, core team stop smoking was also reported have higher self-reported quit rates in comparison to GP-based advisors. This would indicate that local training possibly impacts self-reported quit rate; it would also suggest that the closer supervision and mentoring that is often attributed to core team advisor specialists' produces greater quit rates when compared with GP-based advisors (McDermott et al., 2012). The results of this study conflict with McDermott et al.'s (2012) findings, as this study found no significant difference in self-reported quit rate across advisor setting; the findings from this study also found no increase in self-reported quit rate in groups where additional training was undertaken.

### 4.3. Implications for theoretical framework

The theoretical framework underpinning this research was centred on previous empirical evidence which suggested that positive patient outcomes are based on holistic, patient-centred care and illness cognition theories such as the self-regulatory model of illness (Hall et al., 2004). The results of this study did, to an extent, support the theoretical framework developed to formulate the study's hypothesis. Empirical evidence suggested that patient outcome can be influenced by healthcare professional health beliefs and effective healthcare professional-to-patient communication (Jagosh et al., 2011; Kabe et al., 2007). Furthermore, Ferguson et al. (2003) suggest that healthcare professionals' profile characteristics can influence healthcare professionals' beliefs and in turn influence patient outcomes. The results did not support the finding of Ferguson et al. (2003). Instead the study's results supported the concept suggested by Moxham et al. (2013), that the resource of time was the sole key influential predictor of patient outcome in smoking cessation. Interestingly, the results showed that proportion of time spent delivering smoking cessation support can influence patient outcome above all other factors measured. The results imply that time spent with patients can positively influence patient to healthcare professional communication. This has been further supported by González et al. (2009), Gould (2013) and Ong et al. (1995), who suggest that patient-centred care and tailored support is achieved by spending sufficient amounts of time with patients. Furthermore, the results reinforce the Department of Health (DoH, 2012) and National Institute of Clinical Excellence (NICE, 2013) guidance, which promote the need for tailored smoking cessation support requiring sufficient time to be spent with patients. According to NICE guidance (2013) the first session of support requires a minimum of a thirty-minute consultation, and a minimum of six weekly support sessions are recommended, in order to effectively diagnose and interpret tobacco usage, develop a tailored support programme and assess patients' needs. The results of this study imply that an effective therapeutic relationship between smoker and smoking cessation advisor can be achieved when sufficient time is devoted to supporting patients. Therefore, the importance of this should be reinforced in future advisor staff selection, training and service guidance.

According to Robinson and Bugler (2010), over 80% of smokers commenced the habit prior to the age of twenty. It is therefore very important to discourage young people from taking up this lifelong habit, which can prematurely kill one in two of its users (WHO, 2014). Smoking formalises a lifelong behaviour, however, should a smoker stop smoking at the age of 50 years, research has been shown that this could halve the risk of premature mortality and suffering from smoking related illness, which can seriously affect the quality of life, whilst smoking cessation at age 30 has been shown to almost entirely avoid the risk of suffering any long term smoking related illness (Peto et al., 2004). Therefore, research into the effectiveness of smoking cessation and smoking prevention is a highly important and topical public health issue. It should thus be acknowledged that smoking cessation and smoking prevention are two significant strands of tobacco control that require equal levels of attention. In addition, there is a school of thought which suggests that incorporating other behaviour change support programmes with smoking cessation can increase smoking cessation advisor effectiveness. This could include counselling for weight gain post quitting (Bush et al., 2008). Perhaps this is an area that could be investigated using similar research methods. In addition, Hiscock et al. (2011) also found that factors such as gender, age and ethnicity appear to have an influence on outcomes of patients accessing smoking cessation services. It could therefore be suggested that a patient group could also influence advisors' success rates. Furthermore, prevalence rates have been shown to vary across boroughs (West et al., 2013).

Whilst the NHS stop smoking service measures successes at the four week treatment mark, it is important to note that abstinence at four weeks does not necessarily equate to lifelong abstinence. It has been suggested that only 15% of patients who have been classed as having stopped smoking at the four week mark will continue to be abstinent at the one year mark (Hiscock et al., 2011). Alongside the NHS Stop Smoking service, a national No Smoking Day was developed and funded by British Heart Foundation and takes place every March and was introduced over thirty years ago (Kotzl, Stapleton, Owen, & West, 2010). This day is promoted locally by smoking cessation services and is a promotion opportunity (Kotzl et al., 2010). In addition, Stoptober is another national stop smoking campaign, launched in 2012 (Brown, Michie, Stapleton, Walmsley, & West, 2014).

Evidence suggests that both of these public health awareness campaigns have been shown to be effective in increasing service uptake and abstinence rates (Brown et al., 2014; Kotz et al., 2010; Owen & Youdan, 2006). It is important to note that, following the changes in how the service is commissioned, Stop Smoking services are no longer required to submit quarterly data returns to the DoH. Rather than being mandatory, it is only recommended that local services continue to provide service data in this way (DoH, 2012) and is therefore up to the discretion of Local Authority service commissioners' whether or not to submit data. Without local services forwarding service performance data to the DoH, the efficacy of the service may not be monitored. Moreover, the service efficacy will become undeterminable. The implications of this indicate that exploring the variances between services efficacy may not be possible.

The results emerging from this study suggest that increased training does not correlate with an increase in self-reported quit rate. However, despite this study showing no direct impact from addition of smoking cessation advisors' training on self-reported quit rate, it is important to note that evidence suggests that the most effective way to stop is with the support of an evidence-based smoking cessation service, which provides individual or group behavioural support along with pharmacotherapy which involves training healthcare professionals (DoH 2012).

It is important for all healthcare providers to be aware of the most effective treatments and to implement them whenever and wherever possible. It is therefore important to offer appropriate training to all front-line healthcare professionals on how to provide clinically effective smoking cessation support. Likewise, should front-line healthcare professionals not be able to provide tailored smoking cessation support, providing Very Brief Advice (resulting in referrals to smoking cessation specialist services) is also considered to be highly effective in increasing the likelihood of patients stopping smoking (DoH, 2012).

Another potential influencing factor that may have predicted quit rate is practitioner affect. Practitioner affect may override tobacco use status when it comes to providing effective smoking cessation support. As stated by Lewis et al. (2010), practitioner affect may go some way towards explaining differences between therapists' success rates. According to Lewis et al., (2010), practitioner affect is

larger in treatments involving greater psychosocial emphasis. This has implications for stop smoking support as the service relies on behavioural foundations and therefore may require further investigation.

Everson-Hock, Taylor, Ussher, and Faulkner (2010) carried out a qualitative study into the impact of multiple health behaviour change interventions. The objective focused on investigating the views of smoking cessation advisors, by incorporating a healthy eating behaviour within a smoking cessation programme and measuring the impact of implementing such interventions within a smoking cessation programme. The study found that healthy eating behaviour interventions acted as an aid to increasing quit rates in smoking cessation advisors. Therefore, perhaps this study could have included the views of other lifestyle behaviour change interventions, such as healthy eating.

With regards to service commissioning and funding, it has however been suggested that during the last year there has been a decrease by up to 11% in the number of people accessing the Stop Smoking service (The Health and Social Care Information Centre, 2013). Therefore, there may be an underlying issue with recruitment of patients and perhaps further research addressing the VBA model of training is required. This may therefore affect allocated funding towards Stop Smoking services. The level of local funding attributed to such campaigns within each service may have been a contributing factor in service efficacy. Perhaps this is a factor that could have been analysed in this study. Research suggests that national campaigns are effective at increasing quit rates (Brown et al., 2014); therefore, it could be argued that they are a predicting factor in service efficacy. Thus, future research analysing smoking cessation service effectiveness may wish to address this factor (Owen et al., 2006). Perhaps funding allocated to stop smoking campaigns and services in general may be a contributing factor in explaining service success rates as some services are more likely to allocate additional funds to such campaigns in comparison to other services.

Alternatively there may be other factors attributed to the decrease in service uptake such as discrepancies in the way smoking cessation services are and have been treating patients wishing to use e-cigarettes as a smoking cessation aid, thus affecting service accessibility. For example - as suggested by Beard, Brose, Brown,

and West (2014) - some services may be excluding such patients and/or advisors may not have clear information from commissioners as to whether to recruit such patients onto the programme. This may be excluding a large proportion of smokers at it is estimated that there are over two million electronic cigarettes users in the UK alone. Although the literature on e-cigarette efficacy and long term use as a cessation aid is still unclear, preliminary research suggests that electronic cigarettes are effective as a cessation aid (Polosa et al., 2011). However, it is important to note that despite potentially having a substantive role in the smoking cessation field, electronic cigarettes are fairly new, and the long-term implications of their use are still unknown. Regardless of the uncertainty on their long-term use outcomes, electronic cigarette users may switch to use them indefinitely in order avoid smoking, potentially perceiving the electronic cigarette serve as a harm-reduction technique. In fact, a very recent study has suggested that the use of electronic cigarettes can increase success rates, in comparison to using licenced nicotine replacement medications (Brown, Kotz, Michie, & West, 2014; Bullen et al., 2013). This could potentially alter the way in which smoking cessation services are delivered, as many smokers may wish to disregard the traditional service and opt to switch their habit with a cigarette alternative. It is also important to note that the field of smoking cessation is currently going through significant changes due to the future inclusion and licensing of electronic cigarettes (Dockrell, Morison, Bauld, & McNeill, 2013). Perhaps their usage may play a vital role in increasing service quit rates as suggested by Siegel, Tanwar, and Wood (2011). Arguably the MHRA however, have yet to approve electronic cigarettes and therefore they do not currently form part of the NHS Stop Smoking service. It is recognised that whilst data was being collected for this study, a number of smoking cessation services may have been supporting electronic cigarette users. This data however was not recorded. It is therefore unclear which smoking cessation service provided support for electronic cigarette users and which did not. Therefore the result of this study cannot be applied to electronic cigarette usage within the NHS Stop Smoking service. Perhaps further research to investigate electric cigarette usage alongside behavioural smoking cessation support is required, in order to identify the extent to which electronic cigarettes' usage can influence smoking cessation success rates.

In support of this study's results, Anthony, Chowdary, Dyson, and Thankappan (2013) found that smoking behaviour is not explained by attitude or knowledge. However, Anthony et al. (2013) did find that cultural factors such as ethnicity and religion were important in determining the risk of smoking. It is difficult to say if these findings were replicable in this study as ethnicity was not shown to correlate with current or historic smoking status.

However it is important to note that the sample of reported smokers was extremely low and therefore not deductive. However, in contrast to the result of this study, other research has found that additional online training can increase skills in promoting smoking cessation amongst healthcare professionals, although it is important to note this research did not include smoking cessation advisors (Shishani, Stevens, Dotson, & Riebe, 2013). According to Shishani et al. (2013), following completion of an online smoking cessation training module, student nurses showed an increase in self-rated levels of smoking cessation skills in advising, assessing, assisting, and arranging compared to the baseline ( $p=0.00$ ). This suggests that additional online training could increase clinical skills and self-reported self-efficacy in delivering smoking cessation interventions amongst healthcare professionals. Previous research by Sheffer, Barone, and Anders (2009) also support the benefits of increased training in smoking cessation effectiveness. Sheffer et al. (2009) also suggested that attitudes towards smoking cessation treatments become more favourable with as little as one hour training, thus increasing the chances of treatment or referrals being offered to patients. This theory has also been reinforced within UK GP settings (Ulbricht et al., 2006).

Health care professionals often view themselves as role models for healthy lifestyle behaviour choices (La-Torre et al., 2012). It is therefore unlikely that they would admit to being smokers - hence the level of tobacco users among the smoking cessation advisors recruited in this study may be higher than reported. There may be an interpersonal struggle for smoking cessation advisors to identify themselves as non-tobacco users even though they may use tobacco on a regular or irregular basis. This may have masked any significant effect of smoking status on attitudes towards smoking or self-reported quit rates.

Whilst variety in smoking rates has been shown to extend within various population groups, i.e., those from lower socioeconomic backgrounds, there is also evidence to suggest wide socioeconomic variations in the delivery and/or uptake of smoking cessation interventions in UK primary care (Douglas & Szatkowski, 2013).

Douglas and Szatkowski (2013) found that groups with particularly low socioeconomic levels had lower intervention rates. As this study was primarily conducted within London boroughs with higher rates of deprivation, it could be argued that the results are not representative of other more affluent London boroughs which may have an increased number of interventions.

Although according to NICE (2013) guidance, all forms of smoking cessation medication aids should be available as first-line treatments - and although NRT is widely available via prescription or via over the counter sales - Varenicline (Champix) is not always available as a first-line treatment and its availability can vary from borough to borough. Champix has been shown to be highly effective as a smoking cessation aid and can dramatically increase cessation rates when compared with single-use NRT (Andreas et al., 2012). However, a large proportion of boroughs permit smoking cessation-trained pharmacists to prescribe Champix under a patient group directive, whilst other boroughs enlist the cooperation of GPs to prescribe Champix as part of the surgery's Stop Smoking service or a specialist service within the community, with varying degrees of success. Research suggests that their major variation in the level of support in supporting patients wishing to use Champix, which applies to both GP and pharmacy smoking cessation advisors (Frandsen & Ferguson, 2013). This suggests that further training may be required in supporting practitioners to increase the quality of support offered. Furthermore, standardising the NHS Stop Smoking service with length of training, medication options and length of treatments offered across the UK is almost impossible as services vary immeasurably. Also, it is difficult to compare the success rates of boroughs with other boroughs

According to Anczak and Nogler (2010), routine interventions by healthcare professionals assessing smoking status and motivation to change behaviour are important. However this must be done using a systematic approach that is advocated by all healthcare professionals. It is therefore vital to identify factors that

contribute to raising the issue of smoking and effectiveness when identifying and/or supporting patients in stopping smoking. This study has gone some way to helping identify the key factors involved in delivering effective smoking cessation self-reported outcomes. However further research still remains necessary for identifying other factors that may have not been considered.

There is no doubt that the NHS Stop Smoking services provide a beneficial service, positively reduce premature mortality and health inequalities, and reduce financial inequalities (West et al., 2013) since tobacco use is the foremost cost in the UK of health and socioeconomic inequality. Both pharmacy and primary care services have been shown to result in similar levels of self-reported success rates and overall have impacted on reducing smoking prevalence (Milne, 2005). This study has reinforced the effectiveness of the NHS Stop Smoking service and showed that there was no significant difference in self-reported quit rate between pharmacies, GP or core team smoking cessation service.

This research supported previous findings in highlighting the need for smoking cessation advisors to follow NICE guidance when providing interventions (Puffer & Rashidian, 2004). Moreover, it is important to also note the advances in the field of smoking cessation over the years, not only with the improvements in medications, but also with the imminent, although controversial, introduction of electronic devices as well as the non-face-to-face support afforded by technological advances. These changes may impact on recruitment and success rates. However, as concluded in this study it is important to identify future advances in providing a more cost- and time-effective service. Wu et al. (2013) have recently carried out a study on how to introduce computer-based smoking cessation support within a primary care setting. It was found that this proved to be more cost-effective than face-to-face support. In addition to reducing health inequalities, the service had also been shown to increase Quality-Adjusted Life Years (QALYs) - thus not only reducing life years lost to smoking but also *quality* of life years lost. It is, however, important to note that the results of the Wu et al. (2013) study were based on a limited sample and the QALYs reported were based on estimates. Furthermore, the online support proved to be more effective than self-help interventions but it was not as effective as face-to-face structured behavioural support programmes. It is

therefore still unclear if such programmes could ever replace the current structured NHS support programmes.

In contrast recent literature has reinforced the need for primary care smoking cessation services to apply care training programmes on smoking cessation based on scientific evidence, behavioural theory, and active learning methods, which result in increased service efficacy and long-term success (Olano-Espinosa et al., 2013). Therefore this model reinforced the need to retain the current service structure which consists of specialist smoking cessation roles. However, this also suggests that core team specialists' roles are not as pivotal as originally thought. A designated health care professional from any setting working as a stop smoking champion can provide an effective service providing an adequate amount of time is dedicated to supporting patients.

Whilst the NHS Stop Smoking service helps on average half of its patients to quit for four weeks most of the initial success is lost as the vast majority of quitters relapse within six months. This suggests that, despite the high success rate being achieved by Stop smoking advisors, the accomplishments are short-lived, and further work may be required to increase long-term success rates. One such study found that SMS messages were found to be effective in prodding on-going support to patients accessing a smoking cessation service and reducing relapse rate. Despite this, many stop smoking service are unable to provide such support due to time and financial restraints. It is therefore unlikely that Stop Smoking services would be able to provide on-going relapse prevention techniques. It could thus be assumed that the results of this study are applicable to the four week mark.

Furthermore, it is hoped that if factors such as training level, smoking status, smoking history and attitudes towards smoking are measured as predictor variables they can be applied to predict the measured outcome variable of quit rate. Gaining an insight into the formula of what makes for an effective smoking cessation advisor could help with future selection of these advisors as well as training requirements. For example, should smoking status and history be considered in the recruitment of future advisors - or should smoking status and history be addressed in Level Two Stop Smoking advisor standard trainings. The questions this study attempted to answer included identifying if ex-smokers make better smoking

cessation advisors than advisors who have never smoked. Furthermore, if additional training does prove to be a significant factor in predicting success, perhaps the NCSCT modules should be made mandatory. It is hoped that this study will help in answering questions relating to why variations in advisor performance exist.

#### **4.4. Conclusions**

Smoking remains the primary cause of premature ill health and death; it is often referred to as a global epidemic (WHO, 2013). Thus, there is a present and constant need for continuous support of smoking cessation interventions, either via smoking cessation programmes to help those who wish to cease their tobacco use and therefore further reduce smoking prevalence, or via tobacco control initiatives. These could include public health campaigns promoting behaviour change as well as reinforcement of the Smokefree Legislation - particularly in health setting such as hospitals.

In early 2012, the 2013-2016 Public Health Outcomes Framework was released (DoH, 2013). It reinforced the quality of the tobacco control plan outcomes. The framework focused on two high-level outcomes. The framework included increasing healthy life expectancy. Moreover, this could be achieved through the increase of smoking cessation rates and tobacco uptake prevention. The framework also included reducing inequalities in life expectancy. The framework highlights that smoking remains positively correlated with socioeconomic deprivation levels and the importance of reducing smoking prevalence in order to reduce the divide between the rich and the poor.

In addition to the variances in local smoking cessation service effectiveness, there is the need to highlight the inconsistencies in the amount of people who report to be smokers, when compared to the number of smokers who access smoking cessation services. According to ASH (2011) approximately ten million people in the UK report to be smokers. Furthermore, there is evidence to suggest that a large proportion of smokers want to quit (Hymowitz et al., 1997), yet only a small fraction of these smokers access NHS Stop Smoking services (HSCIC, 2012). Low service uptake rates may be attributed to a lack of smoking cessation advisor effective recruitment techniques; this could be remedied by upskilling smoking

cessation advisors via standardising their training thought the NCSCT training. However, this could also indicate that smokers are not aware of the services available and are therefore less likely to seek their support. Hence better service advertising campaigns may be required (Niederdeppea, Kuangb, Crockc, & Skeltond, 2008).

Health professionals, such as general practitioners and pharmacists, are in the position to provide interpersonal behavioural support and pharmacotherapy. Previous research shows that advice from general practitioners in itself is an effective intervention to help people stop smoking (Lancaster et al., 2000). However, there are a number of constraints that may impact the effectiveness of support provided. According to Yarnall, Pollak, Østbye, Krause, and Michener (2003), factors effecting efficacy of health promoting behaviour support include: time spent providing behaviour change support; not having adequate training and/or skills required to provide intervention; and lack of financial reimbursements. Consequently, as suggested by Hoving, Mudde, Dijk and De-Vries (2010), interventions in primary care that require only minimal input from health professionals are more likely to be implemented. Hence smoking cessation support is a more likely to be implemented if it is deemed not be time-consuming. Furthermore, this is supported by research conducted by O'Donovan (2009), which suggests that lack of time and training are major factors inhibiting the role of nurses in smoking cessation with their patients.

The result of this study proposes otherwise; this study showed no impact of training in promoting self-reported quit rate. However, it is important to note that this study did not measure the effect on self-reported quit rate variances on pre- and post-training as the objective of this study was not to measure the impact of standard training but to measure and identify the potential predictor variables that could increase the quit rate; this was inclusive of additional training developed by the National Centre for Smoking Cessation Training. The larger the proportion of time spent providing the service, the greater chance of achieving higher quit rates.

The results show that the most significant factor in increasing self-reported quit rate is proportion of time spent delivering stop smoking support. However in order to increase success rates in smoking cessation support, it is necessary to recruit an

adequate number of patients. Hence the greater the number of patients recruited, the greater the proportion of time spent delivering the service. Therefore the proportion of time spent delivering smoking cessation support is directly proportional to the number of patients. As the correlation showed, the relationship between better patient recruitment, time spent delivering smoking cessation services and quit rate is expediential in the sense that quit rate was significantly positively correlated with both the proportion of time spent delivering smoking cessation support and the number of patients recruited. Therefore the greater the amount of time spent delivering smoking cessation support, the greater the self-reported success rate.

The UK has one of the lowest smoking prevalence in Western Europe and smoking prevalence has declined rapidly over the last 60 years (Wald et al., 1991). However, since the turn of the century there has been a significant reduction in the speed of decline in smoking prevalence, despite the national smoking ban and an increase in the retail cost of tobacco. This study recognised the effectiveness of smoking cessation services.

This study supports the result of previous literature, concluding that smoking status - current or previous - is not shown to affect smoking cessation practitioner success rate. This result could help to encourage the ethos that smoking cessation advisors do not have to have been smokers in order to be effective at providing support. This research focused on the NHS Stop Smoking services, which encompasses providing behavioural support and pharmacological support for tobacco users who smoke tobacco only. This research included participants from NHS mainstream Stop Smoking services and therefore no conclusions can be obtained from this study with regards to smokeless tobacco services. Despite this, the evidence states that smoked tobacco is the most common form of tobacco use in the UK and therefore investigating the smoking cessation services is more applicable.

With regards to the theoretical framework developed to formulate the hypothesis for this study, the results did, to an extent, support the empirical evidence. The theoretical framework underpinning this research was based on previous empirical evidence which suggested that positive patient outcomes are based on holistic patient-centred care which is based on illness cognition theories such as the self-regulatory model of illness (Hall et al., 2004). Empirical evidence suggested that

patient outcome can be influenced by healthcare professionals' health beliefs and effective healthcare professional-to-patient communication. (Jagosh et al., 2011; Kabe et al., 2007). Furthermore, previous literature suggests that health care professionals' profile characteristics can influence their beliefs and in turn influence patient outcomes (Ferguson et al., 2003). This study did not support the finding of Ferguson et al. (2003). Instead the study's results supported the concept suggested by Moxham et al. (2013) that the resource of time was the sole key influential predictor of patient outcome in smoking cessation. Interestingly, the results showed that proportion of time spent delivering smoking cessation support can influence patient outcomes above all other factors measured. The results imply that time spent with patients can positively influence healthcare patient-to-professional communication. This has been further supported by González et al. (2009), Gould (2013) and Ong et al. (1995), who suggest that patient-centred care and tailored support is achieved by spending sufficient amounts of time with patients. Furthermore, the results reinforce the DoH (2012) and NICE (2013) guidance, which promotes the need for tailored smoking cessation support requiring sufficient time to be spent with patients. According to NICE guidance (2013), the first session of support requires a minimum of a thirty minute consultation and a minimum of six weekly support sessions are recommended. This is required in order to effectively diagnose and interpret tobacco usage, develop a tailored support programme and assess patients' needs. The results of this study imply that an effective therapeutic relationship between smoker and smoking cessation advisor can be achieved when sufficient time is devoted to supporting patients. Therefore, the importance of this should be reinforced in future advisor trainings and service guidance.

In conclusion, this study reinforced the need and importance for adequate time to be spent delivering smoking cessation interventions, since failing to allocate sufficient time towards smoking cessation intervention delivery could negatively impact on smoking cessation success rates. Time allocations should be outlined when selecting and training health care professionals to provide smoking cessation services. Perhaps health care professionals who are unable to allocate sufficient time when providing such service should not be commissioned to provide smoking cessation support, as this study shows how detrimental success rates may be

attributed to insufficient time allocated when supporting patients. When training smoking cessation advisors it is important to note that although further training may enhance clinical effectiveness, this study has shown that this may not be the case. This study has concluded that being an active Stop Smoking advisor may be more influential in the delivery of an effective service when compared to other hypothesised predictor variables such as tobacco use or training profile.

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# Appendices

## 1) Briefing and Consent Form

**Briefing and Consent**

London Metropolitan University  
School of Psychology  
Faculty of Life Sciences  
Course Leader: Dr Joanne Lusher  
Email: [J.Lusher@londonmet.ac.uk](mailto:J.Lusher@londonmet.ac.uk)  
Student: Natasha Anastasi  
Email: [Natasha.anastasi@newham.gov.uk](mailto:Natasha.anastasi@newham.gov.uk)

Dear Smoking cessation advisor,

**Re: London Metropolitan health psychology research project: Smoking cessation advisor Study consent/information sheet**

You are being invited to take part in Health psychology professional doctorate research project on smoking cessation.

You will be asked some questions about your role as a stop smoking advisors as well as some questions regarding your current and previous smoking statuses and your views on smoking. Please note no personal identifiable information will be asked.

This survey should take approximately 5-10 minutes to complete. The answers you provide will contribute to a greater understanding of smoking cessation service providers.

Once completed please return your questionnaire to the researcher present or if taking part via online survey monkey you do not have to take any further action.

Should you agree to take part, your answers will be kept confidential and no identifiable information will be collected all data provided will be anonymised.

Please note taking part in this study is not mandatory and should you wish to withdraw your participation at any time you may do so by contacting the researcher using the details provided above.

**By completing the questionnaire either on paper or online it will be assumed that you are agreeing to take part in this study and are happy for the data you submit to be used in this study.**

Should you have any questions please do not hesitate to contact me on the details above.  
Your participation is greatly appreciated.

## 2) Survey Used: Version 1

### Section 1: Demographics

**\*1. Are you a stop smoking advisor providing an NHS Stop Smoking service commissioned by the NHS, third party organisation or Local authority?**

Yes

No

## Section 1: Demographics

### \*2. What borough/s do you provide stop smoking support in:

- Camden
- Greenwich
- Hackney
- Hammersmith and Fulham
- Islington
- Royal Borough of Kensington and Chelsea
- Lambeth
- Lewisham
- Southwark
- Tower Hamlets
- Wandsworth
- Barking and Dagenham
- Barnet
- Bexley
- Brent
- Bromley
- Croydon
- Ealing
- Enfield
- Haringey
- Harrow
- Havering
- Hillingdon
- Hounslow
- Kingston upon Thames
- Merton
- Newham
- Redbridge
- Richmond upon Thames
- Sutton
- Waltham Forest
- Westminster
- Other (please state)

**\*3. What is your gender**

- Male
- Female

**\*4. What is your age:**

**\*5. Please identify your Ethnicity:**

**\*6. What is the highest level of education you have completed:**

- Some secondary school or equivalent
- Secondary school graduate or equivalent
- Collage graduate
- Trade technical or vocational training
- University graduate
- University post graduate

## Section 2: Training background info and performance

**\*7. What is your role outside of being a stop smoking advisors:**

**\*8. In which borough country did you receive your Level 2 Stop Smoking advisor standard training:**

**\*9. How many years ago were you level 2 trained:**

- 0-1 years  
 2-4 years  
 5-7 years  
 8 years or over

**\*10. How many years have you practiced as a Stop Smoking advisor:**

- 0 -1 years  
 2-4 years  
 5-7 years  
 8 years or over

**\*11. Have you completed stage 1 NCSCCT Training (National centre for Smoking cessation training)?**

- Yes  
 No

**\*12. Have you completed stage 2 NCSCCT Training (National centre for Smoking cessation training)?**

- Yes  
 No

**\*13. If you have not yet completed any NCSCCT training do you plan to do so within the next 6 months:**

- Yes  
 No  
 N/A

**\*14. Have you completed any additional NCSCCT training modules**

- Mental health module
- Pregnancy module
- Very brief advice module
- Second hand smoking module
- I have not completed additional NCSCCT training modules.

### Performance related questions

**\* 15. How many trained stop smoking advisors do you work with?**

**\* 16. How many Stop Smoking patients do you support per year (please provide an estimate):**

- 0-10 clients
- 11-20 clients
- 21-50 clients
- 51-99 clients
- over 100 clients

**\* 17. What % of your time during your role do you spend providing smoking cessation support:**

- 0-10%
- 11-20%
- 21-30%
- 31-50%
- 51-70%
- over 71%

**\* 18. What would you estimate to be your success rate in percent:**

- 0-10%
- 11-20%
- 21-30%
- 31-50%
- 51-70%
- over 71%

### Section 3:Tobacco use related questions

Please note all responses are confidential and non-identifiable

Current tobacco usage:

**\*19. Which of the following do you use currently:**

- Cigarettes
- Any type chewed tobacco (including Paan, Gutkha, Zarda or Snus
- Shisha(Hookah)
- Roll your own tobacco (loose tobacco)
- Cigars
- Tobacco Pipe
- I do not use any tobacco containing products

### Section 3: Tobacco use related questions

**\*20. How soon after you wake up do you use your first tobacco containing product:**

- Less than 5 minutes after waking
- 6-30 minutes after waking
- 31-60 minutes after waking
- more than or equal to 61 minutes after waking

**\*21. Do you find it difficult NOT to use Tabaco contain product in places where it is not allowed (e.g. cinema, shopping centres, restaurants, bars):**

- Yes
- No

**\*22. If you use cigarettes, how many do you smoke a day:**

- Less than or equal to 10 per day
- 11-20 per day
- 21-30 per day
- more than or equal to 31 per day
- I do not smoke cigarettes

**\*23. If you use Roll your own tobacco, what pack size would you use for one week's worth of use:**

- 25mg (1oz)
- 50mg (2oz)
- 75mg (3oz)
- 100mg (4oz)
- 125mg (5oz)
- 150 (6oz)
- I do not use roll your own tobacco

**\*24. If you chew tobacco how soon after you wake up to do you chew tobacco including Paan, Gutkha or Zarda?**

- Within the first 5 minutes
- 6-30min
- 31-60 min
- 60 + munites after waking
- I do not use chew tobacco contacting products

**\*25. If you chew tobacco is it difficult for you not to use smokeless tobacco where its use would be unsuitable or restricted?**

- Yes
- No
- N/A

**\*26. If you chew tobacco how often do you intentionally swallow tobacco juice?**

- Always
- Sometimes
- Never
- N/A

**\*27. If you chew tobacco which chew would you hate to give up most?**

- The first one in the morning
- Any other
- N/A

**\*28. If you chew tobacco how many pouches per week do you use?**

- More than 3
- 2-3
- 1 or less
- N/A

**\*29. If you chew tobacco do you chew more frequently during the first hours after awakening than during the rest of the day?**

- Yes
- No
- N/A

**\*30. If you chew tobacco do you chew if you are so ill that you are in bed most of the day?**

- Yes
- No
- N/A

**Currant Cigar/ pipe/ Shisha usage**

**\*31. If you smoke Cigars/ Tobacco Pipe/ or take part in Shisha sessions: how many do you smoke/use a week? (If not applicable please enter 0).**

**\*32. If you smoke Cigars/ Tobacco Pipe or take part in Shisha sessions: how many do you smoke/use in a month? (If not applicable please enter 0).**

### Tobacco use history questions:

**\*33. Do you live with a smoker:**

- Yes I live with 1 smoker
- Yes I live with one or more smokers
- No I do not live with a smoker

**\*34. Which of the following have you used regularly in the past:**

- Cigarettes
- Any type chewed tobacco (including Paan, Gutkha, Zarda or Snus)
- Shisha(Hookah)
- Roll your own tobacco (loose tobacco)
- Cigars
- Tobacco Pipe
- I have never used any tobacco containing products

### Section 3: Tobacco use related questions

**\*35. How soon after you wake up did you used to use your first tobacco containing product:**

- Less than 5 minutes after waking
- 6-30 minutes after waking
- 31-60 minutes after waking
- More than or equal to 61 minutes after waking.

**\*36. Did you find it difficult NOT to use Tabaco contain product in places where it was not allowed (e.g. cinema, shopping centres, restaurants, bars):**

- Yes
- No

**\*37. If you used cigarettes, how many do you smoke a day:**

- Less than or equal to 10 per day
- 11-20 per day
- 21-30 per day
- More than or equal to 31 per day
- I did not smoke cigarettes

**\*38. If you used Roll your own tobacco, what pack size would you have used for one week's worth of usage:**

- 25mg (1oz)
- 50mg (2oz)
- 75mg (3oz)
- 100mg (4oz)
- 125mg (5oz)
- 150 (6oz)
- I did not use roll your own tobacco

**\*39. I did not chew tobacco containing products**

- Within the first 5 minutes
- 6-30 min
- 31-60 min
- 60 + munites after waking
- N/A I did not chew tobacco containing products

**\*40. Was it difficult for you not to use smokeless tobacco where its use would be unsuitable or restricted?**

- Yes
- No
- N/A

**\*41. If you chewed tobacco how often did you intentionally swallow tobacco juice?**

- Always
- Sometimes
- Never
- N/A

**\*42. If you chewed tobacco which chew would you have hated to give up most?**

- The first one in the morning
- Any other
- N/A

**\*43. If you chewed tobacco how many pouches per week did you use?**

- More than 3
- 2-3
- 1 or less
- N/A

**\*44. If you chewed tobacco did you chew more frequently during the first hours after awakening than during the rest of the day?**

- Yes
- No
- N/A

**\*45. If you chewed tobacco did you chew if you are so ill that you are in bed most of the day?**

- Yes
- No
- N/A

**Currant Cigar/ pipe/ Shisha usage**

**\*46. If you smoked Cigars/ Tobacco Pipe/ or took part in Shisha sessions: how many do you smoke/use a week? (if not applicable please enter 0))**

**\*47. If you smoked Cigars/ Tobacco Pipe or took part in Shisha sessions: how many do you smoke/use in a month? (if not applicable please enter 0)**

## Non regular usage

### \*48. Which of the following have you Tried in the past:

- Cigarettes
- Any type chewed tobacco (including Paan, Gutkha, Zarda or Snus)
- Shisha (Hookah)
- Roll your own tobacco (loose tobacco)
- Cigars
- Tobacco Pipe
- I have never tried any tobacco containing products

## Section 4: Attitudes towards smoking

Each of the following questions is to be answered using the following 9-point scales numbered -4 to +4 with 0 as a midpoint are used as response options for the measure: Global Attitudes Toward Smoking Measure (Trafimow, D., & Sheeran, P. (1998). Global Attitudes Toward Smoking Measure [Database record]. Retrieved from PsycTESTS. doi: 10.1037/t17879-00

**\*49. Overall, my attitude towards my smoking is . . . .**

	Negative								Positive
	-4	-3	-2	-1	0	1	2	3	4
Please rate:	<input type="radio"/>								

**\*50. Overall, my attitude towards my smoking is . . . .**

	Anti								Pro
	-4	-3	-2	-1	0	1	2	3	4
Please rate:	<input type="radio"/>								

**\*51. Overall, my attitude towards my smoking is . . . .**

	Unfavourable								Favourable
	-4	-3	-2	-1	0	1	2	3	4
Please rate:	<input type="radio"/>								

**\*Attitudes Towards Smoking Scale (ATS-18) Etter et al 2000. With regards to the following statements please indicate how much you agree with each one:**

	Strongly do not agree	Disagree	More or less agree	Agree	Strongly agree
52. Smoking is extremely dangerous to one's health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
53. People destroy their health with cigarettes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
54. Cigarette smoke leaves an awful smell	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
55. Smoking gives you a very bad breath	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
56. Cigarettes make people spend too much money	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
57. Cigarette smoke bothers a lot of other people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
58. Smoking put other peoples health in danger	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
59. Smoke damages your skin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
60. It bothers me that people become dependent on cigarettes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
61. Smokers would have more energy if they didn't smoke	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
62. In moments of stress cigarette can help to calm someone down	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
63. Smoking calms stress	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
64. Smoking a cigarette can ease a difficult situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
65. Cigarettes help people to concentrate better	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
66. I love the act of smoking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
67. It's so nice to smoke	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
68. I love smoke	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
69. I like holding a cigarette between my fingers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

# Debrief sheet

## Debriefing

London Metropolitan University  
School of Psychology  
Faculty of Life Sciences  
Course Leader: Dr Joanne Lusher  
Email [j.lusher@londonmet.ac.uk](mailto:j.lusher@londonmet.ac.uk)  
Student: Natasha Anastasi  
Email: [Natasha.anastasi@newham.gov.uk](mailto:Natasha.anastasi@newham.gov.uk)

### Study debrief

Firstly I would very much like to thank you for taking part in this research.

