



**Investigating the Actual and Potential  
Role of the General Practitioner,  
Practice Nurse and Nurse Practitioner  
in the Prevention of Cancer**



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## **Acknowledgements:**

The research study has been funded by Cancer Focus Northern Ireland.

The research team wish to acknowledge the contribution of all the General Practitioners and Primary Care Nurses who participated in the research.

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**1 INTRODUCTION**

**1.1 Cancer-incidence and trends**



Cancer is the cause of around 7.6 million deaths (13% of all deaths) worldwide and, it is estimated, that this will rise to some 12 million deaths by 2030 (WHO, 2011). Each year more than 309,000 people are diagnosed with cancer in the UK (Cancer Research UK, 2011). A total of 23,992 persons are listed on the Cancer Register in Northern Ireland (NISRA, 2010). Cancer occurs predominantly in older people, with almost three out of four cases (74%) diagnosed in people aged 60 and over, and more than a third (36%) in people aged over 75. In males, prostate cancer is the most commonly diagnosed cancer, with lung cancer the second most common cancer followed by bowel cancer - these three cancers account for over half of all male cases. Breast cancer is by far the most common cancer in females (accounting for circa one third of all female cancers), followed by colorectal and lung cancer. These account for over half of all female cases.

## 1.2 Cancer prevention strategies

The World Health Organisation stated that prevention offers the most cost-effective long-term strategy for the control of cancer worldwide (WHO, 2006a). Austoker (1994) noted *“cancer control encompasses the whole spectrum from prevention and early diagnosis to treatment and palliation. The key to the future of cancer control will be to establish multidisciplinary approaches to each type of cancer across this spectrum”*. (p517) How these approaches are and will be informed is through the World Health Organisation which urged member states to collaborate with them *‘in developing and reinforcing comprehensive cancer control programmes’* (WHO, 2005: p104).

Cancer prevention interventions invariably take on a risk factor-orientated approach, which are aimed at the avoidance and reduction of risk factors associated with the disease, coupled with the employment of early detection practices (WHO 1998). Four types of interventions are identified: risk factor avoidance; risk factor assessment; risk factor reduction and early detection (NCI, 2008). The European Code against Cancer (2003) acknowledges that many aspects of general health can be improved by adopting a healthier lifestyle, but indicates changes in lifestyle can also prevent certain cancers. Stopping smoking, avoiding obesity; undertaking some daily physical activity; increasing the daily intake and variety of vegetables and fruits; moderating consumption of alcohol; avoiding excessive sun exposure and preventing any exposure to known cancer causing substances are cited as key cancer avoidance strategies. In addition, The European

Code against Cancer also indicates that public health programmes can prevent cancers developing (or increase the probability that a cancer may be cured: women from 25 years of age should participate in cervical screening; women from 50 years of age should participate in breast screening; and men and women from 50 years of age should participate in colorectal screening).

In the context of the global initiative to establish cancer prevention and control frameworks (WHO, 2005), this study endeavours to establish how primary care professionals see their cancer prevention role within the broader cancer prevention and control agenda. The recent cancer control programme drafted for Northern Ireland recommended that *'the clinical role of all community and primary care professionals should be developed, particularly in relation to health promotion, screening and symptom recognition'* (DHSSPS, 2006). This study should also seek to establish how GPs and primary care nurses perceived the potential to develop their cancer prevention role.

## **1.3 STUDY AIM AND OBJECTIVES**

### **1.3.1 Aim**

The aim of this study was to investigate the current and the potential role of the GP and the Primary Care Nurse in the prevention of cancer through health promotion strategies. (For the purpose of this study, 'Primary Care Nurse' includes Nurse Practitioners; Practice Nurses and Treatment Room Nurses (where they have a combined role as Practice Nurse)

### 1.3.2 Objectives

The objectives of the study were:

- To examine the **current** role of the GP and Primary Care Nurse in the prevention of cancer;
- To identify their perception of the **potential** role of the GP and Primary Care Nurse in cancer prevention;
- To explore **inhibiting** and **facilitating** factors to achieve and develop these roles;
- To **identify strategies** to overcome difficulties associated with cancer prevention in primary care

## 2 Literature Review

Cancer is the cause of around 7.6 million deaths (13% of all deaths) worldwide and, it is estimated, that this will rise to some 12 million deaths by 2030 (WHO, 20011). Cancer of

the lung is the most commonly diagnosed cancer in the world, representing 1.61 million deaths (circa 12.7%) followed by breast (1.38 million, 10.9%) and colorectal cancers (1.23 million, 9.7%). (Ferley *et al.*, 2010a). Each year more than 284,000 people are diagnosed with cancer in the UK (Cancer Research UK, 2008). Of the 156,000 deaths from cancer in the UK in 2008, 22% were due to lung cancer. (Cancer Research UK, 2010). In 2010, a total of 23,992 persons are listed on the Cancer Register in Northern Ireland (NISRA, 2010).