The aim of this research is to investigate smoking cessation advisors attitudes towards smoking, smoking cessation and advisor performance. The key question is: does smoking cessation advisor previous or current smoking status affect advisor attitudes towards smoking and smoking cessation. This study will examine if attitudes may in turn affect advisor clinical performance.

As suggest by Harvey et al (2002) health care provider attitudes towards health related behaviours can impact on the way health professionals view patients. Previous research within smoking cessation has examined health physician's attitudes towards smoking and smoking cessation Applegate (2008), Berkelmans et al (2010), Parna et al (2004) and Hall et all (2005) . The literature suggest that previous and current smoking status may have a direct impact on how often the topic of smoking and smoking cessation is discussed with patients. A current smoking status equated to a health care professional being more reluctant to raise the issue of smoking and record smoking status this may imply that health care professionals who have been or are current smokers may be less effective supporting patients to stop smoking. Neither of the studies mentioned above recruited trained smoking cessation practitioners to take part, I would their like to investigate if similar findings will be observed with trained smoking cessation providers.

If you would like to know more about the study pleased do not hesitate to contact me on the details above.

Kind regards  
Natasha

### 3) Survey Used: Version 2

#### Section 1: Demographics

**\*1. Are you a stop smoking advisor providing an NHS Stop Smoking service commissioned by the NHS, third party organisation or Local authority?**

Yes

No

## Section 1: Demographics

### \*2. What borough/s do you provide stop smoking support in:

- Camden
- Greenwich
- Hackney
- Hammersmith and Fulham
- Islington
- Royal Borough of Kensington and Chelsea
- Lambeth
- Lewisham
- Southwark
- Tower Hamlets
- Wandsworth
- Barking and Dagenham
- Barnet
- Bexley
- Brent
- Bromley
- Croydon
- Ealing
- Enfield
- Haringey
- Harrow
- Havering
- Hillingdon
- Hounslow
- Kingston upon Thames
- Merton
- Newham
- Redbridge
- Richmond upon Thames
- Sutton
- Waltham Forest
- Westminster
- Other (please state)

**\*3. What is your gender**

- Male
- Female

**\*4. What is your age:**

**\*5. Please identify your Ethnicity:**

**\*6. What is the highest level of education you have completed:**

- Some secondary school or equivalent
- Secondary school graduate or equivalent
- Collage graduate
- Trade technical or vocational training
- University graduate
- University post graduate

## Section 2: Attitudes towards smoking

Each of the following questions is to be answered using the following 9-point scales numbered -4 to +4 with 0 as a midpoint are used as response options for the measure: Global Attitudes Toward Smoking Measure (Trafimow, D., & Sheeran, P. (1998). Global Attitudes Toward Smoking Measure [Database record]. Retrieved from PsycTESTS. doi: 10.1037/t17879-00

### \*7. Overall, my attitude towards my smoking is . . . .

	Negative								Positive
	-4	-3	-2	-1	0	1	2	3	4
Please rate:	<input type="radio"/>								

### \*8. Overall, my attitude towards my smoking is . . . .

	Anti								Pro
	-4	-3	-2	-1	0	1	2	3	4
Please rate:	<input type="radio"/>								

### \*9. Overall, my attitude towards my smoking is . . . .

	Unfavourable								Favourable
	-4	-3	-2	-1	0	1	2	3	4
Please rate:	<input type="radio"/>								

### \*Attitudes Towards Smoking Scale (ATS-18) Etter et al 2000. With regards to the following statements please indicate how much you agree with each one:

	Strongly do not agree	Disagree	More or less agree	Agree	Strongly agree
10. Smoking is extremely dangerous to one's health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. People destroy their health with cigarettes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Cigarette smoke leaves an awful smell	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Smoking gives you a very bad breath	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Cigarettes make people spend too much money	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Cigarette smoke bothers a lot of other people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Smoking put other peoples health in danger	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Smoke damages your skin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. It bothers me that people become dependent on cigarettes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Smokers would have more energy if they didn't smoke	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. In moments of stress cigarette can help to calm someone down	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Smoking calms stress	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Smoking a cigarette can ease a difficult situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Cigarettes help people to concentrate better	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. I love the act of smoking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. It's so nice to smoke	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. I love smoke	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. I like holding a cigarette between my fingers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Section 3: Training background info and performance

**\*28. What is your role outside of being a stop smoking advisors:**

**\*29. In which borough/country did you receive your Level 2 Stop Smoking advisor standard training:**

**\*30. How many years ago were you level 2 trained:**

- 0-1 years
- 2-4 years
- 5-7 years
- 8 years or over

**\*31. How many years have you practiced as a Stop Smoking advisor:**

- 0-1 years
- 2-4 years
- 5-7 years
- 8 years or over

**\*32. Have you completed stage 1 NCSCCT Training (National centre for Smoking cessation training)?**

- Yes
- No

**\*33. Have you completed stage 2 NCSCCT Training (National centre for Smoking cessation training)?**

- Yes
- No

**\*34. If you have not yet completed any NCSCCT training do you plan to do so within the next 6 months:**

- Yes
- No
- N/A

**\*35. Have you completed any additional NCSCCT training modules**

- Mental health module
- Pregnancy module
- Very brief advice module
- Second hand smoking module
- I have not completed additional NCSCCT training modules.

## Performance related questions

**\*36. How many trained stop smoking advisors do you work with?**

**\*37. How many Stop Smoking patients do you support per year (please provide an estimate):**

- 0-10 clients
- 11-20 clients
- 21-50 clients
- 51-99 clients
- over 100 clients

**\*38. What % of your time during your role do you spend providing smoking cessation support:**

- 0-10%
- 11-20%
- 21-30%
- 31-50%
- 51-70%
- over 71%

**\*39. What would you estimate to be your success rate in percent:**

- 0-10%
- 11-20%
- 21-30%
- 31-50%
- 51-70%
- over 71%

## Section 4: Tobacco use related questions

Please note all responses are confidential and non-identifiable

Current tobacco usage:

**\*40. Which of the following do you use currently:**

- Cigarettes
- Any type chewed tobacco (including Paan, Gutkha, Zarda or Snus)
- Shisha(Hookah)
- Roll your own tobacco (loose tobacco)
- Cigars
- Tobacco Pipe
- I do not use any tobacco containing products

#### Section 4: Tobacco use related questions

**\*41. How soon after you wake up do you use your first tobacco containing product:**

- Less than 5 minutes after waking
- 6-30 minutes after waking
- 31-60 minutes after waking
- more than or equal to 61 minutes after waking

**\*42. Do you find it difficult NOT to use Tabaco contain product in places where it is not allowed (e.g. cinema, shopping centres, restaurants, bars):**

- Yes
- No

**\*43. If you use cigarettes, how many do you smoke a day:**

- Less than or equal to 10 per day
- 11-20 per day
- 21-30 per day
- more than or equal to 31 per day
- I do not smoke cigarettes

**\*44. If you use Roll your own tobacco, what pack size would you use for one week's worth of use:**

- 25mg (1oz)
- 50mg (2oz)
- 75mg (3oz)
- 100mg (4oz)
- 125mg (5oz)
- 150 (6oz)
- I do not use roll your own tobacco

**\*45. If you chew tobacco how soon after you wake up to do you chew tobacco including Paan, Gutkha or Zarda?**

- Within the first 5 minutes
- 6-30min
- 31-60 min
- 60 + minutes after waking
- I do not use chew tobacco contacting products

**\*46. If you chew tobacco is it difficult for you not to use smokeless tobacco where its use would be unsuitable or restricted?**

- Yes
- No
- N/A

**\*47. If you chew tobacco how often do you intentionally swallow tobacco juice?**

- Always
- Sometimes
- Never
- N/A

**\*48. If you chew tobacco which chew would you hate to give up most?**

- The first one in the morning
- Any other
- N/A

**\*49. If you chew tobacco how many pouches per week do you use?**

- More than 3
- 2-3
- 1 or less
- N/A

**\*50. If you chew tobacco do you chew more frequently during the first hours after awakening than during the rest of the day?**

- Yes
- No
- N/A

**\*51. If you chew tobacco do you chew if you are so ill that you are in bed most of the day?**

- Yes
- No
- N/A

**Current Cigar/ pipe/ Shisha usage**

**\*52. If you smoke Cigars/ Tobacco Pipe/ or take part in Shisha sessions: how many do you smoke/use a week? (If not applicable please enter 0).**

**\*53. If you smoked Cigars/ Tobacco Pipe or took part in Shisha sessions: how many do you smoke/use in a month? (if not applicable please enter 0)**

## Tobacco use history questions:

### \*54. Do you live with a smoker:

- Yes I live with 1 smoker
- Yes I live with one or more smokers
- No I do not live with a smoker

### \*55. Which of the following have you used regularly in the past:

- Cigarettes
- Any type chewed tobacco (including Paan, Gutkha, Zarda or Snus
- Shisha(Hookah)
- Roll your own tobacco (loose tobacco)
- Cigars
- Tobacco Pipe
- I have never used any tobacco containing products

#### Section 4: Tobacco use related questions

**\*56. How soon after you wake up did you used to use your first tobacco containing product:**

- Less than 5 minutes after waking
- 6-30 minutes after waking
- 31-60 minutes after waking
- More than or equal to 61 minutes after waking.

**\*57. Did you find it difficult NOT to use Tabaco contain product in places where it was not allowed (e.g. cinema, shopping centres, restaurants, bars):**

- Yes
- No

**\*58. If you used cigarettes, how many do you smoke a day:**

- Less than or equal to 10 per day
- 11-20 per day
- 21-30 per day
- More than or equal to 31 per day
- I did not smoke cigarettes

**\*59. If you used Roll your own tobacco, what pack size would you have used for one week's worth of usage:**

- 25mg (1oz)
- 50mg (2oz)
- 75mg (3oz)
- 100mg (4oz)
- 125mg (5oz)
- 150 (6oz)
- I did not use roll your own tobacco

**\*60. If you chewed tobacco how soon after waking did you use chew tobacco including Paan, Gutkha or Zarda?**

- Within the first 5 minutes
- 6-30 min
- 31-60 min
- 60 + munites after waking
- N/A I did not chew tobacco containing products

**\*61. Was it difficult for you not to use smokeless tobacco where its use would be unsuitable or restricted?**

- Yes
- No
- N/A

**\*62. If you chewed tobacco how often did you intentionally swallow tobacco juice?**

- Always
- Sometimes
- Never
- N/A

**\*63. If you chewed tobacco which chew would you have hated to give up most?**

- The first one in the morning
- Any other
- N/A

**\*64. If you chewed tobacco how many pouches per week did you use?**

- More than 3
- 2-3
- 1 or less
- N/A

**\*65. If you chewed tobacco did you chew more frequently during the first hours after awakening than during the rest of the day?**

- Yes
- No
- N/A

**\*66. If you chewed tobacco did you chew if you are so ill that you are in bed most of the day?**

- Yes
- No
- N/A

**Currant Cigar/ pipe/ Shisha usage**

**\*67. If you smoked Cigars/ Tobacco Pipe or took part in Shisha sessions: how many do you smoke/use in a month? (if not applicable please enter 0)**

**\*68. If you smoke Cigars/ Tobacco Pipe or take part in Shisha sessions: how many do you smoke/use in a month? (if not applicable please enter 0)**

## Non regular usage

**\*69. Which of the following have you Tried in the past:**

- Cigarettes
- Any type chewed tobacco (including Paan, Gutkha, Zarda or Snus)
- Shisha (Hookah)
- Roll your own tobacco (loose tobacco)
- Cigars
- Tobacco Pipe
- I have never tried any tobacco containing products

## Debriefing

London Metropolitan University  
School of Psychology  
Faculty of Life Sciences  
Course Leader: Dr Joanne Lusher  
Email [j.lusher@londonmet.ac.uk](mailto:j.lusher@londonmet.ac.uk)  
Student: Natasha Anastasi  
Email: [Natasha.anastasi@newham.gov.uk](mailto:Natasha.anastasi@newham.gov.uk)

### **Study debrief**

Firstly I would very much like to thank you for taking part in this research.

The aim of this research is to investigate smoking cessation advisors attitudes towards smoking, smoking cessation and advisor performance. The key question is: does smoking cessation advisor previous or current smoking status affect advisor attitudes towards smoking and smoking cessation. This study will examine if attitudes may in turn affect advisor clinical performance.

As suggest by Harvey et al (2002) health care provider attitudes towards health related behaviours can impact on the way health professionals view patients. Previous research within smoking cessation has examined health physician's attitudes towards smoking and smoking cessation Applegate (2008), Berkelmans et al (2010), Parna et al (2004) and Hall et al (2005) . The literature suggest that previous and current smoking status may have a direct impact on how often the topic of smoking and smoking cessation is discussed with patients. A current smoking status equated to a health care professional being more reluctant to raise the issue of smoking and record smoking status this may imply that health care professionals who have been or are current smokers may be less effective supporting patients to stop smoking. Neither of the studies mentioned above recruited trained smoking cessation practitioners to take part, I would their like to investigate if similar findings will be observed with trained smoking cessation providers.

If you would like to know more about the study pleased do not hesitate to contact me on the details above.

Kind regards  
Natasha

# **Professional Doctorate of Health**

## **Psychology:**

### **Competence 3.1**

#### **Systematic Review**

The impact of public health breast cancer awareness campaigns and interventions on breast screening uptake in British women: A systematic review

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## **Abstract**

It is estimated that one in eight women will develop breast cancer (West, 2012). According to Malik, Khursheed, Wani, and Ahmad (2012), in 2008, breast cancer accounted for 22.9% of all cancers worldwide causing 458,503 deaths (13.7% of all cancer deaths in women). Furthermore, most breast cancers are diagnosed at stages two and three as opposed to stage one (Richards, Westcombe, Love, Littlejohns, & Ramirez, 1999). This can limit treatment options, significantly impacting on prognoses and consequently increasing mortality and morbidity (Richards et al., 1999). Many women are unaware of the signs and symptoms of breast cancer (Robb et al., 2009). There is therefore a need for cancer awareness campaigns, to educate and inform on the early detection of breast cancer (World Health Organisation; WHO, 2006). A number of population screening techniques and programmes have been developed to increase early detection and referral into active treatment or active surveillance programmes in order to reduce breast cancer mortality rates. Fundamentally, the purpose of such interventions is to encourage screening uptake to promote early detection. Some examples of such programmes include mammography screening, breast clinical and self-examination, and in recent times the development of genetic screening and/or testing of tumours to determine effective treatment regimes. However, there has been little clear and compelling evidence as to which method significantly increases survival rates (Gøtzsche, Hartling, Nielsen, & Brodersen, 2011). Although, breast screening via mammograms and self-examination has shown to be inconclusive in reducing mortality there is evidence to suggest that being aware of how to self-examine and attending breast screening can have a positive impact through increasing breast cancer awareness (Shieh et al., 2012). Furthermore, the value of both performing regular breast self-examinations as well as attending regular mammography screenings has been shown to increase early detection and improve prognoses (Shieh et al., 2012)

This systematic review attempts to summarise and assess the evidence on the positive and negative impacts of existing breast screening awareness campaigns and the impact on mammography attendance amongst British women from adolescents to those aged 65 and over. The recommendations from this review can be applied to

future breast screening awareness campaigns and routine health-promoting practices. The literature search took place between October 2012 and February 2013. The literature reviewed was gathered from established databases including BNI, MEDLINE, PsycINFO EMBASE, and CINAHL. Searches were conducted to identify and collate research relating to breast cancer awareness intervention including breast self-examination awareness and screening intervention uptake. Decisions on which trials to include were taken independently by the reviewer based on the methods of trial, sample group and evaluation measures used. Inclusion criteria comprised: research that took place within the UK, using randomised, controlled methods with female samples. UK-published articles identified breast cancer intervention across various population groups and various methods, i.e., behavioural and psychological group and one-to-one interventions. A total of 867 articles were found, out of which 15 were selected for this review. It was found that breast cancer awareness interventions can increase the uptake of breast self-examination behaviours, and increase the likelihood of breast cancer screening attendance. It is, however, difficult to predict the impacts of these interventions on survivability, and general morbidity and mortality outcomes. Although breast cancer awareness interventions have been found to be effective there is a limited amount of evaluated breast cancer awareness campaigns within the UK.

## **1. Introduction**

### **1.1. Breast cancer, awareness and detection**

Breast cancer is currently the most common cancer in the UK (Office of National Statistics; ONS, 2014). Additionally, breast cancer is the second most common cause of cancer death in women, after lung cancer (ONS, 2014). In the United Kingdom, breast cancer accounted for 31% of all cancers in women in 2009 (ONS, 2011). Furthermore, over 9,600 women died from breast cancer in England in 2010, a rate of 24 deaths per 100,000 women (Cancer Research UK, 2012). The risk of developing breast cancer increases with age with the majority of breast cancer diagnoses found in women over 50 years of age (Cancer Research UK, 2012). Following the introduction of breast cancer screening programmes via the use of mammograms, mortality has decreased as early detection has now become more achievable (Blanks, Moss, McGahan, Quinn, & Babb, 2000; Otto et al., 2003). Despite this, incidences of breast cancer have however increased and it is estimated that one in eight women will at some point in their lives develop breast cancer (West, 2012). Breast cancer therefore poses a great threat to public health and there is a prominent need for awareness of screening.

Breast cancer is one of three cancers including cervical and bowel cancer which have national screening programmes. As opposed to a diagnostic tool alone, national screening programmes detect pre-cancerous cells thus preventing cancer development. Therefore attending regular mammography screenings can potentially increase early detection. As concluded by the advisory committee on National Health Service Breast Screening Programme (NHSBSP, 2006, 2011) regular mammography attendance is suggested to reduce breast cancer mortality rate by up to 35%. Furthermore, this has been supported by “The Swedish two county trial” (Tabár et al., 2011). Tabár et al. (2011) carried out a longitudinal study in Sweden between 1977 and 1998; the results indicated an estimated 32% increase in survival rate spanning 7-8 years in women who attended regular mammogram screenings when compared with those who did not. This study reinforced the national screening programme’s positive impact on public health.

Mammography screening was first introduced to UK via the NHS Breast Screening Programme (NHSBSP) which began in 1988 (NHSBSP, 2006). The NHS began inviting women aged 50-64 years of age for screening once every three years. As of 2005 the age of women invited to breast screening was increased to 70 years of age and although women who are currently 71 years or over are no longer invited to mammograms they can still request regular screening (NHSBSP, 2006). In addition, the NHS plans to introduce screening invitations to cover women from the ages of 47 to 73 as incidence of breast cancer is directly proportional to age (Cancer Research UK, 2012). To a lesser extent mammogram screening is also offered to a smaller proportion of women who fall into the high risk women which includes younger women who have direct family members who developed breast cancer at a young age. In these cases, mammograms are often used alongside family therapy such as genograms (NHSBSP, 2006). The NHS breast screening programme screens approximately 1.3 million women each year, this makes up 75 % of all those invited, with a diagnosis rate estimated to be 10,000 breast cancer cases per annum (NHSBSP, 2006). This implies that breast screening has proven to be an effective lifesaving procedure. Research has shown that since its introduction between 2.0 to 2.5 lives are saved per diagnoses. This has been attributed to breast screenings ability to detect cancer at an early stage thus resulting in early treatment (Tabár et al., 2011). It is however important to note that mammography, clinical breast examination and BSE are secondary preventive methods used for screening in the early detection of breast cancer (Fung, 1998). Early detection and prompt treatment offer the greatest chance of long-term survival (Sadler et al., 2001).

As national breast screening programmes have been shown to reduce premature mortality (Tabár et al., 2011), it is paramount that women who are invited to regular screening attend. However according to Cancer Research UK (2012), fewer women are attending breast cancer screenings, suggesting that further research is required to identify factors involved in screening uptake. There are many factors that contribute to why women attend breast cancer screening programmes. In order to understand breast screening attendance, and to apply effective behavioural and educational interventions, it is important to understand the factors involved in the decision-making process when attending breast screening. As suggested by Purtzer (2012), decision-making factors include: knowledge deficits; unengaged cognition;

and misleading perceptions of breast cancer. It is further implied by Purtzer (2012) that the decision making process for attending screening programmes occurs in two phases. First is a dormant period of non-screening behaviour, where breast cancer risk perception is low, resulting in a pre-contemplation state. The second phase is referred to as the transformative learning process. This results in screening behaviour attendance and is characterised by an aroused affective response and an awakened cognitive response. This is likely to be a result of new knowledge construction, resulting in changed perceptual responses leading to screening uptake. Furthermore, according to Peters (2012), attending routine health screening is influenced by three major concerns. The concerns consist of: women seeking a female friendly and woman-centred service; a safe environment; and continuity of care. Further research by Ackerson and Preston (2009), who carried out a systematic review into the decision-making process involved in deciding whether or not to attend breast screening, concluded that two main factors were prominent in the decision-making process. These factors firstly consist of the fear of cancer; for this to occur, women must be aware of breast cancer in the first place. Second is the factor that women need to trust health care professionals and believe in their competence to detect cancer. In addition, Rakowski, Dube, and Goldstein (1996) were the first to apply the trans-theoretical model in explaining breast screening attendance. The trans-theoretical model (Prochaska & DiClemente, 1983) was firstly applied to the field of smoking cessation but has since been used to explain a range of health-related behaviour change (Prochaska et al., 1994). The trans-theoretical model is founded upon biopsychosocial constructs comprised of five stages which conceptualise the process of intentional behaviour change (Prochaska et al., 1994). Rakowski et al. (1996) found that the decision-making constructs from the trans-theoretical model of behaviour change determined screening uptake. Furthermore, screening uptake was found to be determined by ways of defining stages of adopting regular mammography associated with decisional balance and processes-of-change. Breast cancer awareness interventions promoting mammography uptake must therefore address all aspects of the decision making process in order to be effective.

Although national mammography screening programmes have been suggested to be among the most effective ways of detecting breast cancer (Feig, 1988), the majority

of breast cancers are detected by women through breast self-examination (BSE; Greenwald, 2001). According to Greenwald (2001), once women are breast-aware with regards to knowing what their breasts look and feel like through regular BSE, they can be just as (if not more) effective at detecting abnormalities when compared to attending mammogram screenings. Regular BSE has also been suggested to help in detecting cancer at an early stage, thus improving prognoses (Harmer, 2011). Therefore, women who do not breast self-examine regularly are likely to fail in detecting breast cancer before it progresses, and as a consequence may have higher breast cancer mortality rates. It has also been suggested that theoretical educational programmes including literature can be effective in increasing BSE uptake (Budakoglu, Maral, Ozdemir, & Bumin, 2007; Yi & Park, 2012). Although it must be noted that there is a robust school of literature suggesting that regular BSE does not increase cancer detection and in fact could potentially lead to a higher number of unnecessary biopsies (Kösters & Gøtzsche, 2008; Malik et al., 2012). However, fundamentally, being breast aware and being able to detect changes in one's own breast tissue through BSE has been shown to be beneficial (Kösters et al., 2008). Additionally, it could be concluded that being breast aware as a result of regular BSE should be encouraged as it can assist in noting any changes in breast tissue and appearance. Therefore educational mass media campaigns should focus on briefing women on the signs and symptoms of breast cancer (NHSBSP, 2006). This has been further supported by Avcı and Gozum (2009), who found that educational programmes which create breast cancer awareness have been deemed to be effective in increasing health promoting behaviours such as breast self-examination. Avcı (2009) found that following being exposed to an educational video, women's susceptibility, perceived self-efficacy of BSE, and perceived benefits of mammography increased relative to prior to education.

There is inconclusive evidence as to whether regular breast self-examination alone significantly reduces breast cancer deaths (Stamler, 2004). Although breast self-examination can help in detecting various changes in breast tissue and appearance which can lead to seeking further advice from a healthcare professional, the use of mammography screening can detect tumours before they can be felt or observed through self-examination, thus improving prognoses. Therefore, mammography screening is essential in early breast cancer detection. It is however important to

note that although regular self-examination should not be promoted as a primary screening procedure it can promote breast health awareness and determine breast screening attendance and therefore should be encouraged by healthcare professionals (Austoker, 1994).

Disparities in levels of breast awareness and breast cancer survival rates have been identified amongst ethnic minorities (Boyer-Chammard, Taylor, & Anton-Culver, 1999; Suarez, Roche, Nichols, & Simpson, 1997). According to Scanlon and Wood (2005), British black and ethnic minority women are much less aware of the disease and are less well equipped to detect early signs of breast cancer - factors that potentially affect their treatment choices and overall prognoses. These confounding disparities demonstrate the need for more inclusive breast cancer awareness education campaigns that are relevant to, and appropriate for, a diverse population. In addition, research implies that further study is required into the effectiveness of current breast cancer awareness education campaigns across various population groups (Scanlon & Wood, 2005). As breast cancer poses such a risk to public health, it is vital that women in high risk groups in particular are aware of the signs and symptoms of breast cancer and attend regular breast screening examinations.

## **1.2. Public health interventions**

In the absence of a cure for breast cancer, prevention and early detection is fundamental in reducing breast cancer mortality. Therefore, public health organisations should provide health promotion and breast cancer awareness interventions to encourage early detection. A health intervention is an effort to promote positive health behaviours and prevent bad health behaviours in order to obtain and or maintain good health (HM Government, 2010). According to the HM Government (2010), a public health intervention's purpose is to encourage mass health behaviour change through addressing specific health behaviours. This may include a mass media campaign and/or educational literature and healthcare professional and/or patients' centre educational programmes. Furthermore, according to the National Institute for Clinical Excellence (Kelly, 2004) there are a number of factors attributed to an effective public health intervention, which include: the level of local infrastructure of services; local decision-making about resource allocation; staff attitudes and engagement with the intervention;

relationships between local health service, providers and others (such as local government, schools, voluntary organisations); and local political collaboration. The likelihood of success is also affected by political will at national and regional levels. This includes having adequate resourcing and an administrative mechanism to align national policy with local practice (Kelly, 2004). According to Kelly (2004), a health intervention can be part of an educational programme, a national mass media campaign or an information leaflet or booklet identifying and promoting the key health messages. In addition, public health campaigns have been shown to be extremely effective at educating and initiating health behaviour change. For example, Wakefield, Loken, and Hornik (2010) carried out a review into the effectiveness of mass media campaigns and found that they - directly and indirectly - produced beneficial health behaviour changes and prevented negative health behaviour changes across large population groups. The review found that the effect was greater if the media campaign targeted specific behaviours. The review covered a large range of health related behaviours, from smoking to road safety, and found strong evidence of effectiveness for all target behaviours. However, no reviewed mass media campaigns were identified with regards to breast cancer awareness.

### **1.3. Review rationale**

There is controversy as to what is more effective at reducing breast cancer mortality rates - breast screening or regular BSE through being breast aware. It is therefore important to take both aspects of this behaviour into account when developing and evaluating a preventative health intervention (NHSBSP, 2006; Tabár et al., 2011). Additionally, it has been suggested that being breast aware by performing regular BSE is positively associated with screening uptake (Secginli & Nahcivan, 2006). It could therefore be proposed that breast screening attendance and being breast aware though performing regular BSE are interdependent behaviours. A vast amount of research has been conducted to explore the demographic, economic, motivational and organisational factors which predict variation in attendance at screening programmes (Jepson et al., 2000) Furthermore, research suggests that the theory of planned behaviour (Ajzen, 1991), and its predecessor, the theory of reasoned action (Ajzen & Fishbein, 1980), have both been applied to effectively predict and

promote both BSE uptake and screening attendance (Cookea & French, 2008; Luszczyńska & Schwarzerb, 2003; Rutter 2000). This has been further supported by Dündar et al. (2006), who found that both BSE and screening uptake can be determined by similar behavioural processes and health beliefs.

The persuasiveness of mass media campaigns, especially via television, has been found to positively influence health behaviours (Randolph & Viswanath, 2004). There have been a number of successful public health mass media campaigns that have been shown to longitudinally result in health-affirming behaviour change (Noara, 2006). The influence of mass media has, however, not always been positive and there is some contradictory evidence as to whether its effects are inclusive across cultures, ethnic minorities and hard-to-reach groups (Wakefield et al., 2010). Furthermore, with regards to breast cancer awareness campaigns, evidence suggests that these campaigns are scarce and, even when available, function on a very limited scale (Abdelhadi, 2006). Wakefield et al. (2010) carried out a systematic review into the effectiveness of public health mass media campaigns and found that there is a limited number of evaluated mass media breast cancer awareness campaigns. It is important to note that Wakefield et al.'s (2010) review consisted of mass media campaigns only, and therefore did not account for localised campaigns and educational programmes. The Department of Health commissioned a systematic review on evidence regarding factors influencing delay in cancer diagnosis (MacDonald et al., 2004). Although the main focus of the review was to identify factors influencing the delay in cancer detection and diagnosis, the review also included studies examining effectiveness of interventions to reduce patient delays in cancer diagnosis (MacDonald et al., 2004). The review concluded that this was an unexplored area, but that public cancer awareness campaigns had been associated with some improvements in awareness and diagnosis of cancer, although the impacts of the long-term benefits were uncertain (MacDonald et al., 2004). There is therefore a significant need for a review of breast cancer public information campaigns including mass media and localised campaigns and programmes (Wakefield et al., 2010).

In addition, it is important to note that the term breast cancer awareness is often interplayed with and used to predict both BSE and mammography uptake

(Montazeri et al., 2008). As these terms are often interlinked it is important to incorporate both terms when carrying out literature searches investigating the effectiveness of breast cancer awareness interventions. Furthermore research suggests that education programmes play a vital role in increasing breast cancer awareness, BSE and screening uptake (Montazeri et al., 2008). It could therefore be suggested that educational interventions should also be included when evaluating increases in breast cancer awareness.

#### **1.4. Aims and objectives**

The objective of this review was to measure the impact of breast cancer awareness campaigns on breast cancer awareness, BSE and attendance at screening programmes. This systematic review included public health campaigns, educational programmes and interventions which promoted breast cancer awareness through educating and promoting breast screening uptake; it reviewed this content in order to gain a deeper understanding of the link between breast awareness, breast self-examination awareness and screening uptake. This review aimed to measure breast cancer screening and breast cancer awareness uptake in British women following educational public awareness campaigns and interventions. The review included all evaluated breast cancer public information campaigns (including written literature, i.e., leaflets/booklets). In addition, unlike Wakefield et al. (2010), this review also took into account non-mass media campaigns and interventions such as those which targeted clinicians as well as patients. Furthermore, this review included quantitative and process evaluations of public health interventions. Moreover, this review's objective was to identify and review evaluated breast cancer awareness campaigns and interventions that took place post 1988 to date, and evaluate their effectiveness. The year 1988 was chosen as a starting point as it was the year in which mammograms were first introduced to women aged 50-69 years of age (NHSBSP, 2006). Fundamentally, the objective of this review was to summarise the most compelling evidence on both the positive and negative impacts of existing breast awareness campaigns on breast awareness, BSE and attendance at screening programmes among British women. In order to achieve this objective, the following questions were considered:

- Do breast cancer awareness campaigns affect breast screening uptake in British women of qualifying age?
- What factors make breast cancer awareness campaigns effective/ineffective at increasing the number of women who attend mammograms and or perform regular BSE?
- Does the impact differ across different social groups within British women - and, if so, why?
- What further recommendations can be obtained from previous literature when considering the development of future breast awareness campaigns and routine health promoting behaviours?

### **1.5. Outcome objectives**

The evidence from this review will potentially be used:

- To facilitate the implementation of best practice in future public health breast cancer awareness interventions.
- To provide the best available information to enhance future breast screening uptake.
- To identify and systematically appraise the most relevant available evidence relating to public health breast screening awareness campaigning.
- To critically appraise relevant existing breast screening awareness campaigns identified post-1988.
- To make recommendations derived from best available evidence for future breast screening and breast health awareness interventions/campaigns.
- To highlight areas where further research may be required.

## **2. Literature search and review process**

With regards to the materials used, all resources quoted where possible were the result of a primary research. This primarily consisted of randomised controlled studies which were used to measure public health campaigns and interventions' effectiveness. Furthermore, an exhaustive search and review of academic peer reviewed literature was conducted, which included randomised controlled studies and existing relevant systematic reviews. Databases used to exhaustively search for literature were: BNI, CINHAL, EMDASE, Medline and Psychinfo. These were all accessed via the use of NHS Evidence database and London Metropolitan University MetCat databases.

### **2.1. Search strategy**

When searching for relevant literature via the use of NHS evidence and MetCat the following parameters were for data were implemented: all searches must be in English,; be published between January 1988 and February 2013, in English; human research only; peer reviewed; all age groups; female sex; search term "breast cancer awareness"; key word in title and abstract. This search term was chosen as being breast cancer aware has been suggested to encompass a range of breast health-related behaviours including screening uptake (Secginli & Nahcivan, 2006).

Once all the data had been collated from various databases, the identified literature was filtered by publication date in order to prioritise the most recent published data. This was done as older literature may not be as representative as current findings. In addition, where available the abstract was also listed, as this assisted in identifying relevant research. Data was then selected for inclusion based upon abstract and title contents. In total, four search strategies were conducted. The search strategies conducted were as follows:

### **2.2. Database 1 search strategy**

The source used was **BNI**, via NHS evidence, using the following applicable limitations: publication year 1988 to present date. This search was performed in 3 stages and was last run on the 18/12/2012.

- I. Title and abstract search using the thesaurus function for the term “Breast Cancer”. The subcategories selected were: “Breast Cancer”, OR “Breast Cancer : Prevention and Screening”. This produced **2,598 results**.
- II. Second search: title and abstract search using the thesaurus function for the term “health promotion”: The subcategories selected were: “Health Promotion”, OR “Screening”, OR “Patients : Education”, OR “Public Health Nursing”, OR “Health Attitudes”, OR “Health Psychology”. This produced **13,123 results**.
- III. **Combination of results:** “Breast Cancer”, OR “Breast Cancer: Prevention and Screening”; AND “Health Promotion”, OR “Screening”, OR “Patients: Education”, OR “Public Health Nursing”, OR “Health Attitudes”, OR “Health Psychology”. **This resulted in 459 published articles.**

### 2.3. Database 2 search strategy

The source used was **PSYCHINFO**, via NHS evidence, using the following applicable limitations: publication year 1988 to present date. This search was also performed in 3 stages and was last run on the 18/12/2012.

The following search term was used for title and abstract: “breast”, AND “cancer”, AND “awareness”. This was limited to: human research; the age groups Adulthood (age 18 years and older), Young Adulthood (age 18 to 29 years), Thirties (age 30 to 39 years), Middle Age (age 40 to 64 years), or Aged (age 65 years and older); English language; and publication year between 1988 and 2012. **This resulted in 200 published articles.**

### 2.4. Database 3 search strategy

The sources used was **MEDLINE**, via NHS evidence, using the following applicable limitations: publication year 1988 to present date. This search was also performed in 3 stages and was last run on the 18/12/2012.

The following search term was used for title and abstract: “breast”, AND “cancer”, AND “awareness”, AND “intervention”. This was limited to: English language; females; human research; the age groups All Adult (age 19 years and older), Young Adult (age 19 to 24 years), Adult (age 19 to 44 years), Middle Age (ages 45 to 64

years), Middle Aged (age 45 years and older), or All Aged (age 65 years and older); and publication year between 1988 and the current date. **This resulted in 60 published articles.**

### 2.5. Databases 4 and 5 search strategy

The following additional searches were carried out using broader search terms as well as additional databases. **This resulted in a further 149 articles being found.**

- I. Search results for ("breast cancer awareness").ti,ab,af [Limit to: Publication Year 1988-2013 and (Language English) and (Gender Female)]" in **CINAHL**.
- II. Search results for ("breast cancer awareness" AND promotion).ti,ab,af [Limit to: Human and English Language and Publication Year 1988-Current]" in **PsycINFO**.
- III. Search results for ("breast cancer awareness INTERVENTION" OR "breast cancer awareness CAMPAIGN" OR "breast cancer awareness PROMOTION").ti,ab,af [Limit to: Human and Female and English Language and (Languages English) and Publication Year 1988-Current]" in **EMBAS**.
- IV. Search results for ("breast cancer awareness INTERVENTION" OR "breast cancer awareness CAMPAIGN" OR "breast cancer awareness PROMOTION").ti,ab [Limit to: Female and Humans and Publication Year 1988-Current and (Languages English)]" in **MEDLINE**.
- V. Search results for ("breast cancer awareness INTERVENTION" OR "breast cancer awareness CAMPAIGN" OR "breast cancer awareness 1988-Current]" in **BNI**.
- VI. Additional search using MetCat software: London Metropolitan University; date 10/02/13. Using advance search. Search term” “breast cancer awareness INTERVENTION” OR "breast cancer awareness CAMPAIGN” OR "breast cancer awareness PROMOTION” Peer reviewed articles only, English language date range 1988-2013

The results of the literature search are summarised in Table 1.

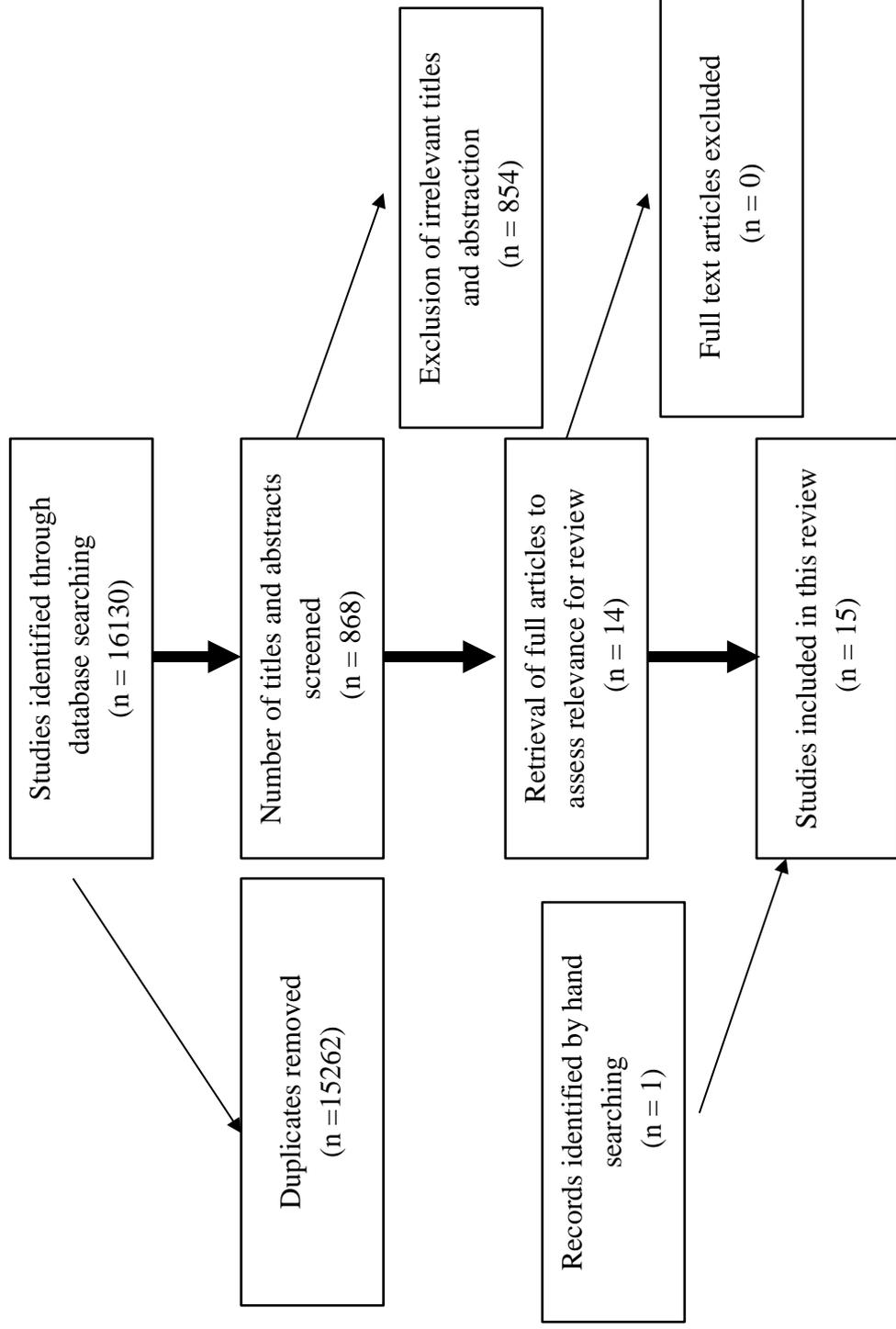
No. of databases searched	Sensitivity	Specificity: No. of articles in exclusion criteria
5	868 (+1 additional article found from citations)	15

Table 1. Summary of search results per database and specificity.

### 3. Data inclusion and exclusion criteria

As the review's objective was to evaluate British breast cancer awareness interventions, literature included interventions carried out in the UK. As the national breast screening programme was introduced in 1988 (NHSBSP, 2006), the literature included that which had been carried out between January 1988 up until the date of the search (February 2013) - and which was also peer-reviewed, and evaluated breast cancer awareness interventions and campaigns as opposed to the prevention, diagnoses, treatments or prognoses. Studies that included pre-measurement of existing awareness/knowledge in the absence of an intervention were not included. Literature selected included female-only participant samples as it is only females who are currently invited to the national NHS breast screening programme due to their increased susceptibility to breast cancer (NHSBSP, 2006). Research that did not directly evaluate public health campaigns and interventions promoting breast cancer awareness and/or the screening programme were not included in this review. Research that was not included was as follows: reviews of mammogram screening effectiveness with regards to technical processes involved in screening as well as screening staff training and attitudes for biogenetic markers, risk factors or health benefits around breast cancer prevention. In addition, developmental research relating to breast cancer causes and treatments, and literature relating to post-diagnoses interventions and coping behaviour, were not included. Furthermore, expert opinions, editorial reviews, case reports and anecdotal methodology research papers were excluded as they were deemed to be unrelated to breast cancer awareness interventions. Figure 1 shows the research selection process depicting how the 15 studies were identified and selected.

Figure 1. Selection process



### 3.1. Rational for inclusion and exclusion criteria

The research publication date range was from 1988 to the present day as breast screening was not introduced in the UK until 1988, and interventions promoting breast cancer awareness and screening uptake are likely not have been developed prior to the introduction of breast cancer screening. Participant studies featuring those of both breast screening age and non-breast screening age were selected, since, although the majority of breast cancer is detected in older age groups, breast cancer awareness is applicable to all ages. In addition, fundamental research carried out within the field was included in the background literature in order to justify the need and for the review of breast cancer awareness intervention. Furthermore the research background also assisted in assigning a theoretical framework outlining the theories and models used in existing interventions.

Table 2. The ScHARR Hierarchy

<b>Ranking Key</b>	<b>Methodology Used</b>
+++++	Systematic reviews / meta-analyses
++++	Randomised controlled trials
+++	Cohort studies
++	Case control studies, including quantitative research

The studies were categorised using the ScHARR Hierarchy system (Greenhalgh, 1997), shown in Table 2. Once the exclusion criteria had been applied, the selected articles were collated; their methodology results are summarised in Table 3. The ScHARR method was used as it enabled the inclusion and evolution of various types of methodologies whilst prioritising methods that showed greater empirical evidence.

Table 3. Inclusion articles results table.

Article Details	Author/s	Source	Methodology used	Sample size and additional information	Objectives	Evaluation/ Conclusions	Possible limitations	ScHARR Hierarchy
1. Promoting better breast awareness in teenagers. British Journal of School Nursing, vol. 4, no. 3, p. 124-129 (April 2009).	Harris, J., Graham, H., & Light, M.	BNI	Piloted intervention, cross-sectional study	Teenagers 12-16, year old students. 236 students from 9 schools; and 17 workshop facilitators (School setting). Group sizes:15 students per session	Aim: To produce pilot and evaluate a teenage-friendly breast awareness information tool kit to be used in schools during a breast awareness workshops: covering the following: disseminations for use by school nurses and health promotion units as a teaching resource and to teenagers by providing a leaflet on breast health specifically aimed at them To provide information about	The results: The Breast m8s information booklet to be used in workshops and posters were produced This resource was evaluated by the students and the workshop facilitators. The analysis was based on the facilitation of the session and value of the resource. Evaluated using Quantitative methods (workshop facilitators) found to be very effective and easy to use and qualitatively (students) measures, Significant results in gained knowledge post pilot workshop Information reinforced the need for resource packs specifically aimed at teenagers	Pilot study only, limited number of schools. The evaluation was conducted immediately after workshop/interventi on therefore longevity of information retention may be questionable, further evaluation at another time lapse may have been required	+++

Article Details	Author/s	Source	Methodology used	Sample size and additional information	Objectives	Evaluation/ Conclusions	Possible limitations	ScHARR Hierarchy
2. Screening support for women with learning disabilities. Nursing Times, vol. 104, no. 34, p. 26-27, (August 26,	Ramessur-Marsden, H., Hughes, L., & Tomlinson, P.	BNI	Pilot intervention cross-sectional study	Health care professionals from community learning disability team across North Wales and their	normal breast development and involution, explain why benign breast changes happen as part of breast awareness and the five-point code To include relevant research-based information on risk Factors and a frequently asked questions section. A poster was also created and evaluated	Evaluated using Two questionnaires, one for learning disability healthcare professionals and one for service users to complete. This enabled feedback from two different perspectives. Interviews were used to gain	Article accessed via Nixis UK: Unable to vie data set not included in article. Total number of participants unknown. Other limitations include longevity of	+++

Article Details	Author/s	Source	Methodology used	Sample size and additional information	Objectives	Evaluation/ Conclusions	Possible limitations	SchARR Hierarchy
2008).				service users (numbers not stated)	launch the smear test and breast test packs including The professional pack which was devised in CD-ROM format for learning disability teams to enhance their knowledge on breast and cervical screening issues. The project team developed a health promotion/education resource for learning disability teams to use to support women through the screening process before attending for appointments. This consists of a professional pack to enhance practitioners' knowledge and a	qualitative evidence .The questionnaire asked those participating to score each section of the package. The scoring system involved a linear scale that asked participants to rate the pack from 1 to 5, with 1 being poor and 5 being excellent. the overall package scored very well by both health care professionals and by service users	increased breast cancer awareness practices i.e. likelihood of maintains self-examination Health education package allows greater understanding and awareness of breast and cervical issues from a patient-centred approach. It is a model that can be adapted to fit alternative screening programmes and can be used specifically with people with learning disabilities or other groups with special needs. The model could be applied to any	

Article Details	Author/s	Source	Methodology used	Sample size and additional information	Objectives	Evaluation/ Conclusions	Possible limitations	SCHARR Hierarchy
3. Supporting breast self-examination in female childhood cancer survivors: a secondary analysis of a	Cox, C., Montgomery, M., & Rai, S.	BNI	Secondary data analysis of longitudinal clinical trial data	149 female survivors (aged 12–18 years) a median of 11 years after diagnosis of	health education package that contains two teaching packs, a toolkit, and checklist and care pathway in order to increase breast cancer screening uptake. During the pilot, learning disability nurses were to use the packs in individual and group work settings with their patients. All aspects of the package were to be used during the pilot.	The frequency of BSE increased between baseline and follow-up ( $t = -5.098$ , $df = 143$ , $p < 0.0001$ ), with baseline Baselines data suggests: Childhood cancer survivors are least likely to	service provision, making the communication of specific information more readily available.	+++

Article Details	Author/s	Source	Methodology used	Sample size and additional information	Objectives	Evaluation/ Conclusions	Possible limitations	SCHARR Hierarchy
behavioural intervention. Oncology Nursing Forum, vol. 35, no. 3, p. 423-430, (May 2008).				leukaemia or lymphoma (59%) or solid tumour (41%).	childhood cancer. The intervention consisted of targeted late effects screening from treatment exposure, a thorough clinical assessment, and personalized counselling (based on diagnosis and treatment history) about the risk of late effects, provided by physicians or nurse practitioners. Risks and levels of understanding about the disease and treatment. Relative to BSE, survivors (intervention and standard care groups) were given instruction in BSE that included practice	perform BSE and are fearful about. Cancer and are not motivated to change health behaviours. Despite of intention Evaluated using a quantitative questionnaire measuring likelihood of Breast self-examination uptake. Nursing interventions aimed at promoting BSE in young female survivors should take into account the positive and negative effects of fear on BSE frequency	Young female childhood cancer survivors are at increased risk of breast cancer as a result of treatment, thus this may affect their levels of risk perception of breast cancer when compared with the general population. Therefore this group may have an increased sensitivity to breast cancer interventions Study limitations also included limitations commonly are associated with secondary analyses.	

Article Details	Author/s	Source	Methodology used	Sample size and additional information	Objectives	Evaluation/ Conclusions	Possible limitations	ScHARR Hierarchy
4. Promoting early presentation of breast cancer: development of a psycho-educational intervention. Chronic Illness, vol. 4, no. 1, p. 13-27 (March 2008).	Burgess, C., Bish, A., & Hunter, H.	BNI	Randomised control trial	406 Women aged 67+ attending for their final invited mammogram within the NHS Breast Screening Programme	on clinical latex breast models that reflected normal, variant and abnormal breast tissue. To test the effects of two variants of a psycho-educational intervention on older women's knowledge of breast cancer symptoms and risk; and confidence to present promptly with a breast change.	176 participants were allocated to receive the booklet alone and 116 to receive the interview and booklet. Median number of breast cancer symptoms identified from a possible 11 increased significantly at 1 month, from 5.5 to 7 in the booklet arm (p<0.001) and from 5 to 8 in the interview arm (p<0.001).	The relative efficacy of the two variants against optimized usual care will be assessed in an efficacy randomized controlled trial. Ultimately, a multicentre implementation trial will assess the effect of the intervention on delayed breast cancer presentation and survival. This has however yet to be conducted therefore the this interventions evaluation process	++++

Article Details	Author/s	Source	Methodology used	Sample size and additional information	Objectives	Evaluation/ Conclusions	Possible limitations	SCHARR Hierarchy
5. Health promotion at NHS breast cancer screening clinics in the UK. Health Promotion International, vol. 22, no. 2, p. 137-145, (June 2007)	Fisher, B., Dowding, D., & Pickett, K.	BNI	Cross sectional design	20 women aged 50–64 invited to attend NHS breast screening programmes and (North east Yorkshire)	Pilot Intervention created from demand of NHS breast screening clinics in North Yorkshire who found that the majority of women attended were also were interested in having diet and exercise advice at screening clinics and anticipated a neutral or positive effect on their future screening appointments	Evaluated using self-complete Questionnaire (Quantitative) information on healthy eating and physical activity were also reported being more likely to attend further mammography screenings. subgroups significantly more likely to be 'very interested' were women aged over 55	could be greatly improved increasing its validity This study had a very small sample size and therefore may have low statistical power. However it does add value to the existing literature by addressing participants need and tailoring breast screening information to suit specific population groups	+++
6. Being 'breast aware'. Learning Disability Practice, vol. 6, no. 4, p. 10-14,	Poynor, L.	BNI	Exploratory/ qualitative design : using focus groups as evaluative measures	10 female participants with varying levels of learning difficulties	Objective to increase knowledge and uptake of breast screening in population groups with learning	This pilot was evaluated by the 10 participants as well as their careers. The teaching material was very well received, making the screening process more	This study does address the issue of low breast screening uptake in those with learning difficulties however this was a	++

Article Details	Author/s	Source	Methodology used	Sample size and additional information	Objectives	Evaluation/ Conclusions	Possible limitations	SchARR Hierarchy
(May 2003)					difficulties via the development of a training package to assist during breast screening attendance	understandable to women with learning disabilities and thus increasing its acceptability and accessibility to them.	very small study and was not critically evaluated on large scale therefore it is unclear if it is indeed effective	
7. Improving the uptake of breast screening: one initiative in East London. Public Health, vol. 110, no. 5, p. 305-306, (September 1996)	Falshaw, M.E., Fenton, C., Parsons, L., & Robson, J.	BNI	Randomised controlled trial	Females of breast screening age registered with a GP in the London borough of Tower hamlets	Measuring the effect of implementing personal approach from the GP surgery to encourage mammogram screening attendance	Screening Uptake for practices participating in the scheme was 55% and 31% for those who did not participate.	This intervention demonstrates the effectiveness of clinical personal engagement in particular a clinician who is known to the patients, it also highlighted GP patient conformity. It is however unrealistic to disseminate this intervention across all GP surgeries due to the intensity of involvement and time required from GP's	++++

Article Details	Author/s	Source	Methodology used	Sample size and additional information	Objectives	Evaluation/ Conclusions	Possible limitations	SchARR Hierarchy
8. Breast screening: a randomised controlled trial in UK general practice of three interventions designed to increase uptake. Journal of Epidemiology & Community Health, vol. 50, no. 1, p. 72-76, (February 1996)	Sharp, D.J., Peters, T.J., Bartholomew, J., & Shaw, A.	BNI	Randomised controlled trial	799 women ages 50-64 years of age (From 27 East London GP's)	To determine the relative effectiveness of three interventions designed to increase the uptake of breast screening. <sup>3</sup> Conditions nurse visit with health education and nurse visit without health education and GP letter	Receiving a personalised letter from the GP did not significantly increase screening uptake. In non-attenders as a nurse making a home visit to discuss the issue of breast screening, and is not noticeably less effective than a visit at which a health education interventions delivered.	This study again supports the need for clinical engagement, however it also address the need for effective clinical engagement	++++
9. Promoting early presentation of breast cancer by older women: A preliminary evaluation of a one-to-one health	Burgess, C.C., Linsell, L., Kapari, M., Omar, L., Michael, M., Whelehan, P., Richards, M., &	PsycIN FO	Randomised controlled trial	176 women aged who attended a breast: group 1: 116 women received an educational booklet group 2: 60 women	To test the early effects of a novel one-to-one health professional-delivered intervention designed to increase awareness and thereby promote early presentation of breast	At 1-month post intervention, the mean number of breast cancer symptoms identified (out of 11) increased from 5.3 by 1 symptom (P<.001) in the booklet group and by 1.9 (P<.001) in the booklet-plus-interview group.	This trial did provide positive outcomes towards educational literature provided the time of screening to predict an increase in likelihood of	++++

Article Details	Author/s	Source	Methodology used	Sample size and additional information	Objectives	Evaluation/ Conclusions	Possible limitations	ScHARR Hierarchy
professional-delivered intervention. Journal of Psychosomatic Research, vol. 67, is. 5 p 377-387, (Nov 2009).	Ramirez, A.J.			did not	cancer among older women	Improvements were sustained at 6 months.	returning. Long term effect was also observed	
10. Promoting early presentation intervention increases breast cancer awareness in older women after 2 years: a randomised controlled trial: British Journal of Cancer, vol.105 is. 1 p18-21. (June 2011)	Forbes, L.J., Linsell, L., Atkins, L., Burgess, C., Tucker, L., Omar, L., & Ramirez, A.J.	MEDLI NE	Randomised controlled trial	867 women aged 67-70 years attending for their final routine appointment on the National Health Service Breast Screening Programme	To evaluate Promoting Early Presentation (PEP) Intervention to equip older women with the knowledge, skills, confidence and motivation to present promptly with breast symptoms, and thereby improve survival from breast cancer. This consists of a 10 minute interaction between radiographer and patient. Also	At 2 years, the PEP Intervention increased the proportion who were breast cancer aware compared with usual care (21 vs 6%; odds ratio 8.1, 95% confidence interval 2.7-25.0).	This study holds high value as its effect remained significant post 2 years from the intervention	++++

Article Details	Author/s	Source	Methodology used	Sample size and additional information	Objectives	Evaluation/ Conclusions	Possible limitations	SchARR Hierarchy
11. A randomised controlled trial of an intervention to promote early presentation of breast cancer in older women: effect on breast cancer awareness. British Journal of Cancer, vol.101, is. 2, p 40-48 (Dec 2009).	Linsell, L., Forbes, L.J., Kapari, M., Burgess, C., Omar, L., Tucker, L., & Ramirez A.J.	MEDLI NE	Randomised controlled trial	867 women aged 67-70 years attending for their final routine appointment on the National Health Service Breast Screening Programme	including a booklet To evaluate Promoting Early Presentation (PEP) Intervention to equip older women with the knowledge, skills, confidence and motivation to present promptly with breast symptoms, and thereby improve survival from breast cancer. This consists of a 10 minute interaction between radiographer and patient. Also including a booklet	As above however evaluation was carried out At 1 month, from intervention: the intervention increased the proportion who were breast cancer aware compared with usual care (interaction arm: 32.8% vs 4.1%; odds ratio (OR): 24.0, 95% confidence interval (CI): 7.7-73.7; booklet arm: 12.7% vs 4.1%; OR: 4.4, 95% CI: 1.6-12.0). At 1 year, the effects of the interaction plus booklet, and the booklet, on breast cancer awareness were largely sustained, although the interaction plus booklet remained much more effective.	This study is supported by its review a year later as stated above in the 2 year review. This suggests that an intervention such as this has both short and long term efficacy.	++++
12. The	Daniel, R., &	BNI	Cohort trial	Pilot	To measure the	The pilot was	As this campaign	+++

Article Details	Author/s	Source	Methodology used	Sample size and additional information	Objectives	Evaluation/ Conclusions	Possible limitations	SCHARR Hierarchy
development of a local cancer awareness communications campaign. Journal of Communication in Healthcare, vol. 1, no. 4, p. 408-421(Oct 2008).	Simpson, M.			campaign based Atherton in Wigan, in March 2007. Sample 13,000 prompting lung bowel and breast cancer	effectiveness of a promoting early presentation public health camping using promotional material such as posters , beer mats and toilet paper holders placed in community settings inducing, bars, Bingo halls and GP settings	independently evaluated and shown to be successful. It clearly demonstrated a change in knowledge and attitude as follows: 35 per cent of people saw the campaign (a very high figure for a campaign of this Size); 84% said the campaign would persuade them to go and see their doctor, or think about seeing their GP	was a pilot and has only been tested in one PCT It is difficult to assess its reliability and efficacy. However it effectiveness does demonstrate the impact of written literature placed in targeted location	
13. Can radiographers be trained to deliver an intervention to raise breast cancer awareness, and thereby promote early presentation of breast cancer, in older women?	Omar, L., Burgess, C.C., Tucker, L.D., Whelehan, P., & Ramirez, A.J.	Metcat	Cohort trial	4 radiographers	Increase the likelihood of early presentation (PEP) in breast cancer by older women and improve survival from the disease. Method: to train radiographers to deliver a 10-min scripted one-to-one intervention. Training	Three radiographers were assessed as competent after training and all four increased in confidence to deliver the intervention. Reported benefits to radiographers included increased awareness of communication skills and enhanced interaction with women attending breast screening. Radiographers	A Statistical analysis was not conducted on these data as the sample of radiographers was so small therefore it is not possible to identify how successful this intervention would be. However if this pilot were to be	+++

Article Details	Author/s	Source	Methodology used	Sample size and additional information	Objectives	Evaluation/ Conclusions	Possible limitations	SchARR Hierarchy
Radiography, vol. 16, is.2 p101-107, (2010).					included rehearsal of the intervention using role-play with actors and colleagues and practice interviews with women attending NHS breast screening clinics. All practice interventions were videotaped to facilitate positive, constructive feedback on performance. Competence to deliver the intervention was assessed on delivery of the key messages and the style of delivery. Radiographers' experiences of training and intervention delivery were collated from	reported challenges relating to mastering the prescriptive nature of the intervention and to delivering complex health messages within time constraints. Further Reported benefits to radiographers included increased awareness of communication skills and enhanced interaction with women attending breast screening. Radiographers reported challenges relating to mastering the prescriptive nature of the intervention and to delivering complex health messages within time constraints. It was feasible but challenging for radiographers to be trained to deliver a one-to-one intervention designed to	replicated and proven to be cost effective the feedback reported by the radiographers in this study suggests that effective clinical training can have a positive impact on clinical effectiveness.	

Article Details	Author/s	Source	Methodology used	Sample size and additional information	Objectives	Evaluation/ Conclusions	Possible limitations	ScHARR Hierarchy
14. Promoting early presentation of breast cancer in older women: implementing an evidence-based intervention in routine clinical practice. Journal of cancer epidemiology, vol. 2012, is. 2012, p 1-6. (October 2012)	Forbes, L.J., Forster, A.S., Dodd, R.H., Tucker, L., Laming, R., Sellars, S., Patnick, J., & Ramirez, A.J.	Metcat	27 mammograms	Randomised controlled trial : piloted brief health professional-delivered intervention	reflective diaries.  To equip women to present promptly with breast symptoms, as an integral part of the final invited mammogram at age ~70, in the English National Health Service Breast Screening. This study involved training mammographers, to offer the intervention to older women in four breast screening services examined breast cancer awareness at baseline and one month in women receiving the intervention, and in a	raise breast cancer awareness and thereby to promote early presentation of breast cancer.  Breast cancer awareness increased 7-fold at one month in women receiving the intervention compared with 2-fold in the comparison service (odds ratio 15.2, 95% confidence interval 10.0 to 23.2). Conclusions. The Promoting early presentation (PEP) Intervention can be implemented in routine clinical practice with a potency similar to that achieved in a randomised controlled trial.	This study shows that The PEP Intervention can be implemented in routine clinical practice training and has the potential to reduce delay in diagnosis for breast cancer in older women. This study support previous similar literature	++++

Article Details	Author/s	Source	Methodology used	Sample size and additional information	Objectives	Evaluation/ Conclusions	Possible limitations	SchARR Hierarchy
15. Interventions to promote cancer awareness and early presentation: systematic review. British Journal of Cancer. Vol.101, sup.2 p.31–39 (2009)	Austoker, J., Bankhead, C., Forbes, L.J., Atkins, L., Martin, F., Robb, K., Wardle, J., & Ramirez, A.J.	Citation found in Forbes et al., (2012)	Systematic review	22 randomised controlled trials	control setting service where the intervention was not offered. Aim of this study was to review the evidence for the effectiveness of interventions to raise cancer awareness and promote early presentation in cancer to inform policy and future research. This review applied to a number of cancers including breast cancer	22 Randomised controlled studies identified promoting breast cancer awareness. Very few community based intervention were identified. Interventions delivered to individuals may increase cancer awareness. Interventions delivered to communities may promote cancer awareness and early presentation, although the evidence is limited.	This review very similar to this systematic review however it only included randomised controlled trials as opposed to cohort and qualitative studies and is therefore limited on variances.	++++

Table 3. Inclusion articles results table.

#### **4. Results**

The review identified 15 evaluated breast cancer awareness intervention studies listed in Table 3. As shown in Table 3, the included studies encompassed one systematic review which included UK and non UK randomised controlled trials, one community-based intervention using promotional material, nine studies comprising clinical engagement (GP's mammographies and radiographies), four studies with tailored specific interventions (older women, cancer survivors, teenagers and those with learning difficulties). With regards to study methodology, five of the studies used a randomised control design, one used a systematic review design which reviewed 22 randomised controlled trials, one study used a case control exploratory design and seven studies included cohort designs consisting of cross-sectional studies investigating specific population groups.

The first study to be included in this review was carried out in response to many requests from school nurses for breast awareness and breast cancer information suitable for teenagers. This demand reinforced the lack of relevant material available for this age group as suggested by Harris, Graham, and Light (2009). Furthermore, as suggested by McMenamin et al. (2005), there is evidence that government public health initiatives with regards to breast cancer awareness can be improved. Therefore, the need for such interventions is paramount. The intervention carried out by Harris et al. (2009) used a cross-sectional method to pilot an intervention consisting of an educational resource pack for 12-16 year olds. The intervention proved to be effective in increasing breast cancer awareness in this population. This implies that tailored public health interventions can be effective in promoting breast cancer awareness in adolescents. In addition, as suggested by Naidoo and Wills (2000), it is important to promote breast health and breast awareness in schools as this is a time when teenagers are most likely to acquire lifetime habits and attitudes. Furthermore, another of the 15 studies included in this review also consisted of an intervention aimed at young adolescents. This study was conducted by Cox, Montgomery, and Rai (2008), and used a longitudinal data cohort study design using clinical data. The study examined the BSE frequency of an adolescent age group who were female childhood cancer survivors. This study identified that childhood cancer survivors are at a greater risk of developing breast

cancer later in life (Taylor, Winter, Stiller, Murphy, & Hawkins, 2006). This study found that BSE frequency was below national average in this population group due to increased fear of cancer which impacted on motivation to change health behaviour. This study concluded with the need for mitigating factors such as previous cancer history to be included when developing a breast cancer awareness intervention. Furthermore, demonstrations to ensure competency in BSE, and tailor risk information to each survivor's background (e.g., socioeconomic status, age, and development), cognitive characteristics (e.g., disease and treatment knowledge and risks) and affective characteristics (e.g., fears) should be considered by healthcare professional when addressing BSE motivation. This study also reinforced the need for tailored interventions suited to the needs of specific population groups as well as the need for adolescent interventions as health behaviours established at a young age are more likely to continue throughout life (Naidoo & Wills, 2000).

In addition, another study included in this systematic review consisted of a tailored health promotion intervention. This intervention targeted healthcare professionals who worked in community learning disability teams across North Wales. The study's objective was to promote screening attendance through increasing breast cancer awareness and breast awareness in women with learning difficulties. The intervention involved working with healthcare professionals to develop an educational resource. The study conducted by Ramessur-Marsden, Hughes, and Tomlinson (2008) used a cross-sectional design to develop and evaluate a teaching package. The intervention was evaluated by both healthcare professionals and service users. As this intervention consisted of a participatory approach it was both service user and healthcare professional focused, and was therefore able to encompass both healthcare professionals' and service users' viewpoints, resulting in increased applicability. This study recognised a healthcare need by addressing a gap in care identified by previous research. Previous research showed that women with learning disabilities were more likely to have health difficulties than the general population, but are less likely to access health support and preventative screening (Lennox, Green, Diggins, & Ugoni, 2001). Furthermore, previous research also suggested that healthcare professionals are less likely to encourage screening behaviour in population groups with learning difficulties when compared with the general population (Reynolds, Stanistreet, & Elton, 2008). Therefore, this

study aimed to rectify this issue by integrating healthcare needs within existing care and by collaboratively working with healthcare professionals. The intervention proved to be effective for both healthcare professionals and patients. Furthermore a previous intervention carried out by Poynor (2003) was also included in this review. Poynor (2003) identified a similar gap in healthcare reach within women with learning difficulties. Poynor (2003) carried out an exploratory, qualitative design using focus groups as evaluative measures. The objective of the intervention was to increase knowledge and uptake of breast screening in population groups with learning difficulties via the development of a training package to assist during breast screening attendance. The teaching material was very well received, making the screening process more understandable to women with learning disabilities and thus increasing its acceptability and accessibility in this population group. This study does address the issue of low breast screening uptake in those with learning difficulties - however, this was a very small study and was not critically evaluated on large scale, and therefore it is unclear if it is indeed effective.