Anand *et al.* (2008) stated “Cancer is caused by both internal factors (such as inherited mutations, hormones and immune conditions) and environmental/acquired factors (such as tobacco, diet, radiation and infectious organisms) (p2098) with “90-95% ... *due to environment and lifestyle*” (p2105). The World Health Organisation also acknowledges the causal role of environment and lifestyle with cancer, suggesting that circa 40% of all cancers are preventable (WHO, 2008). The International Agency for Research on cancer suggested that cancer is largely preventable (Ferlay *et al.*, 2008). The Service Framework for Cancer Prevention, Treatment and Care (DHSSPS, 1011) suggested that “*around half of all cancers could be avoided if people made changes to their lifestyle*” (p53). According to the US National Cancer Institute, 80% of all cancers are due to identifiable risk factors and as such are potentially preventable. Whilst estimates of the potential for cancer prevention vary, it is widely accepted that many cancers are caused by environmental factors and are therefore preventable. The key risk factors to avoid cancer (primarily by a change in lifestyle) are widely identified as the use of tobacco; being overweight and obese; poor diet; physical inactivity; the harmful use of alcohol, sexually transmitted human papilloma Virus (HPV) occupational hazards and exposure to UV radiation (WHO, 2009; 2008; Danaei, 2005; Lajou *et al.* 2005 Anand *et al.*, 2008; Boyle, 2008).

The World Health Organisation has been at the vanguard for the global offensive on cancer, urging member states to collaborate with them “*in developing and reinforcing comprehensive cancer control programmes*” (WHO, 2005: p104). It produced a number of important policy papers and global strategies to address modifiable risk behaviours either independently (Tobacco Free Initiative, 1998; Framework Convention on Tobacco Control, 2005; Global Recommendations on Physical Activity for Health, 2010) or in

combination (Global Strategy on Diet, Physical Activity for Health, 2004; The World Health Organisation's Fight Against Cancer, Strategies that prevent, cure and care, (2007)). It is also of note that the World Health Organisation also integrates cancer prevention strategies with chronic disease interventions (2008-2013 Action Plan for the Global Strategy for the Prevention and Control of Non-communicable Diseases). It stated "cancer prevention must be considered in the context of activities to prevent other chronic diseases, especially those with which cancer shares common risk factors, such as cardiovascular diseases, diabetes, chronic respiratory diseases and alcohol dependence" (WHO, 2008).

Globocan (2008) identified some 3,422,811 cancers recorded in the European region with Lung Cancer accounting for 19.8% of all deaths. Under the auspices of Europe Against Cancer programme of the European Community, the European Code against Cancer (2003) identified key behaviours that, if modified, will lead to both a reduction in cancers and improvement in general health. Stopping smoking, avoiding obesity; undertaking some daily physical activity; increasing the daily intake and variety of vegetables and fruits; moderating consumption of alcohol; avoiding excessive sun exposure and preventing any exposure to known cancer causing substances are cited as key cancer avoidance strategies. In addition, the European Code against Cancer also indicated that public health programmes can prevent cancers developing (or increase the probability that a cancer may be cured: women from 25 years of age should participate in cervical screening; women from 50 years of age should participate in breast screening; and men and women from 50 years of age should participate in colorectal screening).

Successive policies within the United Kingdom (UK) reflected the government's commitment to reducing the incidence of cancer in the UK. The NHS Cancer Plan (2000) established the first comprehensive programme for cancer followed by the Cancer Reform Strategy (2007). The recent 'Improving Outcomes: A Strategy for Cancer (DOH, 2011) set out the actions the government have to take to tackle, amongst other things, the preventable causes of cancer. Healthy Lives, Healthy People (2010) addressed key issues relating to food, alcohol, physical activity, health at work and behaviour change.

The focus on cancer prevention is also reflected in Northern Ireland policy. “A significant reduction in preventable deaths from cancer will depend to the degree to which primary care teams can assist their patients in avoiding risk factors for cancer such as tobacco use” (p16) (Campbell Report, 1996). The Draft Service Framework for Cancer Prevention Treatment and Care for Northern Ireland (2010) (developed under the auspices of NiCAN), established explicit quality standards for the key risk factors for cancer i.e. Smoking (Standard 6); Physical Activity (Standard 7); Diet (Standard 8); Obesity (Standard 9); Alcohol (Standard 10) and UV Exposure (Standard 11).