A randomised controlled trial carried out by Burgess, Bish, and Hunter (2008) was included in this review. Burgess et al. (2008) explored the impact factors associated with delayed presentation by women with breast cancer. These risk factors were placed in a theoretical framework to understand patient delay. The intervention incorporated behavioural change techniques that, according to previous research, have been demonstrated to be effective. Burgess et al. (2008) concluded that an intervention would be most effective if it incorporated healthcare professionals such as radiographers as well as educational material and brief patient interventions consisting of behavioural change techniques. This intervention however has yet to be fully evaluated using a multicentre randomised controlled trial and therefore no direct conclusions can be observed. In addition, Fisher, Dowding, and Pickett (2007) carried out a similar intervention which was also included in this review. Fisher et al. (2007) used a cross-sectional design and found that the majority of women who attended were also were interested in having diet and exercise advice at screening clinics and anticipated a neutral or positive effect on their future screening appointment. This reinforced the need for behavioural techniques to address health behaviours to be included when developing breast cancer awareness interventions. This study had a very small sample size and therefore may have low

statistical power. However it does add value to the existing literature by addressing participants' needs and tailoring breast screening information to suit specific population groups.

Furthermore, with regards to the involvement of healthcare professionals, further interventions were included in this review. These interventions included a randomised controlled trial by Falshaw, Fenton, Parsons, and Robson (1996), who measured the effect of implementing a personal approach from the GP surgery to encourage mammogram screening attendance. The trial concluded that a personal approach from a GP can positively affect screening attendance outcome. The intervention demonstrated the effectiveness of clinical personal engagement - in particular a clinician who is known to the patients. It also highlighted GP patient conformity. It is, however, unrealistic to disseminate this intervention across all GP surgeries due to the intensity of involvement and the time required from GPs. In addition, Sharp, Peters, Bartholomew, and Shaw (1996) also carried out a randomised controlled trial including GPs. This was, however, on a larger scale and also included other healthcare professionals such as nurses as well as comparing written information with face-to-face behavioural interventions. The trial's objective was to determine the relative effectiveness of three interventions designed to increase the uptake of breast screening. The randomised controlled trial consisted of comparing three conditions which included: a nurse visit with health education; a nurse visit without health education; and a personal letter from the GP. The trial concluded that a personal letter from the GP seems to be at least as effective at increasing the uptake of breast screening in non-attenders of previous screenings as a nurse making a home visit to discuss the issue of breast screening, and is not noticeably less effective than a visit at which a health education intervention is delivered. It is possible that the GP letter is considerably more effective than either of the two interview-based interventions.

With regard to implementing strategies for future interventions, this study suggest that even a minimum effort such as a personalised letter can still have a significant impact on screening attendance and should not be dismissed. This study supports the need for clinical engagement, however it also address the need for effective and personalised clinical engagement. In contrast, a more recent study by Burgess et al.

(2009) also promoted the need for effective clinical engagement. Burgess et al. (2009) however found that more intensive tailored one-to-one health professional-delivered interventions may be more effective at increasing breast awareness. Burgess et al. (2009) carried out a randomised controlled trial which was included in this review. Burgess et al. (2009) found that increased breast awareness was found in those that were offered both educational material and a one-to-one behaviour change intervention, as opposed to just receiving written one or the other. This was further supported by Linsell et al. (2009), and later by Forbes et al. (2011), who also carried out randomised controlled trials included in this review and found that women who received a brief ten-minute face-to-face intervention from radiographers were more likely to attend future breast screenings and had increased breast awareness. The effects of this study were found to still be significant two years after the intervention. These studies imply that there is a need for behavioural interventions provided by healthcare professionals, that such interventions are effective and that the effects may be long-term.

The role of radiographers in particular has been reinforced by Omar, Burgess, Tucker, Whelehan, and Ramirez (2010), who carried out a cohort trial investigating factors involved in increasing early detection of breast cancer through breast cancer awareness interventions delivered by radiographers. The study was included in this review and found that radiographers are strategically placed to deliver such interventions provided they are given effective training in how to deliver effective behavioural interventions which cover key messages. The results concluded that such training can have a positive impact on both patients and radiographers. The positive impacts include increased awareness of communication skills and enhanced interaction with women attending breast screenings. Radiographers however, reported challenges relating to mastering the prescriptive nature of the intervention and delivering complex health messages within time constraints. It was feasible but challenging for radiographers to be trained to deliver a one-to-one intervention designed to raise breast cancer awareness and thereby to promote early presentation. With regards to trial validity, a statistical analysis was not conducted on the data as the sample of radiographers was so small; therefore it is not possible to identify how successful this intervention would be. However if this pilot were to be replicated and proven cost-effective, the feedback reported by the radiographers

in this study suggests that effective clinical training can have a positive impact on clinical effectiveness. In addition to radiographers' effectiveness in delivering breast cancer awareness interventions, mammographers have also been suggested to be effective in delivering such interventions (Forster et al., 2012). Foster et al. (2012) carried out a randomised controlled trial included in this review. The objective of the trial was to pilot a brief health professional-delivered intervention provided by mammographers. The outcome of this trial was to equip women to present promptly with breast symptoms, by training mammographers to offer the intervention to older women. The trial concluded that, in the group where women were given the intervention, breast cancer awareness increased seven-fold at one month compared with two-fold in the comparison service (OR 15.2, 95% CI, 10.0 to 23.2). This study suggests that promoting early presentation interventions can be implemented in routine clinical practice and has the potential to reduce delay in diagnosis for breast cancer in older women.

Daniel and Simpson (2008) carried out a cohort trial included in this review. The trial's objective was to pilot a local campaign based in Wigan. The campaign promoted lung, bowel and breast cancer awareness via the use of promotional materials such as posters, beer mats and toilet paper holders placed in community settings including bars, bingo halls and GP settings. The pilot was independently evaluated and shown to be successful. It demonstrated a significant change in knowledge and attitude after exposure to the material. Furthermore, post exposure, a large proportion of the community said the campaign would persuade them to go and see their doctor, or think about seeing their GP if they were concerned about breast cancer. It is important to note however that this campaign was a pilot and has only been tested in one community; it is therefore difficult to assess its reliability and efficacy across a broader locality. However its effectiveness does demonstrate the impact of written literature placed in targeted locations. Furthermore, a systematic review by Austoker et al. (2009) was also included in this review. The objective was to appraise the evidence for the effectiveness of interventions in raising cancer awareness and promote early presentation in cancer to inform policy and future research. The review included 22 randomised controlled trials identified in promoting breast cancer awareness. The review concluded that very few evaluated community-based intervention were identified and there may be a need

for better interventions delivered to individuals to increase cancer awareness. However it is important to note that this review only included randomised controlled trials and is therefore limited on variances of evaluated interventions.

According to Kusters and Gotzche (2008), some health professionals still recommend BSE contrary to the evidence that, alone, it can be harmful and should be replaced with the promotion of breast awareness (Mant, 1991). It is therefore important to also include interventions aimed at healthcare professionals when reviewing the effectiveness of public health interventions as they too play a pivotal role in increasing early detection. This systematic review found that interventions including both patient and healthcare professionals proved to be effective and therefore this should be considered when developing and evaluating such interventions. Furthermore, few rigorous evaluations of breast cancer awareness related interventions have been carried out, and most available research has been conducted outside of the UK (Wakefield et al., 2010). The evaluations that have been carried out are not definitive in predicting the longevity of the impact of public health interventions. Additionally, interventions delivered to communities may promote cancer awareness and early presentation, although the evidence is limited. In sum, community-based and participatory approaches including both patients and healthcare professionals seem to show some promise in increasing breast cancer awareness, as do participatory education principles of empowerment that activate women in becoming more aware of their breast health and understanding and using health information for their own health.

## **5. Discussion and Conclusion**

As the prevalence of breast cancer is increasing and late presentation is more common than not, this review aimed to clarify what had been done to address the issues of increasing early presentation. The objective was to collate and review all research carried out between 1988 to the present date with regards to increasing breast cancer awareness and screening uptake via public health campaigns and educational interventions conducted in the UK. The review showed that all methods of interventions were deemed to be effective; this included written resources, promotional material such as posters and beer mats placed within community settings, group and one-on-one interventions, workshops and healthcare professional involvement (with varying degrees sample sizes) from GPs to radiographers. The settings of the interventions also varied from school-based, GP-based and screening-based - all of which were deemed to be effective. Some of the identified successful interventions were tailored to suit specific population groups including teenagers and those with special needs. This is in accordance with interventions focusing on key messages - for example, being aware of what is “normal” and attending screening as opposed to regular self-examination. Similarly as Scanlon (2005) suggested, there are existing inequalities in breast screening uptake in women from ethnic minorities. Therefore women from ethnic minorities may require specific targeted and tailored interventions (Bollinger & Kreuter, 2012).

The majority of the studies identified in this review involved clinical engagement and training. These studies showed that effective clinical training can result in increased patient conformity to screening and increased awareness. Although not all the studies were statically appraised, the impact for those that were showed significant positive results in increased likelihood of early presentation. The most effective study involved training mammographers to deliver brief breast awareness interventions to patients attending screening (Forbes et al., 2012). It is however important to note that this study involving mamamographers was delivered to women who were already attending breast screening and therefore did not address the pre-screening decision-making possesses. Although clinical training interventions were deemed to be effective for both long term and short term increased knowledge and likelihood of early presentation, they were not carried out

on a larger scale. The majority of the studies identified were pilot trials and therefore would require repeating on a larger scale. Training healthcare professionals can also be time-consuming and requires positive long-term clinical engagement.

Population group-specific interventions included in this review included adolescents, populations with learning difficulties, those with a previous cancer diagnoses (an increased risk of breast cancer), and older women. Addressing the individual needs of specific population groups may have a strong positive impact on the effectiveness of a breast cancer awareness intervention. In addition, as previously observed by Wakefield et al. (2010), non-evaluated mass media campaigns were identified. However there are a few that should be mentioned such as the TLC (“Touch, Look, Feel”) message, promoted by the Department of Health in mass written educational literature in order to encourage primary care healthcare professionals to discuss breast cancer awareness and self-examinations to thus identify breast cancer signs and symptoms with patients (Cant, 2008). There is no direct evaluation of this mass media educational literature intervention, and therefore it was not deemed applicable to be included in this review; however it does reinforce the need for the evaluation of mass public health interventions.

This review also reinforced the effectiveness of promotional literature in increasing breast cancer knowledge (Poynor, 2003) when placed within a community setting. These findings support Chouliara, Power, and Swanson (2002), who found that mammography screening attendees were more likely to have a pre-existing knowledge of breast cancer and its signs and symptoms. Therefore, education literature and/or interventions could potentially increase knowledge, thus increasing the likelihood of future breast screening attendance. From the search process of this review it has been noted that although evaluated breast cancer awareness interventions have been conducted, very few have taken place in the UK. There have, however, been a number of unevaluated interventions that could not be included in this review; it would be highly beneficial if interventions were empirically evaluated. Furthermore when considering future interventions, longitudinal studies would be useful to measure the long-term impact of such interventions, since the risk of breast cancer increases with age.

In conclusion, this review shows that, overall, breast cancer awareness interventions are effective at increasing breast cancer awareness, knowledge and screening uptake, and may go a long way in reducing late diagnoses, thus potentially reducing breast cancer mortality rates. Small community educational programmes, although sparse, can be effective - as can be mass community promotional campaigns and clinical training interventions. However, in contrast, and as concluded by Austoker et al. (2009), there is likely to be an abundance of local interventions that have not been included as they have failed to be critically evaluated and peer reviewed. For further information on what makes an effective breast cancer awareness intervention, it is important that all research is reported and evaluated. This review goes some way to determine what makes an effective breast cancer intervention; however, due to the lack of available evaluated studies, it is difficult to determine how many interventions are unaccounted for and how effective breast cancer awareness campaigns have been.

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# **Professional Doctorate of Health**

## **Psychology:**

### **Competence 2.0**

#### **Behaviour change intervention**

Development and evaluation of a stop smoking resource for young people with a pupil referral unit setting, including a self-reflective commentary

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## **Introduction**

This case study will describe in detail using reflective commentary how the need for a health behaviour intervention was identified and how the intervention was developed. Furthermore, this report will address how the intervention was evaluated by contrasting the application of two health behaviour models in relation to the developing and evaluating the resources. In addition, future scope for the intervention will also be discussed. The overall rationale of this report is to address the learning outcomes of the behaviour change intervention competencies. The primary outcome as highlighted in the BPS Qualification in Health Psychology (BPS, 2009) learning outcomes is to conduct health psychology intervention to change behaviour of individuals, groups and communities/organisations in order to achieve health outcomes. This report aims to outline the development and evaluation of young person's stop smoking resource, which conveyed a health behaviour intervention. The resources formulated a dual impact intervention which covered a smoking cessation intervention for adolescents via increasing the likelihood of adolescents accessing stop smoking service, as well as a deterrent to the onset of smoking for younger age groups. The two resources that were developed included: a chatterbox (referred to as a sunshine catcher) aimed for 8-11 year olds (key stage 2) and a young person smoking information leaflet aimed for 12-15 year olds (key stage 3).

## **Intervention rationale**

Smoking remains the largest preventable cause of premature death and disability in the UK (Raw, McNeill & West, 1998) Smoking has also been found to be highly addictive as tolerance to nicotine rapidly forms (Stolerman & Jarvis, 1995).

According to the US Surgeon General Report (US Surgeon General Report, 1988) the extent of the addiction has been shown to be comparable with heroin or cocaine suggesting that once tobacco use has begun, stopping can be extremely challenging. In Great Britain it is estimated that approximately 20% of people over the age of 18 years report to be regular smokers (Office on National Statistics: ONS, 2013).

According to The Information Centre for Health and Social Care, ( ICHSC, 2013) over the years there has been a decline in smoking rates of adolescents whereby 11% of 11-15 year olds reported smoking regularly (at least 1 cigarette per week)

compared to just 4% of 11-15 year olds in 2012. This is comparable with the decline in smoking prevalence amongst adults which has been steadily declining since the late 1970s (ONS, 2013).

According to Gallup and Newport, (1990) over 60% of regular adult smokers would like to stop smoking whilst 83% wish they had never started smoking in the first. However according to ICHSC (ICHSC, 2013) the adolescent's tobacco use survey suggested that only 31% of young people wanted to give up smoking. This is comparably lower than the figure quoted in adult smokers and suggests that young people may be less likely to want to stop smoking. This implies that young people may have distorted perceptions of smoking and its health impacts in comparison to adult smokers who may be more aware of the detrimental health outcomes associated with smoking. Perhaps addressing salient beliefs about smoking could prevent the onset and or continuation of smoking as this could influence behavioural intentions as suggested by Ajzen (2002).

Although smoking prevalence has declined in both adult and adolescents populations (ONS, 2013), it is estimated that more than 207,000 children in the UK start smoking every year. (Hopkinson, Lester-George, Ormiston-Smith & Arnott, 2013). That is equivalent to over 550 children starting to smoke each day. UK data suggests that a quarter of all 11-15 year olds have tried smoking (Health and Social Care Information Centre- HSCIC 2012). Furthermore the prevalence of smoking increases with age, from less than 0.5% of 11 year olds to 15% of 15 year olds (ONS, 2009). Almost 70% percent of regular smokers initiate smoking by the age of 18 years whilst over 80% of smokers begin before the age of 20 years. (ONS, 2010) Furthermore in the UK research suggest that 25% of adolescents between the ages of 11-15 years of age have tried smoking (ICHSC, 2012). Moreover the health effects of smoking from a young age have been identified, the earlier the onset of smoking the greater the probability of developing lung cancer, despite the length of time smoked for or quantity smoked (Wiencke, Thurston., Kelsey, Varkonyi, Wain, Mark, Christiani, 1999 & Peto, Darby, Deo, Silcocks, Whitley, & Doll, 2000).

In 2011 the new coalition government launched its Tobacco Control Plan for England in which it set out plans to reduce adult smoking prevalence from 12% to 18.5% or less by 2015 and to reduce smoking among 15 year-olds from 15% to 12%

or less by 2015 (Tobacco Control Plan for England, 2011). However this can only be achieved if the onset of smoking is prevented amongst children and adolescents as there is confounding evidence to suggest that the onset of smoking begins at a young age. (Hopkinson et al., 2013) It is therefore imperative to educate children in the in the dangerous of smoking prior to the onset of smoking. There is an imperative need to implement a preventive measure to reduce smoking uptake prior the age of 18 years. Helping younger generations not smoke, or supporting them to stop smoking if they have already began, could potentially prevent future public health epidemics attributed to smoking.

Primary school based interventions have been shown to be effective in reducing the onset of smoking rates (Crone, Spruijt, Dijkstra, Willemsen, Paulussen, 2010, Conner & Higgins, 2010). There has however been some contradiction over whether such interventions work at a secondary school level as suggested by Faggiano, Vigna-Taglianti, Burkhardt, Bohrn, Cuomo, Gregori, Panella, Scatigna, Siliquini, Varona, Vander-Kreeft, Vassara, Wiborg, & Galanti (2010) who found no significant reduction in smoking prevalence between control group who had been exposed the intervention and the non-control group who had not been exposed to the intervention. However research by Sussman and Sun (2009) who conducted a systematic review of 64 studies supported the effectiveness of school based smoking cessation programmes at a secondary school level. Furthermore the National Institute for Clinical Excellence (NICE) also recommends the use of school based intervention programmes. (NICE, 2010). NICE advises that smoking cessation and smoking prevention interventions should be implemented and maintained in primary, secondary and special schools as well as other non-main stream educational settings applicable to all young people under the age of 19 years (NICE, 2010)

In addition, adolescents that smoke should be encouraged to stop using clinically effective methods such as the NHS stop smoking programme (Bauld, Bell, McCullough, Richardson & Greaves, 2009). The NHS stop smoking service consists of both pharmacotherapy and behavioural support which has been shown to quadruple likelihood of long term abstinence (Hughes, Keely & Naud, 2004). However very few young people have been shown to access the stop smoking service and out of those that do dropout rates and success rates are low (Gnich,

Sheehy, Amos, Bitel & Platt, 2008). There may be various reasons why young people do not access stop smoking services. For example as suggested by Grimshaw, Stanton, Blackburn, Andrews, Grimshaw, Vinogradova, & Robertson (2003) young people may feel the service is not applicable or relevant to their age group, they may be unaware that the service exists, or may fear that it is not confidential and that family members would be informed of their smoking status or they may feel that they simply do not wish to stop smoking (ICHSC, 2013). Perhaps addressing these salient issues will assist in service recruitment and retention rates amongst this age group.

## **Intervention Development**

In March 2013, I commenced a new work placement within a hospital setting. As part of the role I visited in patients that had been referred to the stop smoking service and delivered very brief stop smoking advice and supported patients in an outpatient clinic following discharge. It became apparent that there appeared to be non-existent referrals from the paediatric ward. Upon further investigation I discovered that the paediatric consultant nurse was developing a steering group whose primary objective was to increase smoking cessation referrals. I contacted the nurse consultant and arranged a meeting to discuss what the potential barriers staff faced when referring patients were. Following this primary meeting, I attended two further steering group meetings and was able to receive feedback from a range of the paediatric ward staff including doctors, nurses and health care assistants. I discovered a number of barriers as follows: Staff were unable to raise the issue of smoking with patients – as they could not inquire in the presence of the child's parents and felt uneasy about asking parent to leave They felt they lack leaflets/ posters informing patients and family of the stop smoking services and the effects of smoking. They felt staff were not appropriately trained in how to provide very brief stop smoking advice resulting in referrals to the stop smoking service. I fed this information to the stop smoking service manager. Upon discussion, the service manager concluded that I would develop resources that could available for patients within the paratactic ward, however I felt developing a general leaflet for adolescents on would not suit all age groups within the ward. I therefore decided to also create a resource for younger children. Thus addressing the age attributed to the onset of smoking, enabling a

preventative resource as well as a cessation resource to be developed for older age groups. In addition I wanted to ensure that the intervention developed could also be used in a non-school setting, where young people would be i.e. youth centres and particularly within a hospital setting. The intervention could then be applied to a wider scope of settings making it more widely applicable. The resources could also be used by staff to help raise the issue of smoking and smoking cessation. In addition to the resource implementation, the paediatric team were informed of the very brief advice training provided by the stop smoking service, and were invited to attend. The training provides guidance on how to raise the issue of smoking and how to and how to effectively refer patients to the service and could potentially help staff overcome their barriers when referring patients.

In order to mediate between a school and hospital setting I decided to deliver the intervention in a pupil referral unit which supported children who had been out of main stream education for some time and had been recently discharged from hospital. The pupil referral unit objective is to help student's catch-up with the curriculum before returning to main stream schooling. From having researched into the field it became apparent that an intervention that took place in a school setting would be most effective (Donovan, 2000, Sussman et al., 2009 & NICE, 2010). Hence the pupil referral unit setting met the required criteria for evaluating the intervention.

Post the initial evaluation, the resource will be available within a hospital setting. In support of this there is a vast amount of robust empirical evidence that supports smoking cessation intervention within a hospital setting (Stevens, Glasgow, Hollis, Lichtenstein, Vogt, 1993, Rigotti, Arnsten, McKool, Wood-Reid, Pasternak, & Singer, 1997). Paediatric wards settings have also been found to be an effective setting for smoking cessation and smoking onset preventative interventions (Pbert, Flint, Fletcher, Young, Druker, Joseph, DiFranza, 2006, Pbert, Flint, Fletcher, Young, Druker, & DiFranza, 2008). In addition paediatrics ward interventions have also been found to be effective in addressing parental smoking (Rigotti et al., 1997) suggesting that this intervention could indirectly raise and address the issues of parental smoking. This also implies that the topic of passive smoking should be

incorporated into the intervention. I therefore ensured that this topic was included in both resources.

The intervention also needed to be as interactive as possible particularly with regards to the younger age group (NICE, 2010). I therefore deduced that I would develop an interactive resource that could be used within a school setting. Furthermore more the pupil referral unit was an appropriate setting for the evaluation the intervention evaluation as the children that took part had all at some point been in hospital therefore would share similar experiences to as inpatients. I wanted to find out about what information I should include when developing the recourse. A literature review of smoking cessation intervention for young people by Gray and Dale (2014) concluded that providing salient graphic information about the health effects of smoking related vanity and oral health in particular can help motivate young people to join a cessation programme.

In preparation whilst developing the material, in addition to completing a background literature review, the local stop smoking team communications lead was consulted. Via the support of the communications team lead, it was identified that the Islington smoke free young person's section of website access statistics revealed that the most visited page was smoking and shisha. It therefore was concluded that Shisha was indeed a topic that required addressing and would be included in both resources. I felt having this knowledge gave me a greater insight into the populations' interests and validated the resources content Based on the information I had collated from the literature review I developed tow resources: a chatterbox (referred to as a sunshine catcher) aimed for 8-11 year olds (key stage 2) and a young person smoking information leaflet aimed for 12-15 year olds. (Key stage 3) both of which were evaluated in pupil referral unit. The leaflet was evaluated by seven young people in total (6 males and one female aged 14-15 years). The sunshine catcher was evaluated by six children in total (3 girls and 3 boys aged 9-11. Please refer to the appendix to view both resources.

The leaflet and the sunshine catcher were developed using images obtained from the Department of Health (DoH) Smokefree resource website. These images are royalty free providing they are used in accordance to the guidelines outlined on the site which, state that the images can only be used to support smoking cessation materials

and must also include the smoke free log. Further images were acquired from Microsoft word clip art. These images were also royalty free. In addition the sunshine catcher also includes an amended image of the Whittington health NHS trust logo. This image was developed by the Islington stop smoking service which approved in the development of the intervention.

### **Ethical considerations**

Ethical considerations were taken into account whilst developing the intervention. The paediatrics team lead consultant and lead paediatrics respiratory nurse were approached for their opinion on both resources and feedback prior to developing the final draft. Their permission was sought prior to commencing the focus groups as were the lead teaching support staff members. In addition the hospital communication team leafleted development guidance was consulted during the development of the leaflet. Teaching aids reviewed the material prior to the focus group in order to assess if they felt the material, language and contents were suitable for the relevant age group. Furthermore the teaching aids were present during each of the focus groups and facilitated in the intervention. The communications team at the hospital were also contacted to review the leaflet prior to it being used within the hospital and to ensure the hospital logo was appropriately used.

Children were also verbally debriefed prior to the focus groups and teaching aids were present throughout to provide support. At the end of each of the focus groups the children were offered the resources to take home should they have wished to. They were also reminded that the stop smoking service details were on the resources should they wish to find out more or pass on the details to a family member.

Upon reflection I found that incorporating into a lesson plan very helpful as it gave structure to session and allowed the children in each of the focus group to work as a group. I felt the style used permitted a greater level of discussion and reflection it also promoted facilitated learning particularly with children who have suffered a challenging life event (Ewing, MacDonald, Taylor & Bowers, 2007).

## **Theoretical health model application**

The intervention was based on the Health Belief Model (HBM) Janz and Becker (1984). The theoretical construct of the HBM is based on perceived severity or susceptibility of a particular negative health outcome, the greater the perceived severity the increased probability of sufficiently altering a maladaptive health behaviour to avoid its potential consequences. In the case of smoking the model has been shown to be effective in predicting smoking onset and smoking cessation (Balbach, Smith & Malone, 2006). In addition, according to Rosenstock (1974) modifying factors such as level of education and environment can also play a role in the HBM.

According to Janz and Becker (1984) and Rosenstock (1974) the HMB was formulated in the later 1950's by Hochbaum, Rosenstock, and Kegels moreover, it was specifically formulated to suit health behaviours. The theory is made up of six sub constructs related to the likelihood of up taking and maintaining specific health behaviours (Janz & Becker 1984). These subs constructs included: Perceived Susceptibility, Perceived Severity, Perceived Benefits, Perceived Barriers, Cues to Action and Self efficacy (Rosenstock, Streche, & Becker, 1988). These constructs were applied to this intervention as shown in table 1.

Table 1: The HBM sub-concepts applied to smoking cessation intervention

<b>Concept</b>	<b>Onset of smoking and smoking cessation health behaviour</b>	<b>Smoking onset prevention or cessation</b>
<b>1. Perceived Susceptibility</b>	<p>Youths believe smoking can cause short term and long term health impacts.</p> <p>Youth believe the consequences of commencing to smoke create a long term addiction significant enough to avoid</p>	<p>Youths think that if they smoke they are likely to develop life limiting conditions.</p> <p>Increasing perception of the health consequences in taking up smoking or continuing to smoke, whilst relating it to short term health effects as well as long term.</p>
<b>2. Perceived Severity</b>	<p>Youths believe the recommended action is to never start to smoke or to stop if they have already tried to smoke</p>	<p>Youths believe that the recommended action of not smoking would benefit them — with regards to physical fitness and appears as well as financial gain.</p>
<b>3. Perceived Benefits</b>	<p>Youths identify their personal barriers to preventing the onset of smoking/smoking cessation (i.e., they may feel coaxed by peers to start, they may not know about support available to them and explore ways to eliminate or reduce these barriers (i.e. informed them that smoking has negative outcomes and that there is smoking cessation support available)</p>	<p>Youths identify their personal barriers (i.e., accessing a local stop smoking service identifying peer pressure and. and explore ways to eliminate or reduce these barriers (i.e., contacting local stop smoking service for locals service details, ways in which to mitigate peer pressure).</p>
<b>5. Cues to Action</b>	<p>Youths play sunshine catcher game or read young person stop smoking resources resulting in a cue for action not to commence stopping or to stop smoking if they have already began</p> <p>Youths confident in their understanding of smoking and its impact on health both in the short term and long term. Increasing knowledge and confidence enabling youths to make better informed choices.</p>	<p>Youths receive reminder cues for action in the form of incentives (such as being able to save money for things like a driving test or a gap year)</p>
<b>6. Self-Efficacy</b>		<p>Youths receive guidance (such as information on how support is freely available and the service is confidential)</p>

The HBM theory was chosen as it had been previously applied to smoking cessation in the development of interventions (Albarracín, Gillette, Earl, Glasman, Durantini, & Ho 2005,). According to Rosenstock (1974) the HBM was initially developed as a structural style for the expression and prediction of health and preventive behaviours hence it very much underpinned the theory of this intervention. The resources developed in this intervention adhered to the HBM model but providing increased knowledge, addressing the false perceived beliefs associated with smoking a limited amount and the risks of smoking shisha. The leaflet in particular also addressed perceived susceptibility by addressing the short-term as well as the long term effects of smoking. The HBM is based on the theory that value and expectancy beliefs guide behaviour. Thus people are inclined to change behaviour if they learn of or experience a negative consequences associated with not altering their behaviour. For example the young person's leaflet informs the reader that smoking potentially causes toothless and reduced fitness levels as well as bad skin, hence according to the HBM the reader is not less likely to smoke due to the fear of the consequences associated with smoking. Furthermore the resources included a vast amount of educational material on the dangerous of smoking thus increase knowledge which according to the HBM can increase the chances of behaviour change (Pignone, Ammerman, Fernandez, Orleans, Pender, Woolf, Lohr, & Sutton, 2003).

The resources developed aimed to inform and educate young people about the dangers of smoking from an early age, debriefing them on the myths associated with passive smoking, smoking few cigarettes and the dangers of shisha. It is hoped that that the resources would influence preconceived perceptions and susceptibility with regards to smoking initiation, maintenance and its consequence thus altering behaviour in those smoking or wishing to start as well as challenging subjective norms with regards to smoking and the stop smoking service. The young person's leaflet in addition to the HBM also followed the principles of the theory of self-efficacy (Bandura,1977) whereby young pupils were motivated and encouraged to stop smoking with positive reinforcement i.e. free access to confidential support increasing the likely hood of success. I felt this supported the theory of the intervention as it encourages the cessation of smoking, taking into account that a

large proportion of 15 year old have already tried smoking (Health and Social Care Information Centre, 2012).

Upon consideration this intervention could have been based on the Theory of Planned Behaviour model (TPB). The TPB was originally developed by Ajzen (1991). It is the most widely applied model of cognitive precursors of behaviour as there is a vast amount research carried out, which consistently supports its effectiveness in predicting behaviour (Ajzen, 1991, 2001, Armitage & Conner, 2001). Further research also states that the TBP can be applied to vast range of health behaviours including smoking cessation (Kashima, Gallois 1993, & Ajzen, 1998). According to Hardeman, Johnston, Johnston, Bonetti, Wareham and Kinmonth, (2002) the model can also be applied in developing health interventions although its impact is limited. For this reason it was decided that the HBM was better suited.

The TPM theory also states that belief influences intention with regards to predicting particular health related behaviour based on subjective norms (Ajzen 1991). Although the TPM could have been applied to this intervention Webb and Sheeran (2006) carried out a meta analyses which showed a weakness in the model ability to predict health risk behaviour when intentions are measured further away in time from behaviour. As this intervention required an immediate and long lasting impact to prevent the onset of smoking the HBM seemed to be more appropriate. Upon reflection working within a clinical environment I was able to build new ways of working and feel that I have added towards a culture shift within staff. I feel that raising the issues of involving staff in the development of the resources and attending regular steering group I reinforced the need for paediatric staff to raise the issues of smoking. Working within the hospital gave me greater access to both staff and patients and allowed me to also network with school staff. I felt that the lead patient nurse was very helpful in advocating this intervention. In addition the steering group also helped to build networking contacts that were used to further develop this intervention progression.

The intervention evaluation took place in a student facility that is for children who are unable to attend main stream school due to long term absences attributed to ill health. These children were selected as they had experienced prolonged hospital

stays. Both focus groups took part in a classroom setting (within the hospital and neighbouring facility for children temporarily unable to attend main stream education due to temporary ill health). Two focus groups were carried out. The focus group evaluating the sunshine catcher consisted of 6 children aged between 9-11 years. The second focus group which evaluated the young person's leaflet was carried out with 7 adolescents aged between the ages of 14-15. Both focus groups took part in an education facility for children with asthma who were unable to attend main stream education due to long hospital stay.

The education centres objective was to facilitate students back into main stream education. In the case of the key stay 3 pupils (aged 14-15) the teaching aid welcomed the idea of the young person's leaflet and incorporated into their lesson plan prior to the focus group: the leaflet was incorporated into a non-fiction English literature lesson. The focus group was run as part of the lesson and took place before teaching began. The second focus group evaluated the effectiveness of the sunshine catcher resource. Six children attended this class. I noted that the class sizes completed the focus groups as smaller groups created greater discussion. Furthermore recruiting participants was a lot less challenging as the intervention was incorporated into a pre-existing lesson plan.

## **Evaluation**

Both the young person's leaflet and the sunshine catcher were evaluated in a focus group using structured pre and post intervention exposure questionnaire. The pre intervention exposure questionnaire consisted of a very brief quiz to assess' base line knowledge. The post intervention evaluation exposure consisted of the same quiz used in the pre assessment, in order to assess' level of knowledge gained. In addition the post intervention questionnaire included a few brief questions relating to leaflet / sunshine catcher evaluation. Both the pre and post completed evaluation measures used can be found in appendix. The sunshine catcher pre and post knowledge assessment quiz consisted of six multiple choice questions whereas the young person's leaflet quiz consisted of seven multiple choice questions. The questions were chosen to review the contents of the specific resource being evaluated. It

therefore varied as the contents in the sunshine catcher was pitched at a lower age group.

The knowledge gained from the intervention was measured by comparing the difference in accuracy of the pre and post knowledge based quiz questions. With regards to the sunshine catcher the pre knowledge assessment quiz had a score of 23 with a mean score of 3.8. The post evaluation quiz for the sunshine catcher resulted in a score of 35 with a mean score of 5.8. This suggests that knowledge had increased post exposure to the resources. The young person left pre latest exposure knowledge quiz score was 32 (mean score of 4.6). Post leaflet exposure quiz score was 49 (mean score of 7). The results showed an increase in knowledge post reading the leaflet, suggesting that the leaflet does increase knowledge.

The adolescent's rated each of the resources using 5 selected questions. These questions included rating "how much they liked the resource" "how likely they to the resource", "had the resources altered theory likelihood of smoking", "did they think other peers of their age group would find the resource helpful" and "did they feel that the resource had increased their knowledge on smoking". The evaluation questions were marked on a three point scale. The wording of the questions was tailored to suit the resources being evaluated and the age group in each focus group.

With regards to the evaluation of the sunshine catcher 5/6 children stated that they really liked the sunshine catcher. One child out of six rated the sunshine catcher as "ok". Five children out of 6 said they were very likely to re-use the sunshine catcher and one child said they would maybe re-use it. Five out of six children stated that they were less likely to smoke following having used the sunshine catcher. One child said it made no difference on their intentions to smoke. In response to the question of how likely they felt their peers would use the sunshine catcher: all six children stated they would very much be likely to use it. In response to the final questions 5/6 children said they had learnt a lot more about smoking after having used the sunshine catcher and one child said they had learnt a little more. I also included an option for comments in which: one child said that "they would never smoke" another stated that they had learnt that "80%" of smoke was invisible. In addition during the focus group they two children also stated that they

really enjoyed using the sunshine catcher in pairs. This implied that the resources were interactive potentially increasing its usability.

The young person leaflet was evaluated in a similar way as the sunshine catcher. All seven students said they really liked the leaflet, all seven students responded maybe to reading the leaflet in the future. With regards to the difference reading the leaflet had on their intentions to smoke: four students said they were less likely to smoke and 3 said the leaflet had made no difference. Four stated that they thought their peers would be very much likely to read the leaflet and three said that they were a little less likely. Lastly 3/7 students said they had learnt a lot from more about smoking from reading the leaflet and four said they had “learnt a little more” With regards to the comments section the pupils commented on how much they liked the animated pictures, how they had learnt about shisha’s harmful effect and how smoking can cause tooth loss. During the focus group the images were also mentioned as were the colours used, they said it made it easier to read and more engaging. The completed pre and post evaluation forms including mini quiz to assess pre and post intervention knowledge can be found in the appendix.

An entail draft of the resources were sent to a range of health care and education professionals which included PSHE teaching leads, paediatrics respiratory nurse consultants and medics as well as a youth worker. Although I had worked with adolescents between the ages of 16-18 in my previous role I had not worked with younger age groups therefore I felt that I would require input from professional that had experience. I also wanted to get feedback form a variety of perspectives both medical and educational. The feedback received was very constructive. I found that the language I had used in my initial draft of the sunshine catcher did not suit the age range I had intended it for; I therefore reviewed the language used. I was informed that the adolescent leaflet required more pictures and additional information of the financial cost of smoking. As a result I added the content of the leaflet and added more images. I revised both resources a number of times prior to them being used in the focus groups for evaluation. Upon reflection I felt that I would have gained form a young person’s insight whilst I was developing the resources. However I do feel that I obtained a vast amount of feedback from the focus group that could be applied to both resources.

## **Future implications**

With regards to future the chatterbox lends itself very well to a school based environment as it is both interactive and educational. The PSHE primary school lead for Islington local authority has requested that the chatterbox be incorporated in 9-10 years and 8-9 year olds lesson plans in the drug, alcohol and tobacco education pack. The lesson plan will cover various interactive learning activities relating to tobacco, cannabis and alcohol and the chatterbox tool will be used as group work. The lesson plan will be implemented across all community primary school within Islington (up to 29 schools) in addition the chatterbox will also be used in the paediatric patient lesson activities.

The young person's leaflet will be used with a hospital setting and will form part of a multifaceted intervention. This intervention will form part of a new referral system specifically aimed at paediatric ward staff. As previously mentioned paediatric wards within Whittington hospital have exceptionally low referral rates and staff identified the difficulties faced when identifying smoking status of adolescent patients. The young person leaflet is to be presented at the paediatrics outpatients in a leaflet stand. The leaflet will be available to both patients and staff wishing to raise the issue of smoking with patients and their families.

In conjunction with the leaflet, the paediatrics team will undergo training on how to provide very brief smoking cessation advice following the Very Brief Advice (VBA Guidelines from Local Stop Smoking services Monitoring and Guidance (DoH, 2011)). This training will cover how to raise the topic of smoking and how to refer on accordingly and is based on the stages of change model which assesses stage of change and promotes positive In addition a new referral patch way will be introduced, specifically tailored for the paediatric ward. The Islington stop smoking service referral form will be uploaded onto the Whittington hospital intranet page where staff can easily access information required to make a referral to the stop smoking service. Furthermore the resources developed will also be available for staff to download from the hospitals intranet page.

With regards to future implications of the leaflet, in the older age group focus group (14-15yrs), one of the students mentioned wanting to have an app advertised on the leaflet. Perhaps this could have been added. Research has suggested that

introducing mobile technology as a tailored smoking cessation can increase quit rates amongst adolescents. Furthermore according to Haug, Schaub, Venzin, Meyer, & John, (2013) mobile phone via text messaging can be useful aid in increasing smoking cessation rates amongst adolescents.

## **Conclusion**

In conclusion I felt the intervention supported the paediatric stop smoking steering group objectives to increase awareness of smoking cessation service amongst paediatrics staff, patients and relatives. Moreover, I felt that the intervention was targeted at the most relevant age group, whereby the most at risk age group of tobacco use initiation was targeted. However, this intervention was limited to a small number of young people, thus results from the focus groups may not be representative of this age group. It is also important to note that the intervention will form part of a larger multifaceted intervention and which has yet to be evaluated. The primary findings from this intervention suggest that the resources developed are effective at increasing young person's knowledge of the dangers of smoking. Furthermore they were found to be interesting and interactive and user friendly.

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## **Appendix**

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# Sunshine catcher – Chatter box resource

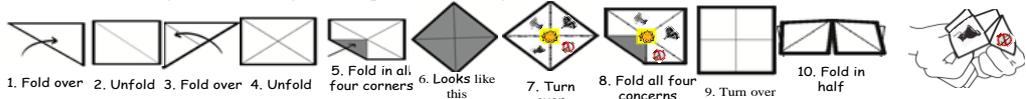
## Smokeless sunshine catcher

 <b>SHISHA</b>	<b>1</b> Is Shisha safer to use than cigarettes? True or False  False: shisha contains carbon monoxide and many cancer-causing chemicals.	<b>2</b> How many chemicals are there in cigarette smoke?  There are 4000 chemicals created by burning a cigarette - 69 of those chemicals are known to cause cancer.	 <b>HEALTH</b>
<b>8</b> Does Shisha contain nicotine?  Yes, meaning that it can become addictive.	(Text from adjacent panel)	<b>3</b> How does smoking effect do the heart?  Smoking causes the build-up of fatty deposits on the walls of the arteries around the heart. This causes heart disease.	(Text from adjacent panel)
<b>7</b> How much cigarette smoke is invisible?  Over 80% of smoke is invisible, to the person smoking and those around them - including pets!	(Text from adjacent panel)	<b>4</b> What support is available for people who want to quit?  To find out more about our FREE and CONFIDENTIAL support, call: 0800 093 9030	(Text from adjacent panel)
<b>SMOKE</b> 	<b>6</b> How much does smoking five cigarettes a day cost per year?  Smoking five cigarettes every day for a year costs a massive £719!	<b>5</b> Are electric cigarettes safe to use?  UNKNOWN... Electric cigarettes may be safer than cigarettes. But we still don't know if they are completely safe.	<b>QUITTING</b> 

### Instructions

Cut around the outside of Smokeless sunshine catcher

Then fold over and unfold and fold again and unfold so that top is blank. Then fold each corner into the middle. Turn the sunshine catcher over so the picture are facing you and fold each corner towards the sun, then unfold and turn over. Fold in half and slide your thumbs and your finger behind of the pictures and press together so they bend round and touch.



To play: pick a picture and spell the word under the picture whilst opening and closing the catcher, pick a question and answer it. To make it even more fun ask a friend to pick, a picture and answer a question

# Young person's leaflet –page 1

QUIT



There are many reasons not to smoke, but ultimately the decision is yours...  
If you're thinking of quitting, why not give us a call or check out our website.

We'll talk to you about your smoking - and your reasons for wanting to quit. Together we will find a way that can work for you. Our service is available to anyone who is **12 years or older**. The service includes **FREE**, friendly advice and support on how to stop smoking.

If you are worried that friends or family may find out about your smoking, don't worry! Our service is totally confidential. We won't send letters or make phone calls to your home without your say.

## What might your friends say ?

Remember, the most important thing is that **you** want to stop smoking, so the chances are friends and family will be supportive when you tell them you want to quit.

You are very welcome to bring a friend or family member with you to your appointment.

## To find out more, contact Islington stop smoking service:

Freephone: 0800 093 9030 Email: [stop-smoking-islington.whitthealth@nhs.net](mailto:stop-smoking-islington.whitthealth@nhs.net)

Visit: <http://www.smokefreeislington.nhs.uk/young-people/help-to-quit/>

Alternatively you can speak to your GP or visit your local pharmacy



Whittington Health 

## Young people and Smoking: Know the facts



## Young person's leaflet –page 2



### Smoking : Know the facts

What do you think...	The facts:
Smoking makes you look sexy	Smokers are five times more likely to need to have a tooth removed (Ouch!) The "tooth-less look" is not exactly going to help you in your search for love!
How much does smoking five cigarettes a day cost per year?	Smoking just five cigarettes a day can cost you <b>£719</b> per year! That's a hefty wad of cash that you could be spending on other things. For example you could download 90 music albums or buy up to 35 driving lessons (Goodbye L Plates!). You could put the money towards university expenses. Or how about spending it on a holiday of a lifetime.
How soon after stopping smoking does your body begin to recover.....	Surprisingly the benefits begin soon after stopping. It only takes, 20 minutes for your blood pressure to return to normal and just <b>24 hours</b> for your lungs to get rid of the poisons Carbon monoxide gas produced by smoking. Research has also shown that when you stop smoking your chances of spot brake outs are reduced.
Smoking wont affect your health as long as you stop before you are 30	Although the benefits of stopping smoking can start straight away, smoking does have some irreversible health effects. Smoking from a young age can increase the risk of lung cancer. <b>Smoking whilst your lungs are still developing can cause permanent damage.</b> Smoking can quickly affect your fitness levels by taking away your body's oxygen supply, making it difficult for you to stay fit and healthy.

### What about Shisha?

Shisha also referred to as hookah is another way to smoke tobacco. The tobacco is often flavoured with artificial fruit flavourings. The most common belief amongst Shisha users is that smoking it, is less harmful and less addictive than cigarette smoking, and that the fruit flavourings make it healthy.

**In reality....**  
inhaling tobacco smoke from anything is extremely dangerous. Shisha contains high concentrations of toxins and cancer causing chemicals. Sharing the mouth piece can also spread infections like herpes and tuberculosis.



"Smoking doesn't just affect you - it can affect your whole family too"

"Smoking can quickly affect your fitness levels. Even running for the bus can be difficult for smokers of any age"

Breathing in smoke is very dangerous. It is particularly dangerous for young children, those with asthma and even pets. There are over **4000 chemicals** in cigarette smoke, 69 of these chemical have been shown to cause cancer. If you live with a smoker who smokes inside your home, you have a higher risk of developing heart and lung diseases. Smoking outside can prevent harming those around you. Also research has shown that children are more likely to smoke if a parent or older brother/ sister smokes. Therefore one way of helping your younger brothers or sisters not to smoke is to not smoke in front of them or better still not smoke at all!

## Pre focus group evaluation questions –Sunshine catcher

### Quick Quiz – Pre- Sunshine catcher resource

Are you a: Girl  or a Boy  (tick box)

How old are you: 11

1) Does smoking cause heart disease?

- A) True
- B) False

2) How many chemicals are in cigarette smoke?

- A) 500
- B) 35
- C) 4000



3) Electronic cigarettes are safe to use ?

- A) Yes
- B) No
- C) Not sure

4) On average, how much does smoking 5 cigarettes per day in a year cost?

- A) £719
- B) £300
- C) £79

5) Breathing in other peoples smoke is harmful to both people and pets

- A) True
- B) False

6) Shisha is a safer alternative to smoking cigarettes?

- A) True
- B) False



## Quick Quiz – Pre- Sunshine catcher resource

Are you a: Girl  or a Boy  (tick box)

How old are you: 11

1) Does smoking cause heart disease?

- A) True
- B) False

2) How many chemicals are in cigarette smoke?

- A) 500
- B) 35
- C) 4000



3) Electronic cigarettes are safe to use ?

- A) Yes
- B) No
- C) Not sure

4) On average, how much does smoking 5 cigarettes per day in a year cost?

- A) £719
- B) £300
- C) £79

5) Breathing in other peoples smoke is harmful to both people and pets

- A) True
- B) False

6) Shisha is a safer alternative to smoking cigarettes?

- A) True
- B) False



## Quick Quiz – Pre- Sunshine catcher resource

Are you a: Girl  or a Boy  (tick box)

How old are you: 9

1) Does smoking cause heart disease?

- A) True
- B) False

2) How many chemicals are in cigarette smoke?

- A) 500
- B) 35
- C) 4000



3) Electronic cigarettes are safe to use ?

- A) Yes
- B) No
- C) Not sure

4) On average, how much does smoking 5 cigarettes per day in a year cost?

- A) £719
- B) £300
- C) £79

5) Breathing in other peoples smoke is harmful to both people and pets

- A) True
- B) False

6) Shisha is a safer alternative to smoking cigarettes?

- A) True
- B) False



## Quick Quiz – Pre- Sunshine catcher resource

Are you a: Girl  or a Boy  (tick box)

How old are you: 10

1) Does smoking cause heart disease?

- A) True
- B) False

2) How many chemicals are in cigarette smoke?

- A) 500
- B) 35
- C) 4000



3) Electronic cigarettes are safe to use ?

- A) Yes
- B) No
- C) Not sure

4) On average, how much does smoking 5 cigarettes per day in a year cost?

- A) £719
- B) £300
- C) £79

5) Breathing in other peoples smoke is harmful to both people and pets

- A) True
- B) False

6) Shisha is a safer alternative to smoking cigarettes?

- A) True
- B) False



## Post focus group evaluation questions – Sunshine catcher

### Q Quick Quiz – Post- intervention: Sunshine catcher resource

Are you a: Girl  or a Boy  (tick box)

How old are you: 11

1) Does smoking cause heart disease?

- A) True
- B) False

2) How many chemicals are in cigarette smoke?

- A) 500
- B) 35
- C) 4000



3) Electronic cigarettes are safe to use ?

- A) Yes
- B) No
- C) Not sure

4) On average, how much does smoking 5 cigarettes per day in a year cost?

- A) £719
- B) £300
- C) £79

5) Breathing in other peoples smoke is harmful to both people and pets

- A) True
- B) False

6) Shisha is a safer alternative to smoking cigarettes?

- A) True
- B) False



Please turn over...

1. How much do you like the Sunshine catcher? (tick box)

 <input checked="" type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>
I really like it.	I think it's ok.	I really don't like it.

2. How likely are you to play with the sunshine catcher in the future?

 <input checked="" type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>
Very likely	Maybe	Not likely at all

3. Has the Sunshine catcher made you less likely to try smoking?

 <input checked="" type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>
Very likely not to smoke	No difference	I am more likely to smoke

4. Do you think other children of your age would like the play with the Sunshine catcher?

 <input checked="" type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>
Very much	A little	Not at all

5. Do you think the Sunshine catcher has helped you understand more about smoking?

 <input type="checkbox"/>	 <input checked="" type="checkbox"/>	 <input type="checkbox"/>
A lot more	A little more	Not at all

Any other comments?

*i will never smoke.*

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**Q Quick Quiz – Post- intervention: Sunshine catcher resource**

Are you a: Girl  or a Boy  (tick box)

How old are you: 10

1) **Does smoking cause heart disease?**

- A) True
- B) False

2) **How many chemicals are in cigarette smoke?**

- A) 500
- B) 35
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Very likely	Maybe	Not likely at all

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 <input checked="" type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>
Very much	A little	Not at all

5. Do you think the Sunshine catcher has helped you understand more about smoking?

 <input checked="" type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>
A lot more	A little more	Not at all

Any other comments?

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**Q Quick Quiz – Post- intervention: Sunshine catcher resource**

Are you a: Girl  or a Boy  (tick box)

How old are you: 11

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- A) True
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 <input checked="" type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>
Very much	A little	Not at all

5. Do you think the Sunshine catcher has helped you understand more about smoking?

 <input checked="" type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>
A lot more	A little more	Not at all

Any other comments?

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**Q Quick Quiz – Post- intervention: Sunshine catcher resource**

Are you a: Girl  or a Boy  (tick box)

How old are you: 9

1) Does smoking cause heart disease?

- A) True
- B) False

2) How many chemicals are in cigarette smoke?

- A) 500
- B) 35
- C) 4000



3) Electronic cigarettes are safe to use ?

- A) Yes
- B) No
- C) Not sure

4) On average, how much does smoking 5 cigarettes per day in a year cost?

- A) £719
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- C) £79

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- A) True
- B) False

6) Shisha is a safer alternative to smoking cigarettes?

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- B) False



Please turn over...

1. How much do you like the Sunshine catcher? (tick box)

		
I really like it.	I think it's ok.	I really don't like it.

2. How likely are you to play with the sunshine catcher in the future?

		
Very likely	Maybe	Not likely at all

3. Has the Sunshine catcher made you less likely to try smoking?

		
Very likely not to smoke	No difference	I am more likely to smoke

4. Do you think other children of your age would like the play with the Sunshine catcher?

		
Very much	A little	Not at all

5. Do you think the Sunshine catcher has helped you understand more about smoking?

		
A lot more	A little more	Not at all

Any other comments?

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**Q Quick Quiz – Post- intervention: Sunshine catcher resource**

Are you a: Girl  or a Boy  (tick box)

How old are you: 10

1) **Does smoking cause heart disease?**

- A) True
- B) False

2) **How many chemicals are in cigarette smoke?**

- A) 500
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- A) True
- B) False

6) **Shisha is a safer alternative to smoking cigarettes?**

- A) True
- B) False



Please turn over...

1. How much do you like the Sunshine catcher? (tick box)



I really like it.



I think it's ok.



I really don't like it.

2. How likely are you to play with the sunshine catcher in the future?



Very likely



Maybe



Not likely at all

3. Has the Sunshine catcher made you less likely to try smoking?



Very likely not to smoke



No difference



I am more likely to smoke

4. Do you think other children of your age would like to play with the Sunshine catcher?



Very much



A little



Not at all

5. Do you think the Sunshine catcher has helped you understand more about smoking?



A lot more



A little more



Not at all

Any other comments?

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**Q Quick Quiz – Post-intervention: Sunshine catcher**  
**resource**

Are you a: Girl  or a Boy  (tick box)

How old are you: 11

1) **Does smoking cause heart disease?**

- A) True
- B) False

2) **How many chemicals are in cigarette smoke?**

- A) 500
- B) 35
- C) 4000



3) **Electronic cigarettes are safe to use ?**

- A) Yes
- B) No
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Please turn over...

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<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I really like it.	I think it's ok.	I really don't like it.

2. How likely are you to play with the sunshine catcher in the future?

		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very likely	Maybe	Not likely at all

3. Has the Sunshine catcher made you less likely to try smoking?

		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very likely not to smoke	No difference	I am more likely to smoke

4. Do you think other children of your age would like the play with the Sunshine catcher?

		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very much	A little	Not at all

5. Do you think the Sunshine catcher has helped you understand more about smoking?

		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A lot more	A little more	Not at all

Any other comments?

I learnt that over 80% is invisible

## Pre focus group evaluation questions – Young person’s leaflet

### Quick Quiz – Pre-leaflet: Young persons leaflet

Are you: Male  or Female  (tick box)

How old are you: 14

**1) Smoking produces carbon monoxide CO ( a poisons gas also found in car exhaust fumes, which reduces oxygen and fitness levels)**

- A) True
- B) False

**2) How many chemicals are in cigarette smoke?**

- A) 500
- B) 35
- C) 4000



**3) Smokers are more likely to suffer from tooth loss due to smoking?**

- A) True
- B) False

**4) The stop smoking service is confidential (we do not share your information or send letters home)?**

- A) True
- B) False

**5) On average, how much does smoking 5 cigarettes per day in a year cost?**

- A) £719
- B) £300
- C) £79

**6) Shisha is a safer alternative to smoking cigarettes?**

- A) True
- B) False



**7) From what age can you access the stop smoking service?**

- A) 12
- B) 15
- C) 18

## Quick Quiz – Pre-leaflet: Young persons leaflet

Are you: Male  or Female  (tick box)

How old are you: 15

**1) Smoking produces carbon monoxide CO ( a poisons gas also found in car exhaust fumes, which reduces oxygen and fitness levels)**

- A) True
- B) False

**2) How many chemicals are in cigarette smoke?**

- A) 500
- B) 35
- C) 4000



**3) Smokers are more likely to suffer from tooth loss due to smoking?**

- A) True
- B) False

**4) The stop smoking service is confidential (we do not share your information or send letters home)?**

- A) True
- B) False

**5) On average, how much does smoking 5 cigarettes per day in a year cost?**

- A) £719
- B) £300
- C) £79

**6) Shisha is a safer alternative to smoking cigarettes?**

- A) True
- B) False



**7) From what age can you access the stop smoking service?**

- A) 12
- B) 15
- C) 18

## Quick Quiz – Pre-leaflet: Young persons leaflet

Are you: Male  or Female  (tick box)

How old are you: 14

**1) Smoking produces carbon monoxide CO ( a poisons gas also found in car exhaust fumes, which reduces oxygen and fitness levels)**

- A) True
- B) False

**2) How many chemicals are in cigarette smoke?**

- A) 500
- B) 35
- C) 4000



**3) Smokers are more likely to suffer from tooth loss due to smoking?**

- A) True
- B) False

**4) The stop smoking service is confidential (we do not share your information or send letters home)?**

- A) True
- B) False

**5) On average, how much does smoking 5 cigarettes per day in a year cost?**

- A) £719
- B) £300
- C) £79

**6) Shisha is a safer alternative to smoking cigarettes?**

- A) True
- B) False



**7) From what age can you access the stop smoking service?**

- A) 12
- B) 15
- C) 18

## Quick Quiz – Pre-leaflet: Young persons leaflet

Are you: Male  or Female  (tick box)

How old are you: 14

**1) Smoking produces carbon monoxide CO ( a poisons gas also found in car exhaust fumes, which reduces oxygen and fitness levels)**

- A) True
- B) False

**2) How many chemicals are in cigarette smoke?**

- A) 500
- B) 35
- C) 4000



**3) Smokers are more likely to suffer from tooth loss due to smoking?**

- A) True
- B) False

**4) The stop smoking service is confidential (we do not share your information or send letters home)?**

- A) True
- B) False

**5) On average, how much does smoking 5 cigarettes per day in a year cost?**

- A) £719
- B) £300
- C) £79

**6) Shisha is a safer alternative to smoking cigarettes?**

- A) True
- B) False



**7) From what age can you access the stop smoking service?**

- A) 12
- B) 15
- C) 18

## Quick Quiz – Pre-leaflet: Young persons leaflet

Are you: Male  or Female  (tick box)

How old are you: 15

**1) Smoking produces carbon monoxide CO ( a poisons gas also found in car exhaust fumes, which reduces oxygen and fitness levels)**

- A) True
- B) False

**2) How many chemicals are in cigarette smoke?**

- A) 500
- B) 35
- C) 4000



**3) Smokers are more likely to suffer from tooth loss due to smoking?**

- A) True
- B) False

**4) The stop smoking service is confidential (we do not share your information or send letters home)?**

- A) True
- B) False

**5) On average, how much does smoking 5 cigarettes per day in a year cost?**

- A) £719
- B) £300
- C) £79

**6) Shisha is a safer alternative to smoking cigarettes?**

- A) True
- B) False



**7) From what age can you access the stop smoking service?**

- A) 12
- B) 15
- C) 18

## Quick Quiz – Pre-leaflet: Young persons leaflet

Are you: Male  or Female  (tick box)

How old are you: 14

**1) Smoking produces carbon monoxide CO ( a poisons gas also found in car exhaust fumes, which reduces oxygen and fitness levels)**

- A) True ✓
- B) False

**2) How many chemicals are in cigarette smoke?**

- A) 500
- B) 35
- C) 4000 ✓



**3) Smokers are more likely to suffer from tooth loss due to smoking?**

- A) True ✓
- B) False

**4) The stop smoking service is confidential (we do not share your information or send letters home)?**

- A) True ✓
- B) False

**5) On average, how much does smoking 5 cigarettes per day in a year cost?**

- A) £719 ✓
- B) £300 ✓
- C) £79

**6) Shisha is a safer alternative to smoking cigarettes?**

- A) True ✓
- B) False



**7) From what age can you access the stop smoking service?**

- A) 12
- B) 15
- C) 18 ✓

## Quick Quiz – Pre-leaflet: Young persons leaflet

Are you: Male  or Female  (tick box)

How old are you: 15

**1) Smoking produces carbon monoxide CO ( a poisons gas also found in car exhaust fumes, which reduces oxygen and fitness levels)**

- A) True  
B) False

**2) How many chemicals are in cigarette smoke?**

- A) 500  
B) 35  
C) 4000



**3) Smokers are more likely to suffer from tooth loss due to smoking?**

- A) True  
B) False

**4) The stop smoking service is confidential (we do not share your information or send letters home)?**

- A) True  
B) False

**5) On average, how much does smoking 5 cigarettes per day in a year cost?**

- A) £710  
B) £300  
C) £79

**6) Shisha is a safer alternative to smoking cigarettes?**

- A) True  
B) False



**7) From what age can you access the stop smoking service?**

- A) 12  
B) 15  
C) 18

## Post focus group evaluation questions – Young person’s leaflet

### Quick Quiz – Post-intervention: Young persons leaflet

Are you: Male  or Female  (tick box)

How old are you: 14

1) Smoking produces carbon monoxide CO ( a poisons gas also found in car exhaust fumes, which reduces oxygen and fitness levels)

- A) True  
B) False

2) How many chemicals are in cigarette smoke?

- A) 500  
B) 35  
C) 4000



3) Smokers are more likely to suffer from tooth loss due to smoking?

- A) True  
B) False

4) The stop smoking service is confidential (we do not share your information or send letters home)?

- A) True  
B) False

5) On average, how much does smoking 5 cigarettes per day in a year cost?

- A) £719  
B) £300  
C) £79

6) Shisha is a safer alternative to smoking cigarettes?

- A) True  
B) False



7) From what age can you access the stop smoking service?

- A) 12  
B) 15  
C) 18

Please turn over...

1. How much do you like the young person's leaflet? (tick box)

 <input checked="" type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>
I really like it.	I think it's ok.	I really don't like it.

2. How likely are you to read the young persons leaflet in the future?

 <input type="checkbox"/>	 <input checked="" type="checkbox"/>	 <input type="checkbox"/>
Very likely	Maybe	Not likely at all

3. Has the young person's leaflet made you less likely to smoke?

 <input type="checkbox"/>	 <input checked="" type="checkbox"/>	 <input type="checkbox"/>
Very likely not to smoke	No difference	I am more likely to smoke

4. Do you think the leaflet encourages young people to access the NHS stop smoking service

 <input checked="" type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>
Very much	A little	Not at all

4. Do you think the leaflet has helped you understand more about smoking?

 <input type="checkbox"/>	 <input checked="" type="checkbox"/>	 <input type="checkbox"/>
A lot more	A little more	Not at all

Any other comments?

I liked the picture of the bus.

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## Quick Quiz – Post-intervention: Young persons leaflet

Are you: Male  or Female  (tick box)

How old are you: 15

**1) Smoking produces carbon monoxide CO ( a poisons gas also found in car exhaust fumes, which reduces oxygen and fitness levels)**

- A) True
- B) False

**2) How many chemicals are in cigarette smoke?**

- A) 500
- B) 35
- C) 4000



**3) Smokers are more likely to suffer from tooth loss due to smoking?**

- A) True
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**6) Shisha is a safer alternative to smoking cigarettes?**

- A) True
- B) False



**7) From what age can you access the stop smoking service?**

- A) 12
- B) 15
- C) 18

Please turn over...

1. How much do you like the young person's leaflet? (tick box)



I really like it.



I think it's ok.



I really don't like it.

2. How likely are you to read the young persons leaflet in the future?



Very likely



Maybe



Not likely at all

3. Has the young person's leaflet made you less likely to smoke?



Very likely not to smoke



No difference



I am more likely to smoke

4. Do you think the leaflet encourages young people to access the NHS stop smoking service



Very much



A little



Not at all

4. Do you think the leaflet has helped you understand more about smoking?



A lot more



A little more



Not at all

Any other comments?

Smoking is also bad for your teeth

## Quick Quiz – Post-intervention: Young persons leaflet

Are you: Male  or Female  (tick box)

How old are you: 14

**1) Smoking produces carbon monoxide CO ( a poisons gas also found in car exhaust fumes, which reduces oxygen and fitness levels)**

- A) True
- B) False

**2) How many chemicals are in cigarette smoke?**

- A) 500
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Please turn over...

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I think it's ok.



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Very likely



Maybe



Not likely at all

3. Has the young person's leaflet made you less likely to smoke?



Very likely not to smoke



No difference



I am more likely to smoke

4. Do you think the leaflet encourages young people to access the NHS stop smoking service



Very much



A little



Not at all

4. Do you think the leaflet has helped you understand more about smoking?



A lot more



A little more



Not at all

Any other comments?

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 <input checked="" type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>
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Very likely	Maybe	Not likely at all

3. Has the young person's leaflet made you less likely to smoke?

 <input type="checkbox"/>	 <input checked="" type="checkbox"/>	 <input type="checkbox"/>
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 <input type="checkbox"/>	 <input checked="" type="checkbox"/>	 <input type="checkbox"/>
Very much	A little	Not at all

4. Do you think the leaflet has helped you understand more about smoking?

 <input type="checkbox"/>	 <input checked="" type="checkbox"/>	 <input type="checkbox"/>
A lot more	A little more	Not at all

Any other comments?

Smoking is expensive

## Quick Quiz – Post-intervention: Young persons leaflet

Are you: Male  or Female  (tick box)

How old are you: 15

**1) Smoking produces carbon monoxide CO ( a poisons gas also found in car exhaust fumes, which reduces oxygen and fitness levels)**

- A) True
- B) False

**2) How many chemicals are in cigarette smoke?**

- A) 500
- B) 35
- C) 4000



**3) Smokers are more likely to suffer from tooth loss due to smoking?**

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No difference



I am more likely to smoke

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Very much



A little



Not at all

4. Do you think the leaflet has helped you understand more about smoking?



A lot more



A little more



Not at all

Any other comments?

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1. How much do you like the young person's leaflet? (tick box)



I really like it.



I think it's ok.



I really don't like it.

2. How likely are you to read the young persons leaflet in the future?



Very likely



Maybe



Not likely at all

3. Has the young person's leaflet made you less likely to smoke?



Very likely not to smoke



No difference



I am more likely to smoke

4. Do you think the leaflet encourages young people to access the NHS stop smoking service



Very much



A little



Not at all

4. Do you think the leaflet has helped you understand more about smoking?



A lot more



A little more



Not at all

Any other comments?

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## Quick Quiz – Post-intervention: Young persons leaflet

Are you: Male  or Female  (tick box)

How old are you: 15

**1) Smoking produces carbon monoxide CO ( a poisons gas also found in car exhaust fumes, which reduces oxygen and fitness levels)**

- A) True
- B) False

**2) How many chemicals are in cigarette smoke?**

- A) 500
- B) 35
- C) 4000



**3) Smokers are more likely to suffer from tooth loss due to smoking?**

- A) True
- B) False

**4) The stop smoking service is confidential (we do not share your information or send letters home)?**

- A) True
- B) False

**5) On average, how much does smoking 5 cigarettes per day in a year cost?**

- A) £719
- B) £300
- C) £79

**6) Shisha is a safer alternative to smoking cigarettes?**

- A) True
- B) False



**7) From what age can you access the stop smoking service?**

- A) 12
- B) 15
- C) 18

Please turn over...

1. How much do you like the young person's leaflet? (tick box)

 <input checked="" type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>
I really like it.	I think it's ok.	I really don't like it.

2. How likely are you to read the young persons leaflet in the future?

 <input type="checkbox"/>	 <input checked="" type="checkbox"/>	 <input type="checkbox"/>
Very likely	Maybe	Not likely at all

3. Has the young person's leaflet made you less likely to smoke?

 <input type="checkbox"/>	 <input checked="" type="checkbox"/>	 <input type="checkbox"/>
Very likely not to smoke	No difference	I am more likely to smoke

4. Do you think the leaflet encourages young people to access the NHS stop smoking service

 <input type="checkbox"/>	 <input checked="" type="checkbox"/>	 <input type="checkbox"/>
Very much	A little	Not at all

4. Do you think the leaflet has helped you understand more about smoking?

 <input checked="" type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>
A lot more	A little more	Not at all

Any other comments?

*Did not know about shisha*

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# **Professional Doctorate of Health**

## **Psychology:**

### **Competence 5.0**

#### **Teaching and training**

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**Professional doctorate of Health**

**Psychology**

**Competence 5.0**

**Teaching and training evaluation  
assessment: Teaching plan development**

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## **Introduction**

This assessment covers the planning of an MSc Health Psychology lecture at London Metropolitan University. The lecture was titled: Using self-help interventions and is part of the 20 credit module on Context and Applications in health psychology. The module's learning outcomes are identified and outlined in the university course module booklet Context and Applications of Health Psychology PYP013: Year 2012-13. The module booklet identifies that the learning outcomes for this module are measured via two pieces of coursework worth 50% each of the overall module. As a trainee health psychologist this assessment addresses the teaching and training competence of the training.

This component of the training and training competence including the planning and theory behind lecture plan and delivery, including lesson plan development, identification of learning outcomes through the use of the module course book. In addition this also included the planned teaching styles to be used and rational for teaching styles implemented. This assessment will also cover how learning outcomes and the lecture delivery were evaluated.

## **Teaching plan development**

The lecture was attended by a small group of students consisting of nine post-graduate MSc health psychology students (all females), and one experienced lecturer observing the delivery of the lecture. The teaching room layout consisted of two rows of desks. I positioned myself at the front of the room towards the centre next to the PC and projector. As the session was recorded, the camera was placed in a position where it would best record the students and the lecturer (health psychology trainee delivering the lecture).

It is important to note whilst developing the teaching plan, this lecture was to be one of eleven taught lectures within the Context and Applications in health psychology module. It was also the last of the taught lectures prior to the student's coursework assessment. This implies that the students were already familiar with the module; therefore their level of existing module knowledge was high. However it was important to note that the lecture was held at the end of the students first set

of MSc level taught modules, leading onto their first set of assessments. The students therefore may have still required a certain degree of clarification with regards to learning outcomes and assessment criteria at an MSc level.

Whilst developing the teaching plan it was important to take into account the wider educational background of the students and what learning styles they may have already been exposed to. As students were all Health psychology Masters Students, it could be assumed that they all had a pre-existing knowledge of psychology and had experienced various teaching methods throughout their academic carriers. This may have included: Experiential learning theory (Kolb, 1984) where learning is obtained following mastering experiences via active experimentation and concrete experience by reflective observation resulting in conceptualized learning. It may also have included experiences of independent learning, assessment lead learning as well as peer-led/ group learning.

### **Learning theories used in developing teaching plan**

As suggest by Honey and Mumford (1982) and as supported by Furnham (1992), learning styles include the following traits: activists, theorists, pragmatists and reflectors. Although students may have experienced various learning and teaching styles it cannot be assumed that each student shares or prefers the same learning styles or traits. Therefore the teaching plan must have attempted to accommodate all learning styles in order to increase learning capacity. This was achieved by encouraging reflective learning through the experiences of others in the videos used and through open discussions. Additionally as argued by Boling and Robinson (1999) individual study can play a significant role in learning. Therefore I chose to incorporate individual study via recommended reading of the relevant literature used during the lecture. References for which were included in the PowerPoint presentation and hand-outs.