## 2.1 Defining cancer prevention

Many of the working definitions divide prevention into levels of intervention i.e. primary, secondary and tertiary (Downie *et al.*, 1996). For example, Reynolds *et al.*, (1999) reviewed interventions as primary, secondary and tertiary prevention as they relate to specific cancer sites. Similarly, Heller *et al.* (1992), when discussing the prevention of malignant melanoma, defined two approaches. Primary prevention assumes that there are definite causes attributable to the disease and effective steps can be taken to enable the public to avoid such causes. Secondary prevention assumes that people will still develop the disease but that early detection is the best way to achieve favourable treatment outcomes. However, since there exists variations between the definitions of the three levels of prevention such labels prove problematic (Tannahill, 1985). Moreover, terms like primary and secondary prevention, which are focused on disease, ultimately distort the boundaries between prevention and the treatment of ill health (Williams and Calnan, 1994; Downie *et al.*, 1996). Various definitions, however, go beyond this. For instance, the National Cancer Institute (NCI, 2008b) dictionary of cancer terms defines prevention to be:

*”action taken to decrease the chance of getting a disease or condition, for example, cancer prevention includes avoiding risk factors (such as smoking, obesity, lack of exercise, and radiation exposure) and increasing protective factors (such as getting regular physical activity, staying at a healthy weight, and having a healthy diet).*

Cancer prevention, according to the NCI, is then the promotion of healthy behaviours as well as the avoidance of risk factor behaviours. These concepts are inherent in health promotion theory and practice (WHO, 1986, Naidoo and Wills, 2000). Indeed, Reynolds *et al.* (1999), while defining activities in terms of primary, secondary and tertiary prevention, referred to the role of health education and health promotion in cancer prevention and control. Definitions for disease prevention and health promotion also come from the WHO's glossary on Health Promotion (1998). For instance "*disease prevention covers measures not only to prevent the occurrence of disease, such as risk factor reduction, but also to arrest its progress and reduce its consequences once established*" (p4). Accepting this definition of disease prevention, cancer prevention would then include the reduction of risk factors attributable to the disease as well as early detection. Moreover, according to the WHO's definition of health promotion, any health promotion intervention employed to reduce the incidences of cancer should also include an element of enabling individuals to improve their health. This later definition has informed the Danish National Board of Health (2008), which claims that the basic aim of prevention "*is to hinder the emergence and development of diseases and thereby promote well-being through such means as strengthening the individual, socio-economic and physical determinants of health and health-related behaviours*" (p.6) The inclusion of words such as 'enable' and 'strengthening' assumes that strategies such as those with a cancer prevention focus, should involve the empowerment of individuals to enable them to live healthier lifestyles. Again this notion is very much the cornerstone of contemporary health promotion theory and practice (WHO, 1986; Downie, *et al.*, 1996; WHO, 1997; Tones, 1997). It is evident that both health promotion and disease prevention are not two discreet entities but there is a significant degree of overlap between the two. (Goel and McIssac, 2000).

## **2.2 Cancer prevention in primary care**

Chang *et al.* (2009) stated "*at no other time in our recent history has the need for cancer prevention been more urgent*" (p2348). The World Health Organisation maintained prevention offers the most cost-effective long-term strategy for the control of cancer worldwide (WHO, 2006a). This position has been further endorsed by Keeney *et al.* (2006) who asserted that "*prevention is the most important and reliable cancer fighting strategy that exists today*" (p2) a sentiment echoed by Lagiou *et al.* (2007).

Austoker (1994) noted *“cancer control encompasses the whole spectrum from prevention and early diagnosis to treatment and palliation. The key to the future of cancer control will be to establish multidisciplinary approaches to each type of cancer across this spectrum”*. (p517) Calman-Hine (1995) stated that *“the primary care team is a central and continuing element in cancer care for both the patient and his or her family from primary prevention, presymptomatic screening, initial diagnosis, through to care and follow up or, in some cases, death and bereavement”*. More recently, Gore & Russell (2003) noted that *“the role of primary care shifting from diagnosis, referral, treatment and support function to a cancer predicting and cancer prevention service”* (p.48).

Due to their frequent contact with the public, GPs and Primary Care Nurses can play an important role in the prevention of cancer. One of the recommendations in the recent cancer control programme indicated that the clinical role of all community and primary care professionals should be developed, particularly in relation to health promotion, screening and symptom recognition (DHSSPS, 2006). This reflected the aspiration of the Campbell Report (1996) *“primary care-this is .... the focus for cancer care”* (p15). The NHS Cancer Plan (2000) stated that *“family doctors and community nurses play a crucial role in helping people reduce the risks of cancer”* (p10).