The lesson plan attempted to facilitate Kolb's Experiential learning theory (Kolb, 1984) through the use of video clips reflecting real life examples of self-help interventions: reflective observation. My intention was to use reflective observations to form collaborative reflection and learning. The videos also added

variety to teaching material presented, they also facilitated activist and reflector learning styles by allowing students to immerse themselves in the patient's experiences of self-help. I also allowed time for discussion which will enable reflector style learning. The final version lesson plan used can be found in the appendix of this assessment.

Lecture Material used and rational. The use of the PowerPoint and theories introduced via the text and images was used to facilitate theorist and pragmatic learning styles. However, as suggested by Honey et al., (1982) the pragmatic learner may benefit from an active learning approach. I believe the use of videos demonstrating real life examples, followed by discussion aided pragmatic learning. I am aware that this may not have completely suited a pragmatic learning style as although students were able to view a true to life examples of self-help intervention they were not be able to actively take part or deliver a self-help intervention. They were however encouraged to take part in discussions and ask questions related to the practicalities of running self –help interventions. I feel that not including an activity that addressed this is a weakness in my teaching plan. However due to timing constraints practically I don't feel I would have been able to meet these suggestion during this lecture. In order to compensate for this I shared my own experiences of delivering self-help interventions and provided opportunity for students to share their experiences should they wished to.

Furthermore in my current role as a Stop Smoking specialist, I regularly deliver training to various population groups, from medics to administrators, to school children. During training I ensure that I take into account the delegate's background and pre-existing levels of knowledge. I ensure that the training incorporate various teaching styles to suit various learning traits. This is to ensure the likelihood of delegate/ student participation and most importantly facilitate learning. For example my training includes independent learning via completion of mini assessments (Acid tests) as well as skills practice learning implemented via group work thus facilitating experiential learning. I feel that my ability to tailor my training content and delivery techniques to various population groups, has aided me in the development of the teaching plan for this lecture.

With regards to this lesson plan, I needed to also take into account the relationship with the students. As a trainee health psychologist, I have already delivered a lecture to this cohort of students. Therefore the students may already have formed preconceived notions of my teaching strengths and weaknesses based on in my previous teaching performance. In addition the student's perception of me as a trainee health psychologist may aid in formulating their own opinions of my capabilities.

Based on student feedback received from the previous lecture I delivered a month earlier; it was noted that the pace of speech used, was very rushed and as a result I appeared to be exceptionally nervous. Upon reflection I was highly anxious as it was the first lecture I had delivered. I am aware that get nervous when delivering lectures. I felt that whilst planning this lecture I should have taken note of my susceptibility towards becoming overly anxious and plan for relevant pauses throughout the lecture. In future I will also attempt to assign specific timings to each subtopic in order to avoid rushing through the lecture.

## **Teaching outcomes**

As this was a set taught lecture the learning outcomes to be used for the lesson plan are derived from the MSc health psychology module specification. The teaching aims of the lecture are to increase knowledge and understanding of self-help and self-management interventions, how they are applied in a true to life settings whilst also addressing what their potential benefits and limitation may be with regards to bio-psychosocial well-being and patient experience. The teaching aims and outcomes are to be met via the use of a taught lecture using visual aids and summaries through the use of a structured PowerPoint presentation and a projector. Hand-outs of the presentation were also given to each student at the end of the lecture to read in their own time. Interactive resources will also be used in the form of two videos were used to reinforce examples of self –help interventions and deepen the students understanding.

The outlined learning outcomes; by the end of the lecture the students should have been able to:

- Define self-help and self-management interventions using appropriate examples
- Have an in depth understanding of the role of self-help and self-management in promoting and maintaining behaviour change, increasing patient knowledge and well-being.
- Have an understanding of the possible benefits and limitations of using self-help interventions
- Have knowledge of some of the existing self-management and self-help interventions used within the NHS as well as outside of the NHS via various methods i.e. online, audio or written.
- Have an increase knowledge of strategy theories used in self-management and self-help interventions
- To be able to apply learnt knowledge to complete module assignment

## **Student participation**

Students were encouraged to share their pre-existing knowledge at the end of every subsection. Statements were used to stimulate discussion and or promote further questions. These statements used included “are there any questions” and “can you think of any examples”. Outside of these points proposed statements, opportunities to ask questions were dealt with as and when questions were proposed.

The lecture topic was one I had personal experience of. I have facilitated smoking cessation groups and therefore understand the dynamics of patient support groups. I planned to include my experiences in the lecture plan. I feel this will facilitate experiential learning as well as encourage student participation and collaborative reflection. I also included video clips from NHS expert patient programmes and MacMillan cancer support groups to represent other forms of self-help groups. I hoped this would help the students to reflect on patient experience and the impact of such support groups. I actively encouraged student engagement in the lecture by asking open ended questions and allocating time for questions, however I am aware

that this may have been a sensitive topic from some especially with regards to terminal and chronic illness. For example the McMillan video clip used, covered the values of patient lead cancer support group on recovery and self-management. I ensured that this topic was handled sensitively. I did this by introducing the video and the topic thus preparing the students. I also ensured that I did not pose direct questions post the video, instead I gave student the opportunity to reflect and feedback in their own time should they wish to without feeling pressured. Students were not asked to share personal experiences, students who did choose to comment chose to do so freely, in a way that promotes collaborative and reflective learning.

The rationale for using videos in this lecture was to add variation to the materials used which include the PowerPoint presentation and discussion topics. Furthermore they are also to be used an educational tool. As suggested by Meisel (1998) and Whatley and Ahmad (2007) the use of multimedia resources such as videos assist in learning and increase retention of taught subject following teaching. Research by Meisel (1998) also demonstrates that the most effective way to use video is as an augmentation to a lesson alongside other methods of teaching materials. The videos therefore were used to reinforce the definition of self-help intervention support groups; with the instructions to reflect and discuss the videos contents. The videos have been chosen with care, to best represent true patient support groups.

Furthermore, I ensured that the use of regular eye contact was consistent throughout the lecture as I feel it aided in encouraging student participation in the lecture. It also helped me to ascertain if further elaboration was required at certain points during the lecture. For example when explaining Strategies involved in self-manage programmes as the diagram may appear confusing without further elaboration.

## **Lecture evaluation**

Feedback from the students was obtained via the use of ammonised evaluation forms covering how they rated: the overall lecture delivery whether they felt the contents of the lecture met their learning objectives, evaluation of the contents and learning outcomes of each subtopic delivered and an opportunity to add further comments (Please see appendix for completed evaluation forms). The evaluation forms used a liker scale type of graduated from “very good” to very poor”. This

allowed the evaluation of each sub-topic of the lecture, therefore helping to identify which components were most and least effective. I was particularly interested finding out how the videos are perceived as this was the first time I used such resources in a lecture.

Additionally, learning outcomes were measured throughout the lecture based on regular clarification of students understanding, this will be achieved via regular eye contact with students, monitoring student's level of verbal feedback and body language. Should students have looked concerned I believed I was able to identify this and clarify where possible. Additionally learning outcomes were measured via submitted coursework for this module.

In conclusion this assessment has enlisted me with the skills to plan and deliver a lecture. It has enabled to develop a teaching plan that adopted a diversity of teaching methods through implementing different teaching techniques and materials. I was also able to effectively implement an evaluation form which addresses the evaluation each subtopic independently and the lecture as a whole.

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## Lesson Plan

<b>Lesson Plan</b>			
<b>Date:</b> 02/11/2012	<b>Time:</b> 2-5pm	<b>Duration:</b> 3 hours	<b>College Site &amp; Room:</b> London Metropolitan University. Tower Building
<b>Course:</b> MSc Health Psychology		<b>Module title:</b> Context and Applications of Health Psychology PYP013C	
<b>No. of Students:</b> 9 Doctorate student and 1 lead lecturer (observer)		<b>Topic/ lecture title:</b> Using Self- help interventions: Lecture to be recorded	
<b>Lecture aims:</b> (The lecturers intentions)			
<ol style="list-style-type: none"> <li>1. To deliver a lecture which effectively delivers the module learning outcomes for PYPO13C</li> <li>2. To promote collaborative and reflective learning via the use of various materials (PowerPoint, video and sharing experiences)</li> <li>3. To accommodate to the various learning styles needs of the students</li> </ol>			
<b>Specific learning outcomes:</b> (What you intend the students to achieve in this lesson)			
Students will be able to:			
<ul style="list-style-type: none"> <li>• Define self-help and self-management interventions using appropriate examples</li> <li>• Have an in depth understanding of the role of self-help and self-management in promoting and maintaining behaviour change, increasing patient knowledge and well-being.</li> <li>• Have an understanding of the possible benefits and limitations of using self-help interventions</li> <li>• Have knowledge of some of the existing self-management and self-help interventions used within the NHS as well as outside of the NHS via various methods i.e. online, audio or written.</li> </ul>			

<ul style="list-style-type: none"> <li>• An increases knowledge of strategy theories used in self- management and self-help interventions</li> <li>• To be able to apply learnt knowledge to complete module assignment</li> </ul>
<p><b>Previous knowledge assumed:</b></p> <ul style="list-style-type: none"> <li>• As this they are all MSc students it assumed that they have an undergraduate knowledge and understating of psychology and psychological terminology</li> </ul>
<p><b>Materials and equipment required:</b></p> <ul style="list-style-type: none"> <li>• PowerPoint presentation on USB</li> <li>• PC</li> <li>• Projector</li> <li>• Video clips/ speaker</li> <li>• Print out of presentation for each participant</li> <li>• Lesson plan</li> <li>• Lecture feedback/evaluation forms</li> <li>• Camera (as this lecture is to be recorded)</li> </ul>
<p><b>Assessment method:</b> This is one of 11 taught lecture for this MSc Module. This module is to be asses via two pieces of casework each awarded 50% of total module assessment.</p>
<p><b>Notes on differentiation and equal opportunities:</b> A small group of students consisting of 9 students and 1 lecturer. The group is made up of 9 females. The group is a mix of ethnic Backgrounds and ages.</p>
<p><b>Homework:</b> N/A</p>

## Programme

Time/ Stage proposed	Subject Matter/Content	Activity		Resources/Notes (& <i>differentiation</i> )
		Teacher	Students	
2.00pm	Welcome and Introductions (introduce/ reintroduce self for those who attended previous lecture (ensure that all the students are present take register)	Consult Q&A Exposition	Consult Q&A	Own notes, give out hand outs
2.15pm	<p><b>Lecture outline: Introduce learning objectives and outcomes:</b></p> <ul style="list-style-type: none"> <li>• Define what is self-help and self-management</li> <li>• To understand the role of self-help and self-management in promoting and maintaining behaviour change</li> <li>• To gain a knowledge of some of the existing self-management and self-help interventions used by the NHS</li> </ul>	Exposition		Own notes and power point presentation

2.30pm	<p><b>Definitions:</b></p> <ul style="list-style-type: none"> <li>• Self-help definition: definition debrief using psychological definition, human potential</li> <li>• History of Self-help development and influence of Humanistic psychotherapies</li> <li>• What do self-help interventions include: list variations of self-help: <b>N.B ask for input from students (ensure this section is active ask for examples)</b></li> <li>• Justification of Self-help models, relevant research for and against.</li> </ul>	Exposition, Discussion and Q&A	Discussion Q&A	Own notes and power point presentation
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2.55pm	<p><b>Practical uses of self-help in health</b></p> <ul style="list-style-type: none"> <li>• Self-help groups: definition of various types and examples: with NHS and as well as non NHS setting e.g. 3<sup>rd</sup> sector organisations</li> <li>• Professionally operated support group and non- professionally operated support groups ( peer lead support)</li> <li>• Examples of peer lead support groups: UK top five &amp; Video example</li> <li>• What to be gained from self-help groups: the patient and the health care professional</li> <li>• Limitations of self-help groups: <b>propose question to student and ask them identify potential limitations: encourage discussion</b></li> </ul>	Exposition, Discussion and Q&A	Reflection, Discussion Q&A	Own notes, power point presentation and video
3.25pm	Brake	Ensure camera still works	Reflection Q&A	Be available for questions

3.40pm	<p><b>Emergence of online self-help &amp; support groups/ peer leads online self-help: E-therapy</b></p> <ul style="list-style-type: none"> <li>● E-therapy self-help definition</li> <li>● What can be gained from online self-help?</li> <li>● Evaluation of E-therapy : relevant research what has been achieved/ the benefits on psychological wellbeing as well as identified limitations</li> <li>● Self-help intervention and effectiveness to bring about behaviour change behaviours supported by relevant research.</li> </ul>	Exposition	Reflection Discussion Q&A	Own notes, power point presentation and video
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0-pm	<p><b>Self-management definition and use within health</b></p> <ul style="list-style-type: none"> <li>• Definition using relevant examples with NHS and as well as non NHS setting e.g. 3<sup>rd</sup> sector organisations</li> <li>• NHS: Exert patient programme (EPP) definition and examples via video clip</li> <li>• Evaluation of effectiveness of Self-management programmes using relevant research</li> <li>• Strategies involved in self-management programmes: through the use of the chart identify key requirement components for self-management models to be effective in supporting behaviour change.</li> </ul>	Exposition	Reflection Discussion Q&A	Own notes power point presentation
4.25pm	<p><b>Summary further reading/ references and Q&amp;A</b></p>	Exposition	Reflection Discussion Q&A	Own notes power point presentation
4.40pm	<p><b>Feedback evaluation forms and</b></p>			Evaluation forms
4.50pm	<p><b>Close</b></p>			
<p><b>General Comments:</b>  Lecture will be recorded and therefore I must ensure that the camera is working.  As the students may have varying degree of pre-existing knowledge in this area I must ensure that I assess their levels of understanding regular in order to ensure that they are up to speed with the lecture. I will do this by engaging with the students via eye contact, monitoring badly language and asking relevant questions to check for understanding.</p>				

**Professional doctorate of Health**

**Psychology**

**Competence 5.0**

**Teaching evaluation: case study  
Student feedback and self-reflection**

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## **Introductions**

This assessment provides a detailed reflection of the delivery of the taught lecture on self-help interventions. I taught this lecture on the 2<sup>nd</sup> November 2012, it was delivered to MSc health psychology students and made up part of the module on Context and Applications in health psychology. The learning objectives and lesson plan can be found in the lesson plan assessment. As a trainee health psychologist this assessment addresses the teaching and training competence of the training.

## **Teaching and training background**

This lecture made up part of my teaching and training assessment. The lecture was video recorded and observed by a senior lecturer and health psychologist. The recording was used to reflect upon teaching delivery. This was the second lecture I solely delivered at a post-graduate level. The students consisted of nine MSc health psychology students.

Prior to this lecture, I had jointly delivered a lecture to MSc Public health students at East London University and solely delivered a three hours lecture for an MSc health psychology lecture on Locus of control and self-efficacy. I very much enjoyed teaching these lectures and I feel that they did prepare me to a certain extent to for this lecture. Furthermore I have delivered trainings to various health care professionals and students ranging from health care professionals to sixth form students. Consequently I have developed a broad range of experience with training, however admittedly my teaching experience in comparison is not as vast.

As this was the second lecture I delivered to this group of students, I was able to also reflect on previous student feedback from the previous lecture delivery. I found that when delivering lectures I tend to let my lack of experiences create additional anxieties about my teaching abilities. This manifest itself in various ways: my body language tends to become closed; my speech tends to become very rapid: resulting in me distancing myself from the audiences and at times my voice not being

comprehended. It also means that I tend to rush through the topics and therefore end up finishing earlier than planned, thus effecting lesson plan timings. In the past I have attempted to slow my speech down by using breathing techniques and allowing for purposeful pauses enabling students to reflect on taught material. With regards to this lecture despite having planned many opportunities for pauses and reflection in order to encourage student engagement and learning, I still did tend to rush and I felt that I did appear to be extremely anxious. As a consequence the lecture did finish ahead of time and I felt that I could have used the time I had more sparingly. Although I feel that my hastiness and anxiety may have been due to the camera not having recorded throughout the first 15-20minutes of the lecture. I believe this directly impacted on anxiety levels and pace of speech. Furthermore it should be noted that this was the first recorded lecture I delivered and therefore this may have increased my anxiety. Surprisingly in comparison, when delivering trainings as part of my everyday role this overwhelming anxiety does not manifest. I assume this may be because deliver trainings on a regular basses. Trainings cover the same topic areas each time and although I tailor trainings to suit the specific audiences' needs, I feel that over time I have become at ease with the material used. I also feel that being a trainee health psychologist may also impact on my confidence in teaching a lecture to post-graduate students, as I feel that my knowledge may be scrutinised and that I may be judged as I am not yet qualified. This may sub-consciously create a feeling of apprehension and indecisiveness, despite having prepared for the lecture and fully understanding the topic.

## **Lecture feedback**

Student feedback was collected via the use of lecture evaluation forms and was collected at the end of the lecture. These forms allowed students to rate and comment on the lecture as a whole as well as each subtopic. The forms were anonymised in order to permit students to be as open as possible. Upon reflection I very much valued using these forms. I had used similar once in my previous lecture and found they helped to identify what part of the lecture worked and what parts dint work as well as I would have liked. The feedback form my previous lectures assisted me in the development of this lectures' lesson plan. Whilst planning this

lecture I was confident that the learning objectives would be met to the best of my ability. Lecture evaluation forms can be found in the appendix. I was marked as either very good or good as on each subtopic covered. As this was the second lecture delivered to this group of students, they were able to contrast and compare this lecture with the previous lecture delivery. One student noted a “marked increase in confidence from 1<sup>st</sup> lecture”. This feedback was encouraging considering this was only the second lecture I had taught. I feel that I have made an improvement in comparison to my last training.

Feedback areas for improvement included: one student commented on the evaluation from that the lecturer spoke too fast and seemed very anxious. I felt that I should have used breathing techniques to pace my speech. Another issue that was raised from the feedback was the lack of group work. I specifically chose not to include any group work, although upon reflection I do feel that group work in this lecture may have been beneficial and I should have considered it as it would have raised further opportunity for discussion and reflective learning.

On a positive note the video clips were voted as the most useful part of the lecture by six out of the nine students. One student quoted that the video clips “were useful in showing how real people benefit from the groups.” The video clips also help to add some variation to the teaching techniques used within the lecture, this was also reflected in the feedback, and videos “also provided a break from the writing format”. If I were to deliver this lecture again I would still include the videos as not only were they rated the most useful part they assisted me in ensuring that I paused between sections and was able to reinforce areas of further discussion. In summary I felt that the videos showed a true representation of what group support and patient’s expert groups consisted of. To a certain extent this deflected from the lack of group work, although I do feel I could have incorporated both elements into my lecture.

## **Reflection and future teaching**

Towards the end of the lecture I witnessed the students become more and more engaged in the lecture. They began to share theirs and or their family’s experiences of support groups. We talked about weightwatchers and the impact it had on a

student's family member. I feel that the discussion we had towards the end was effectively supported the learning objectives. I believe the increased student engagement levels were due to me gradually becoming more relaxed. I began to feel more at ease with the teaching, this become more apparent with my body language, I recall that I began to move closer to the students and further away from the desk in front of me. Generally I think this may have been because I had finished using the PowerPoint material and felt freer to open broader discussions topics. I also feel at this stage the students too became more relaxed as we approached the end of the lecture, perhaps they felt an increased opportunity for engagement.

I felt that I was accommodating to a vast range of learner traits: by incorporating video and PowerPoint presentations as well as sharing real life examples of self-help and group intervention from my work placement. However regretfully I did not include group activity or skills practice in my lecture plan, therefore this may have limited the encouragement of active experimentation learning. The decision to exclude group activity/ skills practice was made primarily on the bases of lack of timing but also on my experience of having organised group work within my previous taught lecture. In my previous taught lecture the group activities did not appear to go to plan and were not as well reviewed as I would have liked. This resulted in choosing to omit group actives from this lecture. Although I did encourage group discussion and raised numerous discussion points, which were covered as a group (i.e. by all nine students). I also used videos to simulate group activities and highlight discussion points.

I felt that learning objectivises were effectively met as this is reflected in the student evaluation feedback forms, whereby all nine students stated that they felt confident in their understanding of self-help and its value when applied to health behaviour interventions. This has increased my confidence in my teaching abilities and the effectiveness of the teaching materials I used within this lecture. However I wondered if the student's confidence levels were increased because of the lecture or if they already had a pre-existing knowledge of self- help interventions, I feel I should have investigated this further by perhaps asking students to complete a pre-feedback evaluation investigating their existing levels of knowledge. If applicable

in future teaching, I may want to use such a method to measure base line knowledge.

I felt the experience on preparing, delivering and reviewing this lecture has shown me that although there are areas of improvement required with regards to, organising, implementing and facilitating group work within in a teaching session, I am capable of creating and following a teaching plan. I am capable of using engaging teaching style which resulted in effective learning outcomes and positive feedback. Furthermore this teaching session has made me aware that that I am prone to increased anxiety when teaching, which can impede my teaching delivery at times; nevertheless I am able to recover form setbacks and continue to deliver an effective lecture.

I have become more aware of students cohesion as a group and the impacts of collaborative learning thorough presented materials and reflection. I have learned the importance of collaborative leaning and the need to incorporate various learning materials within a lecture whether that is skills learning or multimedia. I have learnt that although I may always be nervous I need to be able to pace my speech as this can impact on understanding and time management. This can be achieved through incorporating regular pauses into lesson plans in order to allow for student and lecturer reflection. But also through building my experience and carrying out more teaching. To further add, although I was not conformable knowing that that this lecture would be filmed I feel filming a lecture may the only way to be able to critically reflect on my own teaching delivery. Therefore I feel that I should record my next lecture in order to compare my previous teaching abilities with present ones allowing me to further identity areas of improvement.

In summary, as outlined by Kholb (1984) I felt that the lecture acted as active experimentation which formed a concrete experience allowing me to reflect, conceptualise and learn for future teaching experiences. When delivering future lectures I will assess the suitability of materials and implement an element of group work or skills practice were possible. For an example if I were to re-delivery this lecture to as similar group size I would now include a based activity. Upon reflection I leaned that I can deliver an effective lecture which results in positive feedback from students. This experience has also taught me the importance on

focusing on slowing the speed of lecture delivery control my anxieties and allows it to effect the pace of lecture timings. In future teaching I will ensure that I do not speed up and that I stick to the lesson plan as much as possible.

## References

Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall

# Appendix

## Completed student evaluation forms

### Using Self-help interventions

Please tick:

	Very Good	Good	Average	Poor	Very Poor
1. Overall, how would you rate the lecture?	✓				
2. How would you rate the following	✓				
a) Definition of Self help groups	✓				
b) examples of self help groups	✓				
c) Evaluation of self help groups	✓				
d) Definition of self management	✓				
e) Examples of self management	✓				
f) Evaluation of self management	✓				
3) How would you rate the presenter/facilitator?	✓				

4. Which part of the lecture did you find most useful?

Everything

5. Which part of the lecture did you find least useful?

Nothing

6. Did the lecture meet with your expectations? YES  NO

7. If not, please could you briefly explain why they were not met?

7. What changes would you make to the training?

she speaks very quick and looks nervous.

9. Do you feel confident in your understanding of the definition of Self help and its value in being applied to health behaviour interventions YES  NO

Please turn over

10. If not, what do you feel should be included in the lecture to help you feel more confident?

11. Please add any other comments you have on the content or delivery of the lecture

**Thank you completing this evaluation form. Please note that the information you have provided will be used to help the presenter improve future lectures**

## Using Self-help interventions

Please tick:

	Very Good	Good	Average	Poor	Very Poor
1. Overall, how would you rate the lecture?	✓				
2. How would you rate the following					
a) Definition of Self help groups	✓				
b) examples of self help groups	✓				
c) Evaluation of self help groups	✓				
d) Definition of self management	✓				
e) Exmaples of self management	✓				
f) Evaluation of self management	✓				
3) How would you rate the presenter/facilitator?		✓			

4. Which part of the lecture did you find most useful?

*videos + examples*

5. Which part of the lecture did you find least useful?

—

6. Did the lecture meet with your expectations? YES  NO

7. If not, please could you briefly explain why they were not met?

7. What changes would you make to the training?

9. Do you feel confident in your understanding of the definition of Self help and its value in being applied to health behaviour interventions YES  NO

Please turn over

10. If not, what do you feel should be included in the lecture to help you feel more confident?

11. Please add any other comments you have on the content or delivery of the lecture

**Thank you completing this evaluation form. Please note that the information you have provided will be used to help the presenter improve future lectures**

## Using Self-help interventions

Please tick:

	Very Good	Good	Average	Poor	Very Poor
1. Overall, how would you rate the lecture?	✓	AAAA			
2. How would you rate the following					
a) Definition of Self help groups	✓				
b) examples of self help groups	✓				
c) Evaluation of self help groups		✓			
d) Definition of self management		✓			
e) Examples of self management		✓			
f) Evaluation of self management		✓			
3) How would you rate the presenter/facilitator?	✓				

4. Which part of the lecture did you find most useful?

All of it, videos etc helped keep attention

5. Which part of the lecture did you find least useful?

6. Did the lecture meet with your expectations?

YES  NO

7. If not, please could you briefly explain why they were not met?

7. What changes would you make to the training?

Group work?

9. Do you feel confident in your understanding of the definition of Self help and its value in being applied to health behaviour interventions YES  NO

Please turn over

10. If not, what do you feel should be included in the lecture to help you feel more confident?

11. Please add any other comments you have on the content or delivery of the lecture

Good lecture, I feel well informed.

**Thank you completing this evaluation form. Please note that the information you have provided will be used to help the presenter improve future lectures**

## Using Self-help interventions

Please tick:

	Very Good	Good	Average	Poor	Very Poor
1. Overall, how would you rate the lecture?	✓				
2. How would you rate the following					
a) Definition of Self help groups	✓				
b) examples of self help groups	✓				
c) Evaluation of self help groups	✓				
d) Definition of self management	✓				
e) Examples of self management	✓				
f) Evaluation of self management	✓				
3) How would you rate the presenter/facilitator?	✓				

4. Which part of the lecture did you find most useful?

THE VIDEO CLIPS WERE USEFUL IN SHOWING HOW REAL PEOPLE ~~AND~~ BENEFIT FROM THE GROUPS. ALSO PROVIDED A BREAK FROM THE WRITING FORMAT.

5. Which part of the lecture did you find least useful?

~~None~~

6. Did the lecture meet with your expectations? YES  NO

7. If not, please could you briefly explain why they were not met?

7. What changes would you make to the training?

9. Do you feel confident in your understanding of the definition of Self help and its value in being applied to health behaviour interventions YES  NO

Please turn over

10. If not, what do you feel should be included in the lecture to help you feel more confident?

11. Please add any other comments you have on the content or delivery of the lecture

DON'T BE NERVOUS! WE WON'T BITE ☺

Thank you completing this evaluation form. Please note that the information you have provided will be used to help the presenter improve future lectures

## Using Self-help interventions

Please tick:

	Very Good	Good	Average	Poor	Very Poor
1. Overall, how would you rate the lecture?		X			
2. How would you rate the following					
a) Definition of Self help groups	X				
b) examples of self help groups	X				
c) Evaluation of self help groups	X				
d) Definition of self management	X				
e) Examples of self management	X				
f) Evaluation of self management	X				
3) How would you rate the presenter/facilitator?		X			

4. Which part of the lecture did you find most useful?

*Expert Patients Programmes + the video*

5. Which part of the lecture did you find least useful?

*Sometimes a bit repetative, for example when talking about benefits.*

6. Did the lecture meet with your expectations? YES  NO

7. If not, please could you briefly explain why they were not met?

7. What changes would you make to the training?

*More discussions - maybe in groups*

9. Do you feel confident in your understanding of the definition of Self help and its value in being applied to health behaviour interventions? YES  NO

Please turn over

10. If not, what do you feel should be included in the lecture to help you feel more confident?

11. Please add any other comments you have on the content or delivery of the lecture

*Good job U"*

**Thank you completing this evaluation form. Please note that the information you have provided will be used to help the presenter improve future lectures**

## Using Self-help interventions

Please tick:

	Very Good	Good	Average	Poor	Very Poor
1. Overall, how would you rate the lecture?	✓				
2. How would you rate the following					
a) Definition of Self help groups	✓				
b) examples of self help groups	✓				
c) Evaluation of self help groups	✓				
d) Definition of self management	✓				
e) Exmaples of self management	✓				
f) Evaluation of self management	✓				
3) How would you rate the presenter/facilitator?		✓			

4. Which part of the lecture did you find most useful?

video slides

5. Which part of the lecture did you find least useful?

.N/A

6. Did the lecture meet with your expectations? YES  NO

7. If not, please could you briefly explain why they were not met?

7. What changes would you make to the training?

more discussion please and group activity would be very useful

9. Do you feel confident in your understanding of the definition of Self help and its value in being applied to health behaviour interventions YES  NO

Please turn over

10. If not, what do you feel should be included in the lecture to help you feel more confident?

11. Please add any other comments you have on the content or delivery of the lecture

was a useful lecture.

**Thank you completing this evaluation form. Please note that the information you have provided will be used to help the presenter improve future lectures**

## Using Self-help interventions

Please tick:

	Very Good	Good	Average	Poor	Very Poor
1. Overall, how would you rate the lecture?	✓				
2. How would you rate the following					
a) Definition of Self help groups	✓				
b) examples of self help groups	✓				
c) Evaluation of self help groups	✓				
d) Definition of self management	✓				
e) Examples of self management	✓				
f) Evaluation of self management	✓				
3) How would you rate the presenter/facilitator?		✓			

4. Which part of the lecture did you find most useful?

5. Which part of the lecture did you find least useful?

6. Did the lecture meet with your expectations? YES  NO

7. If not, please could you briefly explain why they were not met?

7. What changes would you make to the training?

*More involvement from the students.*

*Encouragement of critical thinking.*

9. Do you feel confident in your understanding of the definition of Self help and its value in being applied to health behaviour interventions YES  NO

Please turn over

10. If not, what do you feel should be included in the lecture to help you feel more confident?

11. Please add any other comments you have on the content or delivery of the lecture

**Thank you completing this evaluation form. Please note that the information you have provided will be used to help the presenter improve future lectures**

## Using Self-help interventions

Please tick:

	Very Good	Good	Average	Poor	Very Poor
1. Overall, how would you rate the lecture?	✓				
2. How would you rate the following					
a) Definition of Self help groups	✓				
b) examples of self help groups	✓				
c) Evaluation of self help groups	✓				
d) Definition of self management	✓				
e) Examples of self management	✓				
f) Evaluation of self management	✓				
3) How would you rate the presenter/facilitator?		✓			

4. Which part of the lecture did you find most useful?

EPP. +  
How self-help can aid the client.

5. Which part of the lecture did you find least useful?

6. Did the lecture meet with your expectations? YES  NO

7. If not, please could you briefly explain why they were not met?

7. What changes would you make to the training?

9. Do you feel confident in your understanding of the definition of self help and its value in being applied to health behaviour interventions YES  NO

Please turn over

10. If not, what do you feel should be included in the lecture to help you feel more confident?

11. Please add any other comments you have on the content or delivery of the lecture

Marked increase in confidence from 1st lecture.  
Really enjoyed it.

Thank you completing this evaluation form. Please note that the information you have provided will be used to help the presenter improve future lectures

## Using Self-help interventions

Please tick:

	Very Good	Good	Average	Poor	Very Poor
1. Overall, how would you rate the lecture?	✓				
2. How would you rate the following					
a) Definition of Self help groups	✓				
b) examples of self help groups	✓				
c) Evaluation of self help groups	✓				
d) Definition of self management	✓				
e) Examples of self managemen	✓				
f) Evaluation of self management	✓				
3) How would you rate the presenter/facilitator?	✓				

4. Which part of the lecture did you find most useful?

Getting examples

5. Which part of the lecture did you find least useful?

6. Did the lecture meet with your expectations? YES  NO

7. If not, please could you briefly explain why they were not met?

7. What changes would you make to the training?

9. Do you feel confident in your understanding of the definition of Self help and its value in being applied to health behaviour interventions YES  NO

Please turn over

10. If not, what do you feel should be included in the lecture to help you feel more confident?

11. Please add any other comments you have on the content or delivery of the lecture

*A Good lecture. Short & concise*

**Thank you completing this evaluation form. Please note that the information you have provided will be used to help the presenter improve future lectures**

**Professional doctorate of Health  
Psychology  
Competence 5.0  
DVD and reflective commentary  
assessment**

The purpose of the DVD was to record a live teaching session, edit the recorded down to select 10 minutes in order to demonstrate, analyse and reflect upon teaching styles and techniques used in a true to life environment. The primary outcome of the edited recording is to be used as commentary for self-reflection and to identify areas for improvement and development for future teaching delivery. This commentary is a selected 10minute section of a lecture delivered on the 2<sup>nd</sup> November 2012, week 11 of the taught MSc Health psychology: Context and application module. The lecture title was: Using self-help interventions, and took place at London Metropolitan University.

It should be noted that approx. 15minutes into the lecture it was discovered that the camera had not recorded due to it having a full memory capacity. Once this had been resolved I was able to recommence. This did however cause some disruption, although it provided an opportunity to re-cap on what had been covered in the first 15minutes. This proved to be beneficial for a student that had missed the first 5minutes of the lecture. This incident temporally distressing has taught me to be prepared for such circumstances for future teaching experiences. It also encouraged me to ensure that pace of speech was no longer as rapid. Post lecture it was discovered that the last 20-30minutes of the lecture also failed to record thus the recording ends abruptly. I therefore only had 45minutes of footage from which to select. I found this challenging as the introduction covering the learning outcomes and objectives as well the summary of the lecture and discussions towards the end of the lecture was omitted. I was therefore unable to reflect on my delivery of these core sections.

I chose the first 10 minutes to use for this commentary. This was approximately 20 minutes into the lecture and commences after discovering that the camera had recorded. I felt this time frame demonstrates my ability to adapt and recover from and unplanned situation. It also demonstrates my use of multimedia resources such the use of video to show NHS experiences of self-help.

The beginning shows a slightly indecisive, rushed tone and a summary of what had just been covered in order to compensate for the missing recording. I also held notes up to my face almost a barrier and I revert back behind the desk. I believe this is because I felt troubled about the lack of recoding. As the lecture progressed, the notes were put to down from 4.40minutes: I adopted a calmer tone and approached

the front of the room into full view. I began to feel more confident at this point and I felt this reinforced my voice projection. I began to use tone to emphasise key points e.g. at 2.01 minutes when discussing the buddy system in smoking cessation the "buddy" is empathised.

Hand gestures were used frequently to elaborate and emphasise key points. Regular eye contact with the students is present throughout the recording. Maintaining eye contact aided me in maintaining engagement

Student participation was encouraged throughout: An example of this is at 6.50-7.04 minutes where I ask students to elaborate "is there anything else" referring to other self-help support intervention examples and once an answer is given I praise the students by saying "yes very good". I felt that positive reinforcement in the form of praise and the use of open ended questions encouraged collaborative learning. If I were to deliver this lecture again I would, ensure that the recording equipment was fully functioning prior to starting, I would also make sure that I pace my speech as not appear rushed or apprehensive.

**Professional Doctorate in Health**

**Psychology**

**Competence 1.0**

**Professional skill assessment**

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## **Introduction**

This assessment is a reflexive report summarizing personal and professional development as a health psychologist throughout the completion of the professional doctorate qualification. This report included a reflective commentary of how I met each component of the professional skills learning outcomes outlined in the British Psychological Society (BPS) stage two guidelines (BPS, 2009).

For the majority of time throughout the completion of the stage two Health Psychology doctorate I worked as a primary care stop smoking specialist, within Newham's public health department. This role entailed managing the primary care stop smoking service within pharmacies and GP practices. The primary objective of the role being to recruit, train, support and monitor performance of primary care based stop smoking service providers. Occasionally I also provided face to face smoking support within the community. However, the role relied heavily upon strategic service developments and commissioning as opposed to service delivery. According to Raw, McNeill, and West (1998) and the National Institute for health and Care Excellence (NICE, 2013) primary care services including GP practices and pharmacy setting are effective setting in which to delivery smoking cessation support. In addition approximately 60% of smokers who accessed stop smoking services in England from April 2012- March 2013 accessed the service from either a pharmacy or GP setting (Health & Social Care Information Centre, 2013). It is therefore imperative to maintain and support these services.

Whilst working as a primary care stop smoking specialist, I worked autonomously in developing continuous engagement with primary care health professionals. This consisted of raising awareness of the stop smoking service amongst pharmacists, other pharmacy staff including health care advisors, dispensers, counter assistants and pre-registration pharmacist as well as, GPs, practice nurses, health care advisors and administrative staff. I would attend pharmacy forum meetings and present service updates, network with the local pharmaceutical committee and drug manufacturing representatives in order to collaboratively work in maintaining and effective service. I would carry out regular pharmacy and GP setting visits to support and ensure primary care and pharmacy stop smoking advisors had

sufficient resources, consultation rooms, and sufficient training to provide effective stop smoking support.

### **Job role background**

The primary responsibility of my role was to train and support GP and pharmacy based staff in providing and maintaining an effective stop smoking support throughout the borough. The supporting aspect of my role in summary consisted of: conducting post training visits to debriefing newly trained advisors on how to complete and record patient records as well as answers any questions post training, informing advisors of department of health based practice guidance, supporting advisors with patient specific queries and aspects of behavioural support techniques. I also carried out regular advisor performance review visits in which I would feedback stop smoking advice performance and collaboratively working together with the advice to identify areas of improvement. Following seeking consent from patients I would provide shadowing opportunities for advisors were adviser would observe me providing face to face stop smoking support. Following which I would debrief advisors and answer any questions they may have had. I found that involving stop smoking advisors as well as pharmacy managers / practice managers (for GP settings) helped to in achieving a communal goal.

I autonomously scheduled visits with lower performing providers to identify what further support was required. However I my role became more demanding following the restructuring of the NHS ( DoH, 2010) numerous redundancies and service restructure I felt I wasn't always able to complete performance visits as my role became more clerically demanding following the reduction in the size of my team. In hind sight I felt I could have done more to address under performance, by perhaps enlisting the support of volunteer staff or initiate a student placement to take on some of my administrative duties or support me in the delivery of performance management and visits.

I was also the training lead. This involved delivering the following trainings: Level two trainings (consisting of two half days) level one trainings (half a day) and level two update trainings as well as additional ad-hoc trainings to other non-primary care delegate's i.e. mental health setting trainings and school based staff, youth

workers/ students ( to enable students to provide peer led support) . The core outcome of the training was to empower health and non-health care professionals alike in providing effective stop smoking support and reduce smoking prevalence and health inequalities within the borough whilst understanding the, need for continuity of care and the complexities of Newham's populations health needs. When developing the training I followed NICE (NICE, 2008) guidance with regards to what should be included. Delivering regular trainings enabled me to increase my training skills. I felt that applying background theory to the training when discussing the cycle of behaviour such as the stages of change model (Prochaska, DiClemente, & Norcross 1992) helped to reinforce how behaviour is interchangeable. Furthermore when delivering training I found that applying social learning (Bandura, 1971) in term of learning from experiences via role play activities very much helped in increasing advisor knowledge in practical advisory skills . I ensured that all my trainings were evaluated and that I acknowledged and learned from feedback, implementing improvements and suggestions in future trainings. I found that when I first became delivering trainings I was very nervous and as a result I would often rush though the training. This was reflected in the training feedback. However as I become more comfortable in my role a learnt to slow down. I found using breathing techniques to assist in taking regular pauses very helpful.

I ensured that the training material suited the relevant delegates learning needs and tailored trainings to suit the individual each delegate group. For example when developing training material for college and school based trainings I ensured that the topic areas were suitable for a young audience and that the reported statistics mentioned and materials used were young person related. I delivered regular training to health care professionals such as practice nurse and in this instance. I ensured that the training was practice nurse specific, with regards how to prescribe medication, how long to book clinics for and how to records data.

Another example of when I tailored trainings to suit the specific delegate group's needs was when I developed training material for inpatient mental health setting staff. I ensured that the training consisted of relevant statistical and prevalence relating to mental health patients and inpatient settings, how specific medication

can impact on mental health and how to collaboratively as a team to promote and facilitate continuity of care. This training resulted in an in house service being provided for inpatients, consisting of group and one to one support. I was exceptionally pleased with outcome of this training as it has led to a sustainable in house service for which I provided resources and advisor support. The training also led to delivery of further information sessions for patients and staff to find out more about stopping smoking what support was available. I believe this was result of effective clinical engagement particularly with the occupational health therapists who acted as champions in instigating this culture change. The effect of the training I delivered and the in house stop smoking support also lead to the initiation of smoke free mornings and the wide spread used of Nicotine replacement therapy which was previously not on hospitals pharmacy formulary. I feel that this is an example of how I implemented change within a clinical environment. Following the service implementation, I was asked to deliver a 20minute talk at a mental health conference on how to effectively incorporate a stop smoking within a mental health setting.

I would ensure that I communicated effectively stop smoking advisors informing them of service changes. This involved drafting and mailing, yearly advisor newly letters (updating on year performance and new/future information) as well as ad-hoc information relating to public health stop smoking campaigning's i.e. Stoptober and January campaigns, new medication, NICE guidance publications: keeping primary care advisors up to date on latest information. I would also draft reminder letters for advisor to submit data prior to quality deadlines. As we had over 300 active advisor this could be time consuming and therefore I would have plan ahead and allocated time toward this task. I would ensure that I prioritise informing advisor of outstanding submission of smoking cessation data as this would impact on our reporting to the department of health.

As of March 2014, I changed work placement and took up a new role as a secondary care stop smoking specialist within Whittington hospital. This placement involved working within a clinical setting, as opposed to a community setting which my previous role covered. Furthermore it involved working closely with inpatients and outpatients, completion ward visits and running outpatient clinics

supporting them on regular bases. Commencing this role enabled me to gain experience or working within a hospital setting as well as increase hours spent supporting patients. This is something I had been lacking in my previous role as I had very little contact with patients. I therefore decided to commence a role which permitted me to reinforce my advisory skills.

In my current role within secondary care, I priorities patient care ensuring that, patients referred are visited and supported before being discharged. I asses their desire to stop smoking, their smoking history and dependence and if they chose to stop smoking I initiate a smoking cessation plan with support and medication for during their stay and for once they are discharged. I ensure that this is recorded on medical records for continuity of care. The purpose of prioritising this is to ensure that patients who cannot smoke during their stay are provided with appropriate smoking cessation aid in order to reduce their levels of distress and if willing to initiate smoking cessation support and continue upon discharge. This is in line with NICE (2013) secondary care guidance. Ward visits can be very time consuming as patients have complete needs, it is important for me to be able to prioritise patient's visits as my time is shared between community and secondary care. I ensure that I prioritise visiting these patients most in need. This includes patients who are soon to be discharged as it an excellent opportunity to initiate smoking cessation whilst in hospital, according McBride, Emmons and Lipkus (2001) this is this is part of a teachable moment that can summate a serious quit attempt.

During my role as a primary care stop smoking specialist I was confronted with many challenges as my duties and responsibilities broadened and my team dramatically reduced. As the function of public health transitioned from NHS to the local authority my role changed immensely. I took on a lot of administrative tasks, such as financial procedures and payment verification as well as data entry and I solely dealt with producing and mailing advisor communication briefings such as newsletter, training invites and contract renewal procedures. This was big change for me as I had previously worked in with a team of nine staff. I therefore had to become more time efficient and effectively priorities my job roles. I demonstrated this in a number of ways. For example I ensured that my post training visits were scheduled all in one day instead of staggered on different days in order to reduce

the time I spent travelling and away from the office. I also enlisted the support of a sessional staff member who I had previously mentored to co-run training with me (where possible). I also had reduced my training schedule to reschedule the number of trainings due to lack of capacity.

Adapting to my work load changes also meant I had to increase the existing partnership working with external organisations, including the local pharmaceutical community and the drug company representatives. I enlisted the help of the Local pharmaceutical committee to facilitate communication with pharmacy advisors as well as accessing their expertise in clinical judgment when considering the renewal of our contractual agreements, payment structure and renewal of patient group's directive for Champix. Furthermore I enlisted the support of the drug representatives to facilitate invited speakers for update training and fund catering for trainings. During this time I learnt new skills including how to use finance systems, how to implement a patient's group directive within the local authority, contract management and how to support work effectively within a very small team. I also continued to develop Procurement contracts such as Local Enhanced Service agreements for the Stop Smoking Service and NRT protocol, however I adapted these documents to suit local authority format and agenda. I also learned how to write a service specification document and a schedule for outsourcing our online database provider service. Furthermore I supported the contracting team in auditing service providers. This is a task I had not previously undertaken. I identified anomalies in spend and reported this to the contract which instigated an audit procedure. I felt this was very much a learning experience. Hence I was quite apprehensive about auditing as I felt it could impact on my relationship with service providers. As a result of the audit a service provider was suspended and this did affect my existing relationship with the provider. In hindsight I do feel that I was supportive of the provider, I did everything I felt I could to ensure that the provider had adequate information and debriefing on paper work required in accordance with the service level agreement. However the provider failed to comply and the excess spend could not be verified.

As a Stop Smoking Advisor it is very important to establish and maintain systems for the security and control of information, to protect the confidentiality and

security of patient information. I always ensure that I work following ethical principles. In my previous role was responsible for submitting performance data to the department of health on quarterly bases. I ensured that all data was anonymised prior to submission. I demonstrated the need to ensure that all patient data was kept confidential by ensuring that I followed NHS code of practice which consists of the Caldecott principles (1997). This involved the following: ensuring that all patient data was stored confidently and for longer than required, it also included not disclosing patients identifiable data unless necessary. In addition I completed mandatory NHS employee information governance training on annual basis. I continue to follow these principles in my new. In my previous role I ensured that paper based records containing patient information were stored in a locked cabinet and the key was held in a safe place.

Furthermore when seeing patients I explain how their data is to be used (their data would be anonymised and non-personal identifiable demographics would be reported to the department of health to monitor service accessibility and performance). When contacting patients post support session I ensured I seek consent from patients prior to contacting them. Explicit agreement of this was obtained by acquiring written consent. I have further developed this competence as I know work with patient medical records and ensure that they are never left unattended and returned to a secure location once I have completed updating them. I also ensure that I update medical records post each patient contact in order to maintain continuity of care.

### **Continuous professional development**

I am aware of the importance of the British Psychological Society's (BPS) code of ethics and Conduct (2009), and am committed to the ethical principles of respect, competence, responsibility and integrity. The code of conduct has become especially relevant since commencing the hospital role as I see patients on a daily bases. Many of the patients I see have severe physical and or mental health conditions; many have been diagnosed with cancer and or have multiple addictions. I therefore have to be very sensitive when treating the patients. I ensure I treat each patient with respect and compassion, should a patient not be willing to or to feel

ready to stop smoking I accept their wishes and ensure that I left the patient in the knowledge that they can access the service in the future should they wish to do so. I also feel it was my duty of care to update medical records to ensure continuity of care. In addition I am a member of the BPS, and the healthy psychology division. I find the articles helpful and have drawn references from them on numerous occasions, in particular when developing my health behaviour intervention for young people.

With regards to continuous professional development I attended various courses during the doctorate. I attended a systematic review research development programme at London Metropolitan university (February 2013). I found this seminar very informative in helping to perform literature searches. Following having attended this course I was able to complete and submit a systematic literature review which formed part of my professional doctorate competencies (March 2013). I felt this training enabled me to be more efficient at searching for peer reviewed literature, not only for the research competence but also when researching evidence used for training material. In 2012 I also attended an NHS course on how to use NHS evidence site which enables the user to run detailed literature searches. This course also assisted me in finding relevant literature to be used for training. I also attended annual UK national smoking cessation conferences, where the latest research and service developments are presented. I find that this helps to solidify my knowledge of the field to remain current.

I completed the National Centre for Smoking Cessation Training (NCSCT) and introduced its elements within the level two stop smoking advisor training. This training was developed by the department of health to support the NHS and Local Authorities in standardising the service in the delivery of effective evidence based stop smoking support. I found the training immensely helpful as it reinforced advisor skills as well as theoretical knowledge of smoking prevalence, its pharmacological effects as well as treatments. The training also I also completed the additional pregnancy and mental health modules. I found that the skills I had learnt were able to be utilised when I helped to establish a mental health stop smoking service in a mental health hospital. I developed and delivered staff training and supported in the running of the newly introduced service. I also found this

training helped me when supporting patients within my new role. I have supported a number of pregnant women in and feel the training increased my confidence in discussing treatment methods.

### **Practitioner reflection**

I maintained daily logs of my activities and was able to self-reflective with monthly summary logs. I found this very helpful as it helped me to retroactively evaluate my experiences and the knowledge I had gained. As suggested by Boyd and Fales (1983) reflective learning can stimulate personal change and growth. I also sought feedback and advice from a number of sources including work colleagues, line manager, health psychology supervisor as well as stop smoking service providers and commissioners from other service. I very much believe in sharing good practice and learning from others. During my time with Newham stop smoking service I worked with neighbouring boroughs in facilitating the development of a patient group directive which enabled pharmacist the ability to supply Varenicline. When moving to Whittington I applied what I had learned in Newham.

In addition according to Mitchie (2004) part of the professional skills practice framework for a health psychologists includes “being well informed... of national and regional health policies, relevant legislations and the codes of ethics and conduct” (page 376). I ensured that I was able to achieve this by regularly updating myself on relevant publications of service guidance from NICE as well as briefings from the MHRA with regards to new medications and adverse reactions. Furthermore I would include these updates in my trainings in order to pass on this information to other advisors.

Another element of my new role is to create a robust referral pathway between secondary care inpatients and primary care community setting stop smoking services. This currently involves working with hospital and pharmacy staff thus creating better health care professional alliances and resulting in effective continuity of care for hospital patients upon discharged. I have begun to assess the baseline measure of referral rates between secondary and primary care and plan to investigate a cost effective way to instigate a new referral pathway.

Upon reflection, I have always felt that I wanted to provide support first hand as opposed to commissioning behavioural support, therefore I chose to find a role that suited my needs: hence my move to work as a secondary care stop smoking specialists within an NHS hospital. I also feel that this role is enhancing my advisory skills as I am supporting a variety of patients with complex health requirements. I feel that that I am able to instigate rapport with the patients and tailor support to suit their specific needs. I also work as a part of a multidisciplinary team with other hospital based professionals. I feel this further address to better patient care

In conclusion I feel that I have gained a broad range of experience whilst completing the stage two doctorate. I have worked within a wide range of setting from working within strategic commissioning and procurement to working as a service provider within a hospital setting. I feel that I have learned a lot from reflecting on my experiences. I feel that returning to providing stop smoking service has benefited me immensely and has enabled me to become a well-rounded healthy psychologist as I am supporting patients with a complexity of health and social issues.

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**Professional Doctorate in Health  
Psychology  
Competence 2.0**

**Consultancy assessment**

Evaluating a school based obesity  
prevention intervention.

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## **Introduction**

This assessment covers the consultancy undertaken during the stage two health psychology training. It covers the planning and development of a consultancy agreement including professional and ethical considerations and reflection post the consultancy. The consultancy involved performing an external evaluation of a pilot childhood obesity prevention programme, which was to include recommendations for future replication. This also included evaluating and providing recommendations for the materials used and the interventions structure.

## **Consultancy overview and development**

This consultancy was acquired through London Metropolitan University. Following the consultancy being advertised I contacted the consultancy commissioner via email, I was then contacted via telephone to discuss the project further. The project was titled: Healthy eating and physical activity pilot intervention for primary school children using self-written journals: A primary preventative intervention. The setting of the pilot intervention was within a primary school and its principal objective was to prevent further increase in childhood obesity and consequently also reduce adult obesity in Redbridge via the use of preventative educational programme. This pilot intervention was commissioned by NHS Redbridge public health department and developed and delivered by an external organisation. Following email and phone conversations an evaluation brief was received via email from the requesting body: NHS Redbridge public health department. The evaluation brief concisely outlined the pilot's intervention background as well as the population demographics of the area where the intervention was due to take place (Redbridge). The brief also touched upon the needs assessment, outlining the need for the intervention and evaluation therefore justifying its need and potential value. (All email evidence can be found in consultancy log folder).

Post having received the evaluation brief document a preliminary meeting was arranged with the consultancy requesting organisation. The meeting was attended by the pilot intervention commissioner and consultancy requesting body NHS Redbridge (the client), the commissioned external organisation who developed and

delivered the intervention and the consultant. As an external consultant this meeting was an opportunity to clarify the consultancy's aims and measurable outcomes in order to prepare a consultancy agreement. This exploratory meeting aided in the increasing pre-existing knowledge of the intervention and assisted in clarifying the details of the consultancy which assisted me in drafting the consultancy agreement.

Furthermore the meeting was an opportunity to find out more about the pilot intervention structure and the delivery methods and material used, all of which would require evaluating. Deadlines for the consultancy outcome were also discussed. The role of the consultancy had already begun and the information obtained from the meeting was also used to form a consultancy agreement attached in appendix. Additionally and most importantly this meeting allowed me to identify the client's attitudes towards the intervention and their expectations of its outcomes. I was able to assess the client's needs and fully comprehend the project.

Following the meeting it was acknowledged that the intervention would take place over a period of six sessions and that three of the sessions had already taken place. It was therefore possible to evaluate the intervention's process thus far and address practical issues with regards to the intervention's session delivery. The collected data collected at this point was reviewed and analysed. From the meeting it was clear that the client was not familiar with the project as the intervention developer also attended the meeting and was able to clarify any unanswered questions with regards to the intervention delivery. This assisted the consultancy greatly as it gave a greater perspective over the intervention and helped to identify specific areas of interest and to some extent concerns for example parental involvement was not due to take place until the very end of the intervention, this appeared to be a very novel approach as previous literature either only involved parental involvement such as education programmes or involved both child and parent involvement throughout an intervention.

Based on the preliminary meeting findings and a consultancy agreement was drafted and emailed to the consultancy requesting body to be reviewed. Recommendations were made and the agreement was returned to the consultant for amendments. Once amendments had been made the consultancy agreement was

signed by both the consultant and the consultancy requesting body. The purpose of the consultancy agreement was to clearly outline and define the consultancy role, outline the outcomes whilst also stating an agreed time frame in which the objectives would be achieved including methods of proposed communication between consultant and requesting body. The full lists of consultancy outcomes are outlined in the consultancy agreement contract which can be found in appendix. The agreement also included ethical considerations and guidance on how feedback would be obtained in order to facilitate practitioner reflection.

Once the consultancy agreement had been agreed a consultancy plan was drafted and submitted to the client. (The consultancy plan can be found in appendix) The plan outlines each task of the consultancy in further detail, it provides an in depth break down of the steps involved in achieving the consultancy outcome including agreed steps for each milestone. I chose to represent each milestone in table format outlining each step and expected completion date. (Please refer to appendix) I felt this was the most clear and concise way to represent this information to the client. The plan was also submitted to be reviewed by the client and feedback was obtained prior to the document being finalised. It was also agreed that the findings from the evaluation report would be reported in at a department meeting

The additional purpose of the plan was outline in greater depth the justification for the intervention, in essence a needs assessment. This involved reaching the demographics statistics in childhood and adulthood obesity. Carrying out background research into the population data, the primary source of data came from the Redbridge Joint Strategic Needs Assessment (JSNA, 2012) and background into previous healthy eating and physical activity interventions carried out with similar age groups in order to identify key literature. Key literature identified at this stage included research by Savage, Fisher, Birch (2007) and Waters, De-Silva-Sanigorski, Hall, Brown, Campbell, Gao, Armstrong, Prosser, & Summerbell, (2011) who supported the long term effectiveness of delivering such interventions to young children as they have the potential to have a greater impact on long term behaviour change. I also carried out preliminary research into the chosen structure and the materials used so that I was familiar with what the intervention consisted of. I outline the materials in the plan.

## **Integration of consultancy and theory used**

Throughout the consultancy I communicated regularly with the client and assured I completed tasks by the agreed completion dates outlined in the contract. I ensured that I established and maintained a professional relationship with the requesting organisation. I accomplished this by ensuring that emails were responded in a timely manner and that key objectives were clearly defined and agreed. I also ensured that I maintained professional boundaries between the client and workplace role as I continued to work full time as stop smoking specialist whilst completing this consultancy. I achieved this by outlining my job role to the client. I achieved this by making the client aware that I had a full time role and explaining the limits of availability to the client outside of office hours at the beginning of the relationship.

The consultancy model use in this consultancy was a client centred approach in which the client's needs were assessed via a preliminary meeting. The client centred approach as suggested by Lambert and Barley (2001) is commonly used in the psychotherapy and counselling field. The client centred approach suggests that client outcome can be influenced by establishing common factors. Common factors that formulate a person-centred approach include putting the client's wishes at the forefront of each consultation, being able to express empathy, warmth and congruence (Lambert et al., 2001). Therefore through the consultancy I ensured that each time I communicated with the client I was engaging, understanding of the intervention and its implications on the dynamics of the public health team. I also highlighted my previous experience of delivering such an intervention in order to express empathy with clients with regards to challenges they have faced. Furthermore where I was unclear about something I ensured that I contacted the client for clarification to ensure we shared a common ground and understanding of the consultancy.

In addition I implemented the consulting cycle as quoted by Cockman, Evan and Reynolds (1999). The cycle commenced with the initial meeting of the clients, making initial contact and establishing working relationship. From this point I began to understand the key factors in evaluating the pilot intervention. As well as

begin to form a working relationship with the clients. I began to understand the dynamics the client's co-worker relationships with the intervention developers, commissioners and as well as with the school staff. I was also able to assess the role of each of party how they may have impacted on the intervention development, delivery and evaluation. I was then able to understand the interventions and begin to generate options and recommendations to for areas that required improvement prior to its replication. The last stage of the cycle was to await feedback and then to disengage and allow for recommendations to be implemented.

### **Data collection and analyses and ethical considerations**

Post data collection analyses a meeting with the schools head teacher was arranged by the clients to discuss any issues with regards to the intervention delivery and the school perspective on the effectiveness of the intervention. During this meeting I continued to use a client centred approach whereby in this case the school became the client and I identified what their needs/ expectations were and how the extent they were met the intervention. This provided greater insight into the level of input the teachers had in the interventions delivery. It allowed me to assess the attitudes of the school based staff and their wiliness to replicate the intervention for future alumni. The meeting identified the financial aspect of future interventions and the recommendation for the invention to be incorporated as a government initiative on greeter scale thus increasing uptake was also discussed. It also become apart that the schools positive perspective and willingness to take part in intervention may have been due to the school holding a pre-existing interest in the project as the school had previously been accredited as a healthy school suggesting they have a pre-existing interest in healthy eating physical activity behaviours. This may have given them a more positive outlook of the intervention and thus increasing their likely hood of future replication. Furthermore the project had no financial implication to the school, again reinforcing a possible favouritism towards the interventions outcomes.

Once all the data sets had been received they were then matched, this was very time consuming as it was difficult to decipher children's hand wiring to match each session corresponded with each pupil. It was also apparent that some children had

not either not attended some of the session or had failed to complete one or more measures. This was accounted for in the statistical analyses as missing data. I was able to assess all there materials used over the six sessions. In addition as a result of the effective working relationship I maintained throughout the consultancy I was also able to included feedback from the clients, the intervention developers and the school staff. This enabled me to provide a compressive evaluation report.

With regards to ethical consideration: Some children had also included identifiable factors on their response sheets such as their full names. As described the consultancy agreement this should have been omitted and therefore all surnames were deleted. Nether first name or surnames were included in the report as all pupils data was coded therefore anonymised. Prior to coding the data I ensured that the data was stored securely. Furthermore prior to commencing the consultancy the client ensure that I singed a confidently agreement. This agreement outlines NHS confidentiality principles.

### **Reflective-practitioner stance**

I found this consultancy resonated with my previous experience of a similar intervention. I felt that my experience in this filed delivering a similar intervention, as well as working in public health added clout to the consultancy and helped to build trust in the achievability of the consultancy. As an external consultant I felt my background knowledge and experience was enabled me to progress. In addition I found the teaching technique used to be very novel; the sessions were delivered using Prezie which is an interactive presentations (available from [www.Prezi.com](http://www.Prezi.com)) Prezie is an internet cloud based presentation storage application that provides an interactive method of delivering teaching sessions. It includes the ability to zoom in an out of the presentation and permits the usage of moving images and sound, therefore resulting in a more interactive style of delivery, particularly useful for a younger audience. The presentations were used alongside group physical activity exercise sessions, using resources brought into the school by the intervention developers. I found this presentation method particularly effective l and may wish to implement in my future work.

Upon reflection during the initial meeting I could have categorised the clients learning styles and implemented the specific learning style whilst carrying out the consultancy. This could have been by using the Learning style questioner (Honey & Mumford, 1992) in an attempt to apply learning style theory in the context of the management of work organisations. This would have enabled me to better understand the complexities of the working relations between the clients (public health commissioners) and the intervention providers. I could have then compared and contrasted what consultancy method would have suited each group and adapted elements of the consultancy. If I were to repeat such a consultancy I would investigate the use of the learning style questionnaire as a preliminary assessment tool in formulating a consultancy working relationship.

Following the submission of the report it was some time before feedback was received, this did create some anxiety, there was however an email of acknowledgement of having received the report. Feedback was officially received via email and post in October. It was decided that it was no longer possible to present the finding in the departmental meeting and due to structural changes within the public health department the intervention would no longer be feasible. This did help to understand the delay in receiving feedback. The feedback received, was very concise and positive. The feedback praised the statically analyses method chosen and commented positively on the findings. The evaluation report was stated to have been useful in helping to assess whether or not the approach taken with the pilot project was a feasible intervention to support school in tackling childhood obesity. Upon reflection this did meet the consultancy's objective and I was extremely proud of this despite the fact that intervention would no longer be conducted based on structural changes within the NHS. The feedback stated that the intervention may potentially be revisited in the future. The feedback was also constructive as it identified areas of improvement in my report writing skills: in particular attention to spelling and grammatical errors with deflected for the strength of proposed project recommendations.

Upon reflection I am very pleased with the feedback as I was particularly anxious about the using SPSS due to not having used the software for a few years. Report writing skills were also proven to be effective although my attention to detail with

regards to typing errors was identified as an area I must improve upon. I feel this may be achieved by devoting a greater proportion of time to proof reading and if possible also asking someone else external to the project such as work placement supervisor to proof read my work prior to submission. I felt that the consultancy was well delivered as there were clear aims and objectives set out in the evaluation plan and report. Another contributing factor to this consultancy's effectiveness was communication. I felt that communication was consistent throughout this consultancy. Regular contact was made with consultancy requesting body and intervention developers, via email and telephone conversation as well as via post. Emails were responded to in a timely manner by both the consultant and the requesting body. For example data set four was missing the learning objectives tools, therefore emails were sent to the consultancy requesting body to resolve the issue, it was then acknowledged that data set four did not include the learning objectives tool. Upon reflection I felt that the intervention developers and the schools staff who piloted the intervention were invaluable in the completion of this consultancy as I was able to gather accurate and first-hand information on the development and the delivery of the intervention. If I were to replicate this consultancy I would have arranged more frequent meetings with the intervention developers. I would also have liked to be present as an observer at the intervention delivery sessions in order to observe the practicalities of the intervention delivery and to ascertain if there were any issues present that were not addressed during the meeting with the school teachers.

In conclusion, I feel that I gained deeper understanding of childhood obesity within North east outer London and discovered more about relevant literature within the field of childhood obesity. Moreover, I feel this consultancy has improved my communication and networking skills. I was able to communicate with various professionals from within the NHS and educational settings. I was able to use my experience and knowledge of working within a public health setting to facilitate a deeper understanding of the interventions objectives. Furthermore this assessment has enabled me to further develop report planning and writing skills and put into practice completing an effective consultancy agreement.

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## **Appendix**

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# Consultancy agreement



London Metropolitan University  
School of Psychology  
Faculty of Life Sciences  
Course Leader: Dr Joanne Lusher  
Email [j.lusher@londonmet.ac.uk](mailto:j.lusher@londonmet.ac.uk)  
Tel: 0207 320 2397

## Consultancy Agreement

### **REQUESTING BODY: NHS REDBRIDGE**

**Address:** 2-14 Ilford Hill, Ilford, Essex, IG1 2QX

**Consultancy requester and lead researcher:** Dr. Pamela Gbesemete-Akyeampong CPsychol

**E-mail Address:** [Pamela.Gbesemete-Akyeampong@redbridge.nhs.uk](mailto:Pamela.Gbesemete-Akyeampong@redbridge.nhs.uk)

**Phone:** 0208 926 5156

**Job Title:** Public Health Specialist Health Surveillance

### **Name of Proposed Consultant: Natasha Anastasi**

**Work Phone:** 0207 059 6632 / **mobile** 07400359935 **Home phone:** 0207 2638972

**Work place Address:** Unit 6, 2nd Floor, Warehouse K, 2 Western Gateway, London. E16 1DR

**Home address:** 7 Wiltshire Court Marquis Road London N4 3AX

**Job Title:** Trainee Health Psychologist/ Primary care Stop Smoking specialist

**E-Mail Address:** [natashaanastasi@hotmail.com](mailto:natashaanastasi@hotmail.com) / work [natasha.anastasi@elc.nhs.uk](mailto:natasha.anastasi@elc.nhs.uk)

**Project Name:** *Healthy eating and physical activity pilot intervention for primary school children using self-written journals: A primary preventative intervention*

**Consultancy outcome:** *to provide an in depth external evaluation of the intervention*

**Period of Contract:** 25<sup>th</sup> May – 20th July 2012

**Submission Date:** 20th July 2012

### **1. Project Description**

#### a) Intervention outcomes:

- Increased time spent conducting physical activity amongst primary school children

- Change in eating habits, visible from eating and physical activity logs and Increase in children's knowledge in healthy eating and nutrition
  - Assess whether this approach is a feasible intervention to support a wider implementation of intervention i.e. More Schools in tackling childhood obesity
- b) Consultancy role and requirement:
- The consultant is required as there is a need for an external evaluator in order to eliminate experimenter bias in the evaluation process of the intervention
  - To evaluate effectiveness of the pilot intervention by reviewing participant health eating, physical activity logs and learning objective outcomes. This will be accomplished via creating a detailed evaluation report of the intervention outcomes
  - The evaluation report will evaluate the interventions method, the materials used and to what level the overall outcomes of the intervention were achieved
  - The skills required to complete the evaluation report will include the ability to deconstruct and categorise eating and physical activity monitoring logs. This will rely heavily upon data analysis skills and effective report writing ability. The report will be completed to an NHS report standard

### **3. Process/Discussions with Proposed Consultant**

- The consultant has been recruited via London Metropolitan University and in conducting a professional qualification has been. The consultant responded to an advertisement email placed by the lead researcher. This consultancy is to form part of one of the competencies required to complete the professional doctorate

### **4. Funds and Fee Rates**

- a) Funding will not be applicable as this will be covered as part of the Consultancy module: Health Psychology doctorate Course

### **4. Statement of Work/Consultant's Proposal/Deliverables**

- a) The consultant agrees to carry out the proposed project and deliverables within the time frame outlined by the consultancy requestor: a plan of how evaluation will be carried out using the pre-intervention will be submitted by the 29<sup>th</sup> May 2012

- b) The final report evaluating the intervention will be submitted on the 20<sup>th</sup> July 2012. A draft is to also be submitted 2 weeks prior to this date 6<sup>th</sup> July
- c) Should there be any change in the time frame given sufficient notice must be given
- d) The consultant will produce and email weekly status reports/updates to the lead researcher. This may be more/less frequently if required. This will also involve face to face and or telephone meetings

**5. Ethical consideration**

- a) The consultant will hold a current CRB check
- b) The consultant will adhere to the "Information Governance toolkit" and the "Data Protection Policy" of NHS Outer East London and the City
- c) Ethical approval to conduct the research will have already been obtained by the consultancy requestor / lead researcher if required.
- d) As this will be an evaluation of an intervention as opposed to a delivery of an intervention an intergraded research application system of approval will not be required.
- e) The consultant is independent of the of NHS Outer East London and the City and the intervention thus reducing project evaluator bias

Signature:

**Proposed consultant:** Natasha Anastasi

Signature:



Date: 16/05/2012

**Consultancy requestor:** Dr. Pamela Gbesemete-Akyeampong CPsychol

Signature:



Date: 16/05/2012

# Consultancy plan

## Pilot Primary preventative obesity intervention - Project evaluation plan

Natasha Anastasi

**Brief outline of project and objectives:** The intervention is spaced out 6 sessions, 5 of which will involve year 4/5 primary school children followed by session six which involves parental involvement. Each session involves creative and interactive learning covering topics of nutrition and physical activity, educating the children on what a healthy lifestyle is and the need to stay healthy. As opposed to being weight loss oriented this intervention acts as a preventive measure focusing on cognitive behavioural changes implemented through education, with regards to healthy eating and physical activity. The overall objective is to reduce the likely hood of childhood obesity in later childhood and adulthood via a holistic approach involving children, parents and learning facilitators within a school curriculum setting.

Current researcher suggest that intervention focusing on this age group that are implemented within a school setting are highly effective in reducing the likely hood of obesity in later life. (Cochrane review 2011)

**Project Scope:** To form part of a larger scale intervention to be replicated across other schools within Redbridge. To potentially also be used across other boroughs within NELC

### **Factors to be evaluated**

The project will be evaluated from various aspects in order to fully establish the interventions impact and the possibility of its replication in further schools.

The evaluation will use a number of measurable outcomes. An Evaluation of each of the following components will be needed to be carried out:

- 1) The Materials/tools used in data set one will be compared with data set 2 these will includes:
  - a) Participant self-report evaluation per session (3 stars & a wish) – listing learning outcomes and what pupils hoped to gain from the lesson
  - b) “Menu plate” - measuring dietary intake
  - c) “Move it minutes” – measuring time spent keeping physically active
- 2) The Project itself will also be evaluated with regards to the following:
  - a) Reviewing effectiveness in the delivery intervention i.e. delivery methods used, where they relevant for the age group
  - b) Structure of intervention – with regards to lesson plans and order of sessions, overall replicability and easy of delivery and rational of parent involvement in session 6
  - c) Overall effectiveness of the intervention – did the intervention meet its objectives

### **How will the intervention evaluated:**

The tools used will be evaluated based on their content and application to the age range they are intended for. As the sample group is between the ages of 9-10 years of age it is important that the tools are adjusted to suit their reading age and mental capacity in order for the intervention to be effective. The tools will also be evaluated for their intent i.e. whether or not they resulted measuring in their desired measure.

Data set one will be evaluated and compared with data set two. In order to significantly measure if a change in eating habits (using the “menu plate” tool) or physical activity levels (using the “move it

minutes" tool) have changed over the sessions a paired T-test will be used to show a potential statistically significant change.

Data set 1 "3 stars and wish" tool will also be evaluated and compared with data set 2 with regards to number of starts completed i.e. learning outcomes and the "wish" (the learning outcome reinforce) will be categorised to measure if they verify to the listed and pre-planned learning outcomes. This will be used to measure how successfully the intervention delivered its learning objectives. A paired t-test will also be used to compare data set 1 with data set 2. However a correlation test will also be used to measure and establish if there is a significant link between teaching plan learning objective and listed "stars" in both data sets.

All 3 of the tools used will be matched with the corresponding students via their first names. Once this has been done each student tools will be coded and matched with data set 2 in order to anonymise the data.

The evaluation of the intervention itself will need to take into account the effectiveness of the materials/ tools used as described above. The evaluation will also take into account the lesson plan structure and to what extent are the lesson plan learning outcomes met via the 3 stars and wish tools this will also aid the evaluation of the delivery method used.

With regards to the structure of the intervention the following factors will be taken into account: the time taken to deliver each session did sessions over run at any point, did the session interfere with other lesson time.

The value of parental involvement at the end of the intervention as opposed to at the beginning of the intervention, or not at all will also need to be evaluated. Although the intervention implements a holistic approach to tackle the obesogenic environment facing the children it is important to assess whether the structure of the intervention is most affective following the children's involvement. Will parental involvement on the last session have the highest level of impact? Parental control in a child's lifestyle choices has been shown to be highly influential in predicating childhood obesity as supported by Savage et al (2007)

With regards to the resources i.e. sports equipment needed: their accessibility will also be taken into account. The overall effectiveness will be evaluated on the result of to what extent data set 1 varied from data set 2 whilst taking into account intervention delivery/structure and tools used.

**Possible confounding variables** that may also need to be taken into account when evaluating this intervention are as follows:

The teacher/School staff participation. The amount of time effort and the degree of cooperation the teachers place upon this project when those delivering the intervention are not present. The teachers will need to be debriefed on the intervention and collaborate with its objectives'. Failure to do this may mean that the intervention is not closely monitored or reinforced for example the "menu plate" may not be completed accurately. Teacher participation may also be linked with time constraints.

Another possible confounding factor could be the level of parental/ carer involvement.

Parents/carers may not be willing or able to engage with the intervention. This may be due to the inability to attend the 6<sup>th</sup> session, for example the timing or location of the session may not suit them. Another factor that may interfere with parental involvement may be a potential language barrier, as not all parents may be fluent in English. As Redbridge is a culturally diverse borough it is

important that parents feel that their needs will be accommodated, in order to achieve this perhaps materials used could be offered in various languages.

Cultural variations in attitudes toward healthy eating and with regards to what is a healthy lifestyle will also need to be considered during the intervention and as part of its evaluation as health may be interpreted in various ways depending on an individual's cultural background. Overall parental adherence to the intervention will be vital in establishing its potential effectiveness.

With regards to extraneous factors that may not have been considered is the mass media children may be exposed to in their everyday lives. For example an unhealthy food advertisement is something outside of the interventions control and may impact on results.

Another factor to consider may other care givers i.e. extended family members' babysitters, or other peers. It may be possible for this intervention to reach parents and teachers however it may not reach the full spectrum of the child loco parentis. It will be important to acknowledge this when evaluating the finding of this project as it a factor that may never fully be controlled. Educating children on how to deal with a situation where they may be faced with unhealthy food may help to reduce the influence of this extraneous factor.

Another confounding variable that must be considered is the children's variations in the level of understanding and the interpretation of the tools used. For example the move it minutes requires children to count 15 minutes sots of activities without the use of a timer. A child's interpretation of 15minutes may vary significantly. Also the 15 minutes may not be accurately measured without additional aid i.e. from an adult or a stop watch. This may also interfere with the results obtained on the "move it" tool.

The menu plate may also be open to misinterpretation. As already stated this tool also relies heavily on the children being able to identify the different food groups

A child pre-existing knowledge and potential preconception regarding healthy eating may impact on their resistance to change. The tools used are also reliant on the child's ability to recall and record various data from the week, data may be poorly recalled and inaccurately recorded thus affecting the reliability of the data

**Projected timeline** *what is the likely timescale of the project?*

Data collection	May 2012	June 2012	
Project evaluation – data set 1	June 2012	July 2012	
Project evaluation – data set 2	June 2012	July 1 <sup>st</sup> 2012	
Project evaluation – data set 1 vs data set 2	July 1 <sup>st</sup> 2012		July 7th 2012
Project evaluation – write up	July 1 <sup>st</sup> 2012		July 15th 2012(submission to Redbridge NHS)

#### Data set one, base line data preliminary observations:

Each of 3 tools used have been matched per pupil and coded as to anonymise sample. In total 31 pupils took part in data set 1 collection. Four students have missing data i.e. not all 3 tools were completed/collected this will mean that they may need to be omitted from the evaluation reducing the power significance. With regards to data set 1 there appears to be some varying degrees of interpretations with regards to the “menu plate” tool “does your meal have..?” question. In total 9 children omitted to complete this section and most failed to complete it correctly. This may suggest that this section of the “menu plate” tool may not have been fully understood by this sample therefore it may not be appropriate for this age group. The question assumes that the sample was aware of and able to identify the different food groups however this does not appear to be the case. However this tool was shown to be clearly interpreted via the drawing of the food on the menu plate whilst also labelling the plates content does very much assisting in the identification of the “menu plate” foods.

The “move it” minutes show that children did engage with this activity and 17 out of the 31 children achieved 1 hour of physical activity for at least 1 day within the week. However the interpretations of physical activity vary drastically. It is difficult to interpret what may be classified as physical activity and what may not be. Another factor to take into account is that the activity may not have been carried out for 15 minutes as there is no accurate/ standardised way in which the children were able to measure this

With regards to the Participant self-report evaluation per session (3 stars & a wish):

All but 1 student listed 3 stars. Not all students listed what they had learned some listed what they had done for example one student wrote “watching a film...” This suggests that the 3 star & a wish sheet may have been interpreted differently by each of the students thus effective its objectivity whilst being completed by the sample and interpretations during its evaluation. Perhaps highlighting one thing that was learnt as opposed to 3 may have been easier to complete for the sample.

The majority of the “Wish” did match the learning objectives previously mentioned in the stars. This suggests that the lesson plans objectives may have been met

#### References

Savage J.S, Fisher J.O and Birch. L.L (2007) Parental Influence on Eating Behavior: Conception to Adolescence *The Journal of Law, Medicine & Ethics* Volume 35, Issue 1, pages 22–34

Waters E, de Silva-Sanigorski A, Hall BJ, Brown T, Campbell KJ, Gao Y, Armstrong R, Prosser L, Summerbell CD. Interventions for preventing obesity in children. *Cochrane Database of Systematic Reviews* 2011, Issue 12. Art. No.: CD001871. DOI: 10.1002/14651858.CD001871.pub3.

# Intervention evaluation report

## Pilot Primary preventative obesity intervention– Evaluation report and recommendations

Author: Natasha Anastasi

### **Abstract:**

The purpose of this report is to critically evaluate the healthy eating/living pilot intervention carried out by the Football Foundation Football Healthy Living at Fullwood elementary school during the summer term of 2012. The report will evaluate the resources used as well as the overall impact of the intervention.

The report will also provide recommendations for the possible implementation of the intervention in subsequent school years and within other schools.

The results of the intervention suggest that it was effective at increasing the number of healthy foods eaten as well as increasing recorded time spent performing physical activity. The intervention was effective in achieving its objectives; however, the longevity of the behavioural changes and its effect on long term weight management cannot be determined. There were some issues outlined in this report with regards to parental participation, resource interpretation and implementation that may require further attention if this pilot is to form part of a larger scale intervention to be replicated across other schools within Redbridge, and to potentially also be used across other boroughs within NELC.

### **Project background**

Childhood obesity is an every expanding epidemic in today's society. According to the National Child Measurement Programme for England over a third of children are clinically overweight or obese by year 6 (ONS 2011). It is also estimated that 72% of children within the UK do not take part in the recommended daily hour of physical activity (Change for life survey 2009). The two statistics mentioned above contribute to the rise in obesity in adult hood and later life as well as an increased risk of type-2 diabetes and heart disease leading to an increased risk of premature death.

It is widely acknowledged that parental involvement holds a great influence on a child's weight and eating habits and future lifestyle choices (Kmietowicz 2003) therefore it is vital that parent involvement is incorporated within a lifestyle behavioural change intervention involving children.

With regards to Current research it is suggested that interventions focusing primary school age groups that are implemented within a school setting are highly effective in reducing the likelihood of obesity in later life. It is also recommended that an intervention should implement a holistic approach focusing on direct and indirect factors that contribute to today's obesogenic environment. These include parental involvement, environmental factors i.e. Access to safe public space allocated to children, this would also involve social policies and media regulations. (Cochrane review 2011)

The intervention evaluated in this report has addressed the need for an intervention and acknowledges the recommendations stated above as it incorporates parental involvement

and is implemented within a primary school age group and school setting . Another point to reinforce is that this intervention took place in Redbridge. Redbridge has a higher childhood obesity rate compared to the national average. (21.2% of 10-11 year olds when measured in 2011 were obese or overweight according to the Redbridge JSNA 2012.)This data reinforces the need for intervention such as the one being piloted in Fullwood School. Another interesting statistic is: according to the Redbridge JSNA 2012, children in Redbridge nationally have higher levels of physical activity within schools hours but have a lower than average level of physical activity outside of school hours. Although it appears that Redbridge does has implemented a positive regard towards physical activity and healthy eating within school obesity levels amongst child and adults alike are high and the JSNA outlines the need to reduce childhood obesity and increase childhood activity out of school hours. This reinforces the need to provide an intervention that tackles both home and school health behaviours.

#### **Intervention Outline and objectives:**

The intervention was carried out over 6 sessions. Five sessions involved year 5 primary school children and one encompassing parental involvement. Each session implemented creative and interactive learning using a prezi presentation technique. Topics included nutrition and physical activity. The session focused on educating children on what a healthy lifestyle was, as well as the importance of staying healthy through healthy eating and physical activity.

The objective of the intervention was to create an accurate knowledge and understanding of what a healthy lifestyle is in order to challenge pre-existing beliefs and attitudes. As opposed to being weight loss outcome oriented this intervention focused on changing beliefs and attitudes and behaviours surrounding what being and staying healthy entails.

The interventions purpose is to act as a preventive measure focusing on cognitive behavioural changes implemented through education, with regards to healthy eating and physical activity. The overall objective is to reduce the likely hood of childhood obesity in later childhood and adulthood via a holistic approach involving children, parents and learning facilitators within a school curriculum setting.

#### **Evaluation method and results**

The tools used were evaluated based on their content and application to the age range they are intended for. As the sample group was between the ages of 9-10 years of age it was important that the tools were appropriate to suit reading age and mental capacity in order for the intervention to be effective.

Three tools were used to collect data; each tool was matched with the corresponding students via their first names. There were 31 students in total who took part. Once the data in set 1 had been matched to each student the data was coded with a number 1-31 and matched with data set 2, 3 and 4 in order to anonymise the data. However a few students omitted to complete their names therefore through a process of elimination their handwriting was matched to the predicted student.

The evaluation used a number of measurable outcomes to assess the reliability and validity of the three resources used: "the 3 stars and a wish", "the menu plate" and the "track move it minutes" resources as well as evaluating the overall effectiveness of the intervention. All three materials used in this intervention were introduced to the children and teachers in the first intervention setting; they were then re-visited and reinforced in each session thereafter.

The Materials/tools used in each session were compared between one another using a repeated measure ANOVA to assess if a significant difference was present between data sets i.e. if findings changed significantly between teaching sessions. Where the ANOVA found a significant difference between recorded outcomes a paired sample t-test was used as a post-hoc test to investigate the relationship further. Missing data was accounted for by identifying missing values through SPSS variables prior to analysing the data.

The data from the following resources were analysed:

- 1) **A) The 3 stars & a wish resource:** This resource measured Participant self-report learning outcomes and evaluation of each session learning objectives. As well as encouraging children to list their learning outcomes pupils were also asked to list what they hoped to gain/learn from the lesson in the hope that what was learned coincided with what they wished they had learned thus reinforcing the efficacy of the intervention sessions. This was also a way of providing constructive feedback on what amendments may be required in future delivery.

From initial observations not all students listed what they had learned some listed what they had done for example one student wrote "watching a film..." This suggests that the 3 star & a wish sheet may have been interpreted differently by each of the students thus affecting its objectivity whilst being completed by the sample and interpretations during its evaluation. Perhaps highlighting one thing that was learned as opposed to 3 may have been easier to complete for the sample, however the majority of the "Wishes" did match the learning objectives previously mentioned in the stars.

**Statistical findings:** A one-way repeated measures ANOVA was used to determine if the number of learning outcomes recorded differed between

intervention session 1, 2 or 3 (taken following the parental engagement session). The analysis showed no significant difference between number of learning objectives recorded and intervention sessions.

The results were as follows:  $F(2, 50) = 6.78, p = .003$  suggesting that there was no significant association between sessions and the number of learning objectives listed. The majority of students listed 3 learning outcomes in each session, the mean for session 1 =  $M = 2.92, SD = .272$ , session 2 =  $M = 2.84, SD = .464$  and session 3 =  $M = 2.81, SD = .491$ . No post hoc test was carried out as no significant difference between sessions was identified. The high mean values suggest that overall the "3 wishes and a star" resources did however result in the student listing their learning outcomes.

**B)** With regards to the wish section: This part was analysed separately as it intended to identify if desired learning objective was well received as well as to evaluate the overall session. The "wish" aspect of the resource was categorised as to whether or not it matched the learning objectives and outcomes mentioned in the 3 stars section recording the learning outcomes of the session.

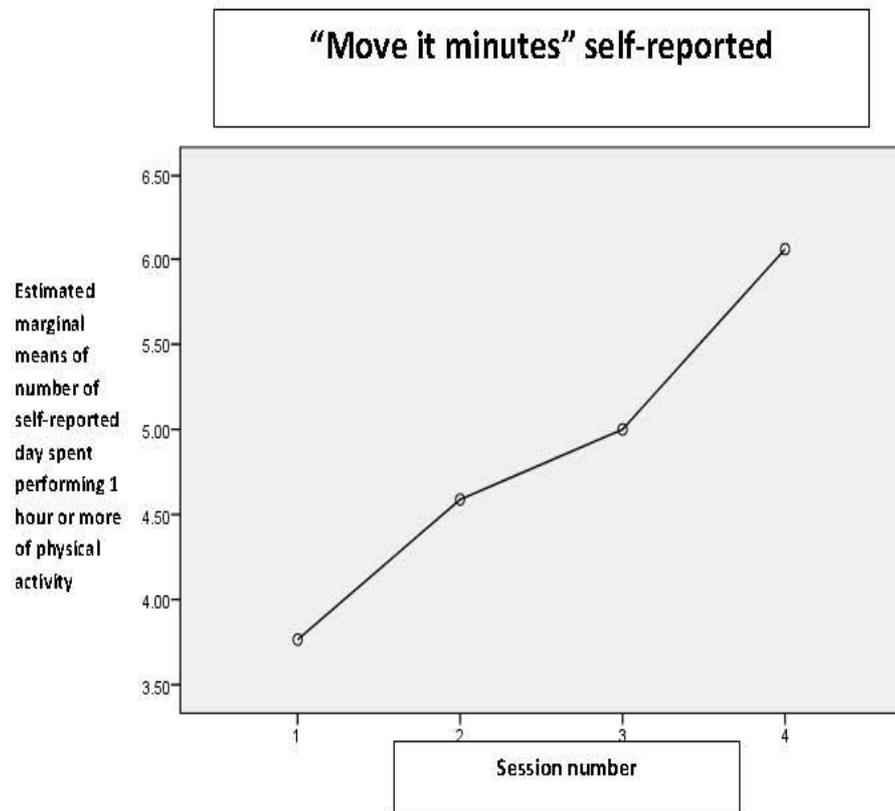
From the initial observation the majority of the "wish" section did match the learning outcomes however a reoccurring theme of wanting to learn more about specific sports such as football, dancing and crickets seemed to emerge. Some students also wanted to know more about the physiology of muscles. The students also expressed the desire to carry out the second session in the open air. It is not clear if this session was intended to take place outside as it did involve creating and playing games, however weather circumstances may not have permitted this. If the intervention were to be replicated it may be an effective option to carry out the physical activity session outside were possible.

A repeated measures ANOVA test was carried out in order to determine if a significant difference occurred between the sessions at which the learning objective and wish coincide at each session. The results are as follows:  $F(2, 44) = 6.68, p = .003$ , suggesting that a significant difference exists between sessions and the wish coinciding with a recorded learning outcome. In order to investigate this further a paired-samples t-test was conducted to identify which session had a significant difference between matched learning outcome recorded and desired learning outcome. There appeared to be a significant difference in the learning objective with learning outcome for session 2 ( $M = 1.538, SD = .51590, t(4.053), p < .001$ ), in sessions 1 and 3 there did not appear to have a significant difference.

It is important to note the wish section was often omitted by the students. This was particularly significant in data set 3 where fewer 3 stars and wish resources were collated in comparison to other sessions. This may be a contributing factor

as to session 3 data recorded which did not significantly match the learning outcomes.

- 2) **The “move it” minutes resource** showed that children did engage with this activity and 17 out of the 31 children achieved 1 hour of physical activity for at least 1 day within the week of session 1, 19 in session 2, 18 in session 3 data and 19 in session 4. However the interpretations of physical activity vary drastically. It is difficult to interpret what may be classified as physical activity and what may not be. Some students recorded going to a friend’s house as physical activity were as other included sports. Another factor to take into account is that the activity may not have been carried out for 15 minutes as there is no accurate/standardised way in which the children were able to measure this. Repeated measures ANOVA was also carried out to identify if a significant difference between number of self-reported physical activity between sessions. The results were as follows:  $F(6, 77) = 3.48, p.001$ . A paired sampled T –test also supported the a positive correlation between session suggesting that session significantly resulted in higher number of days spent performing 1 hour or more of physical activity



3) The second resource to be evaluated is the **"Menu plate" resource**. It is important to note that this resource was introduced at random and children were not pre-warned of it as opposed to the 3 star and wish resource which was presented at the end of each of the 3 taught sessions. The children were asked at randomly to list what they had eaten and drank for dinner the previous day i.e. dietary intake. The children were also asked to identify what food groups they had consumed with their recorded meal. This may suggest that this section of the "menu plate" tool may not have been fully understood by this sample therefore it may not be appropriate for this age group. The question assumes that the sample was aware of and able to identify the different food groups however this does not appear to be the case. However this tool was shown to be clearly interpreted via the drawing of the food on the menu plate whilst also labelling the plates content does very much assisting in the identification of the "menu plate" foods.

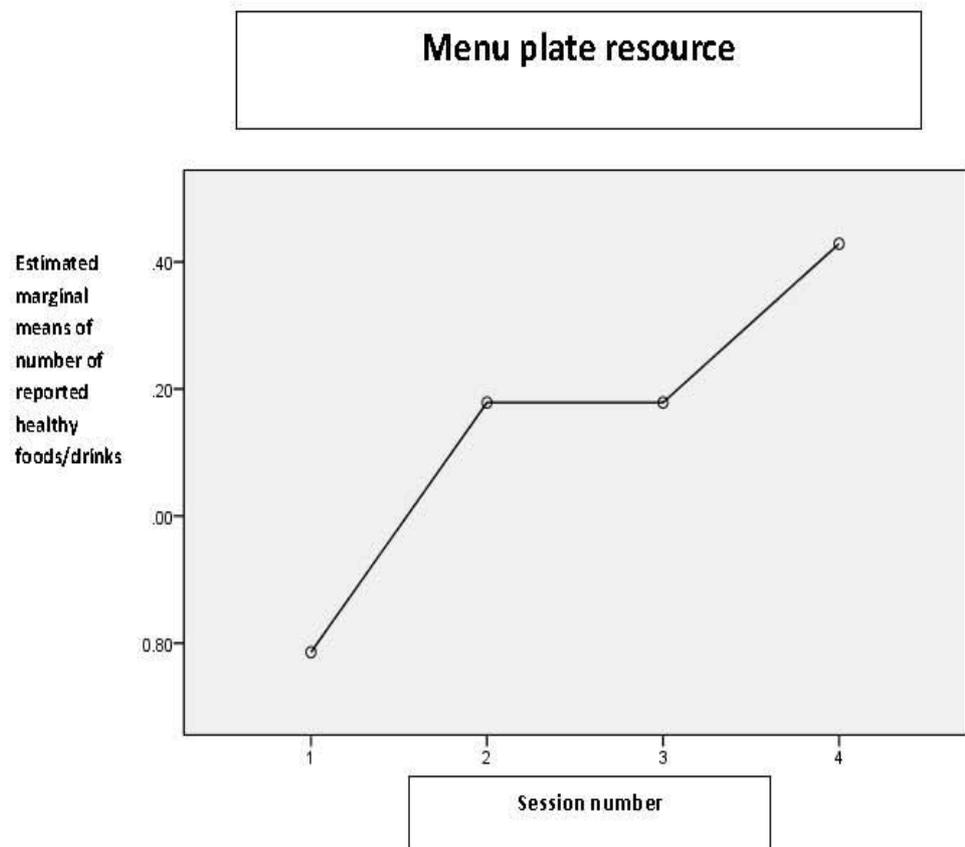
On first examination the resources their appeared to be a good uptake of completion with few missing data, nearly all children drew and ladled their dinner on the menu plate. However, there seemed to be an obvious lower completion adherence to the food group identification section of the resource. Many children failed to complete this section currently and some missed the section completely this suggests that this section of the menu plate may have been open to misinterpreted and thus its validity may not be significant. The suitability of this section of the resource for this age group may not be applicable. The majority of the children were not able to correctly identify the food groups, this was particularly apparent in session 1 data. However there was a notable difference in the following session as the topic of groups had been covered in the subsequent teaching sessions.

Every time the word vegetables, water, or a type of vegetable was recorded per student's menu plate a point was given to the participant total. This resulted in those who listed the highest number of fruit and or vegetables plus water in obtaining a higher score.

The data set it were added to the total number of health foods eaten/drunk. When the word vegetable/s was mentioned but the vegetable was not named this was also added towards number of healthy foods eaten.

The number of healthy foods and drink (only water was classified as a healthy) were collated for each session and tested for a significant difference between sessions to assess if there's a significant increase in repeated measures

ANOVA was also applied to this data and the results were as follows:  $F(3, 78) = 10.87$ ,  $P < .001$  suggesting a significance difference in knowledge between sessions a t-test revealed a significant variance in result took place in sessions one and three ( $t(2,091) p = .046$  for session 1 and ( $t(2,915) p = .007$  for session 3),. This suggest that the children changed their eating habits more so between session 1 and 3 thus reinforcing the effectiveness of the overall intervention outcome



It is important to note that the menu plate does not acknowledge how the food was prepared or cooked. As cooking method can affect the foods overall level of healthiness. For example chicken was recorded numerous times however its fat contends with vary substantially if it was fried or roasted. This may be an area that the intervention may want to include when converting the topics of a healthy diet. If possible brief details on the cooking method may also be recorded although this may be difficult to retrieve form this age group

### **Schools feedback and recommendations:**

Following feedback session with the schools head teacher and class teacher a few points were raised. The overall feedback of the intervention positive and there were no reported areas of concern. The need for the intervention was reinforced as part of the head teacher's holistic approach to academic wellbeing attributed to general health.

In order for the intervention to be successfully implemented in other schools its outcomes would need to fit in with sustained and regular reinforcement sessions would need to be carried out to maintain its effectiveness. This would involve regular input and support from the intervention suppliers

It was also suggested that the interventions appeal would also be subject to governmental influences and assessments, the intervention outcome and objective must relate to a current government initiative and or Ofsted assessment criteria. Without this is it unlikely that the interventions uptake will be possible. With regards to future Ofsted inspection criteria the intervention was suggested to be viewed favourably with new Ofsted guidance (2012). The interventions outcomes may be associated with the following Ofsted assessment criteria: "learners attend, participate in, arrive on time and develop the right attitudes to learning". This criteria highlights the importance of attendance, thus if the learners are experiencing poor health which may be attributed to an unhealthy lifestyle they will not be able to attend or have or have a positive attitude towards learning as suggested by Fullwood school head teacher.

During the meeting the use of external person from outside the school to deliver the intervention had a positive effect on the children participation and uptake of intervention. If the intervention were to be repeated in other schools it would be recommended to continue to use an external provider.

Time management was also addressed: the taught session often over ran, however as this is a pilot the school acknowledge the potential for changes in the intervention delivery. Perhaps more time was required in order to ensure all topics were sufficiently addressed and questions were answered.

Another aspect that was mentioned which may determine the likelihood of this intervention being implanted in other schools is cost. As implied by the head teacher it is unlikely that the intervention will be uptake in another schools if there were a cost applied. The possibility of a maintenance cost was mentioned but as initial criteria they would not be willing to pay for the intervention

Teacher's perspective: With regards to resource validity, the resources did appear to measure their intended outcomes to a great extent however the level of missing data were very high. This may have affected validity and overall intervention results. The missing data may have been due to participant absence or lack of collating the data. During the feedback session this was discussed. Reeling on the school to collect 3 various forms of outcome

measures on a reoccurring bases in additional to the teachers existing work load may have been over optimistic. If the measures are to be used again it may be worth wile arranging for a member of the intervention delivery team to collect the data as opposed to delegating this task to the teachers.

**Discussion:**

The intervention does appear to be effective in the short term however there is a definite need to revisit the participants at a later time interval to assess if the results were sustained. This could be done via the use of the same resources used during the intervention, i.e. re-use the menu plate and move it minutes tools at a proposed 6 month interval to measure long term affect.

The possible value of parental involvement at the end of the intervention as opposed to at the beginning of the intervention was no clear. Although the intervention materials resold on session 4 did appear to have more of a significant difference with regards to the menu plate and physical activity minutes recorded. Session 4 took place following parent implement suggesting that perhaps parent may have been more receptive to implanting the intervention implements a holistic approach to tackle the obesogenic environment facing the children it is important to assess whether the structure of the intervention is most affective following the children's involvement. Will parental involvement on the last session have the highest level of impact? Parental control in a child's lifestyle choices has been shown to be highly influential in predicating childhood obesity as supported by Savage et al (2007)

**Possible confounding variables:** The following are issues mentioned below have highlighted as possible confounding / extraneous variables that may have I compromised the outcome of this pilot  
Intervention

The teacher/School staff participation. The amount of time effort and the degree of cooperation the teachers place upon this project when those delivering the intervention are not present. The teachers needed debriefed on the intervention and collaborate with its objectives'. Failure to does this may mean that the intervention is not closely monitored or reinforced for example the "menu plate" may not be completed accurately used i.e. the majority of the food groups identification section were incorrectly identified . Teacher participation may also be linked with time constraints, it was noted that interventions session over ran. If this intervention is to be replicated it may be necessary to allow more time for each session to prevent over running. Therefore the teachers have a clearer knowledge of how much time each session will take and can therefore forward plan their lessons are around the intervention.

Another possible confounding factor could be the level of parental/ carer involvement. Parents/carers may not be willing or able to engage with the intervention. This may be due to the inability to attend the 6<sup>th</sup> session, for example the timing or location of the session may not suit them. Another factor that may interfere with parental involvement may be a potential language barrier, as not all parents may be fluent in English. As Redbridge is a culturally diverse borough it is important that parents feel that their needs will be accommodated, in order to achieve this perhaps materials used could be offered in various languages.

Cultural variations in attitudes toward healthy eating and with regards to what is a healthy lifestyle will also need to be considered during the intervention and as part of its evaluation as health may be interpreted in various ways depending on an individual's cultural background. Overall parental adherence to the intervention will be vital in establishing its potential effectiveness.

With regards to extraneous factors that may not have been considered is the mass media children may be exposed to in their everyday lives. For example an unhealthy food advertisement is something outside of the interventions control and may impact on results. The another variable that may not be directly measured or control is the food they are given from care givers and how should children react when they are given unhealthy foods

Another factor to consider may other care givers i.e. extended family members' babysitters, or other peers. It may be possible for this intervention to reach parents and teachers however it may not reach the full spectrum of the child loco parentis. It will be important to acknowledge this when evaluating the finding of this project as it a factor that may never fully be controlled. Educating children on how to deal with a situation where they may be faced with unhealthy food may help to reduce the influence of this extraneous factor.

Another confounding variable that must be considered is the children's variations in the level of understanding and the interpretation of the tools used. For example the move it minutes requires children to count 15 minutes sots of activities without the use of a timer. A child's interpretation of 15minutes may vary significantly. Also the 15 minutes may not be accurately measured without additional aid i.e. from an adult or a stop watch. This may also interfere with the results obtained on the "moves it" tool.

The menu plate may also be open to misinterpretation. As already stated this tool also relies heavily on the children being able to identify the different food groups  
A child pre-existing knowledge and potential preconception regarding healthy eating may impact on their resistance to change. The tools used are also reliant on the child's ability to recall and record various data from the week, data may be poorly/ inaccurately recorded thus affecting the reliability of the data. If possible i.e. budget permitting children could be given stop watches or pedometers to help them track their physical activity.

### **Summary and Recommendations:**

Future School participation as previously mentioned will very much depend on future government policy which will impact on schools priorities. It is important that the intervention's outcomes and objective meet the criteria of standardised school assessment such as Ofsted. Despite of this not all school may be willing to uptake the intervention; it may only be those that have an existing interest in healthy lifestyle that will want to be recruited. However if government policy further raise the need for a healthy lifestyle within school as it has previously with the "healthy schools programme" this may assist in engaging with schools that may otherwise not take part.

It is important to note that Fullwood Primary school were once accredited as a healthy school programme, during their last Ofsted inspection in 2009 they achieved an outstanding status for "the extent to which pupils adopt a healthy lifestyle " criteria. This is reinforced by their cycling to school scheme implanted by the schools were 40% of children regularly cycle to school. Needless to say this schools exiting policy's already promote a healthy living. Prioritising healthy living this was reinforced by the head teach. However it is important to note that the primary school that took part in this pilot clearly had a pre-existing interest in health. This was demonstrated by the head teacher's holistic view to academic success where a healthy body creates a progressive environment for academic success.

There over all Ofsted report (2009) for the school was extremely positive with a majority ranking of 1 (outstanding) it would be intending to find out how this intervention may be implemented in a school with a poorly performing Ofsted report healthy lifestyle ranking. The resources used did appear to measure what they had intended to measure. The intervention does appear to have a significant positive effect on the children's knowledge of health eating and uptake of physical activity although it difficult to assess the long term impact of this intervention lasting. In order to measure the long term validity of the findings it may be required to review the standards and ask them to complete the menu plate and move it minute resources at

As previously discussed it important for schools not being charged for the interventions implementation but perhaps charged for its maintenance based on its effectiveness. This may increase uptake

The delivery of the intention through the prezi was well received by staff within the school and as previously mentioned using an external member of staff reinforced the children's participation. Therefore if this intervention were to be replicated the recommendation would be to use the same format of delivery and staff members

With regards to resources if the intervention were to be replicated on the same age group it may be advisable to simplify somewhat the resources used for this age group. For example

the identifying food groups via the “menu plate” resource” may need to be reconsidered or simplified as this is something that is yet to be included in the class' curriculum. Although food groups were covered in the intervention it may be advisable to devote more time to this topic early on in the intervention. Another issue that arose from the pilot was the move it minutes record keeping and the accuracy of this resource. The children would not have been able to measure the exact time spent doing the physical activities listed.

The intervention's length would also need to be reconsidered. Six sessions would not be sufficient. The intervention should be maintained over a longer period of time in order to prolong its effectiveness. This could be done via regular intervals sessions acting as a top up on what the original intervention already delivered.

According to teacher feedback it appeared that the children were able to transfer the skills that they had learned from this intervention across other subjects such as science. This could reinforce the intervention's impact as it promotes constant learning. When recruiting potential new schools to take part this should be reinforced.

The parental involvement aspect in session 6 did not appear to be effective as only 3 parents attended. Parents may not have been able to attend as the time chosen for the session did not fit into their daily routine. This may require further investigation however it may be advisable to invite parents to take part in an on the spot healthy promotion event whilst taking opportunity of another existing event i.e. parents evening. This will mean parents may be more easily recruited. Holding the parent session towards the end of the intervention did appear to affect the number of healthy foods being recorded in the menu plate recorded post session 6. However other factors may have contributed to this. For example the children may have taken the initiative in the healthy food portions as they had covered a great depth of knowledge on what is healthy eating the children have influenced caregivers' food choices as opposed to parents influencing the children. The latter is more likely to be so as only 3 parents attend the parental session therefore the impact of that session on the children as a whole would have been limited.

As the outcomes of the intervention prompted a significant change in knowledge and understanding of healthy eating and time spent performing physical activity via the lack of parental involvement until the end of the intervention it may be possible to assume that parental involvement was not a contributing factor in this change. However as previous research suggests (Cochrane 2011) parental involvement is the key to sustaining change therefore parental involvement should be encouraged in future replications of this intervention. Whether or not parental involvement should be introduced at an early stage in the intervention remains unclear. Parental feedback was also lacking in future replications' prenatal feedback should be acquired in order to assess if the session was well received and learning outcomes were met.

In conclusion the pilot did appear to be pitched at the right age group as supported by wider body of literature (Cochrane 2011). The resources were effective in measuring their desired outcome. The pilot did successfully deliver positive short term outcomes however if replicated the above recommendations would be advisable in order to increase and maintain the interventions effect on a longer term to help reduce likely hood of obesity in adulthood and later life.

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