### **2.2.1 Role of the GP in the prevention of cancer**

Keeney *et al.* (2010) investigated the knowledge, attitudes and behaviours of people in mid-life to cancer prevention. Data from focus groups showed that participants felt that the GP should be more pro-active in the prevention of cancer. Participants also felt that this should be primarily through the provision of both verbal and written information. While the GP was identified by many participants as being helpful in answering questions and providing cancer prevention advice, this was not unanimous. Reasons for this included the view that people only go to their GP when there is something wrong with them or when they feel there is a health problem. There was a perception that people are not likely to make a GP appointment to seek information on cancer prevention. No further English literature focusing specifically on the role of the GP in preventing cancer was uncovered.



A study carried out by Calnan (1995) examined the GPs role in prevention and health promotion in relation to heart disease. Findings from the study showed that GPs had reservations about their role in the prevention of disease, in some cases referring to it as “*moral intrusion*” and raising “*patient’s anxiety levels unnecessarily*” (p.303). Time factors and the “*tedious and boring*” nature of prevention work were also identified as barriers by GPs (p.303). The study also highlighted the fact that this ‘prevention’ role was often delegated to primary care nurses who were more enthusiastic about the role. More recently, Bradley and McKelvey (2005) have commented on a new way forward in delivering prevention education within primary care focusing on the creation of GPs with Special Interests in the UK. However, the authors acknowledge that the barriers of time, administration, choosing health priorities and the conflict in values over models of health care will be a challenge for this new role.

### **2.2.2 Role of the Primary Care Nurse in the prevention of cancer**

Compared to GPs, there are more published studies on the cancer prevention role of the primary care nurse. Many of these are American and focus on specific cancer prevention interventions (Lawvere *et al.*, 2004; Freedman, 1998) instead of the general spectrum of cancer prevention behaviours. For example, several focus on breast, cervical and skin cancer (Hilton *et al.*, 2006; Olivera *et al.*, 2004). They also take place in the context of different consultation patterns for family physicians and those in specific clinical specialities.

A study carried out in North Carolina by Tessaro *et al* (1996) explored the knowledge, attitudes and clinical practices of nurse practitioners in public health departments. They found that nurses were most likely to provide breast and cervical screening for women aged over 40 years. They were less likely to provide other types of cancer prevention education such as dietary advice or information on smoking cessation. Most were interested in providing cancer prevention education and information to patients but had the least interest in providing smoking cessation advice or cancer prevention activities for men. A Northern Ireland study showed that over a quarter of nurses smoke. Many of these admitted that they would be reluctant to try and persuade patients to stop smoking (McKenna *et al*, 2003).

## **2.3 Cancer risk factors**

The WHO stated in its glossary of health promotion (1998) defined risk factors as 'social, economic or biological status, behaviours or environments which are associated with or cause increased susceptibility to a specific disease, ill health, or injury' (p18). It stated that "once risk factors have been identified, they can become the entry point or focus for health promotion strategies and actions" (p18). Consequently, cancer prevention interventions invariably take on a risk factor-orientated approach, which are aimed at the avoidance and reduction of risk factors associated with the disease, coupled with the employment early detection practices.

According to the National Cancer Institute (2008a) risk factors can be grouped into four types:

- Behavioural risk factors are those associated with individual behavior. Epidemiological studies suggest that behaviours such as smoking, bad diet, physical inactivity and high alcohol consumption increase individual risk of developing cancer. The avoidance or reduction of such behaviours can reduce this risk (Curry *et al.* 2003).
- Biological risk factors are those associated with physical characteristics such as age, gender and race. Most biological risk factors are dependent on the type of cancer. For instance both prostate and ovarian cancers are gender specific. Another example is that of African American men who appear to be at high risk of developing prostate cancer than men of other races. Since most cancers are associated with people getting older, people over the age of 50 are at greater risk. (NCI, 2008a).
- Environmental risk factors are those found in the surrounding environment including, sun, second hand smoke and other environmental hazards such as radon, pesticides, and asbestos. Reducing or avoiding exposure to these environmental factors will decrease the risk of developing cancer.
- Genetic risk factors are those that relate to genes inherited from your parents. Individuals who have 'family members diagnosed with cancer at a younger age, families with three or more generations diagnosed with similar cancer, have three or more cancers on the same side of the family, or a family members diagnosed

with two or more different kinds of cancer, such as a woman who has had both breast and ovarian cancer', are at greater risk of developing cancer (NCI, 2008a).

Risk factors can therefore be divided into modifiable and non-modifiable risk factors - this is crucial in developing cancer prevention strategies. For instance, genetic and biological factors such as age, gender and race are non-modifiable. Conversely, Danaei *et al.* (2005) analysed data from seven million cancer deaths worldwide and estimated that 35% of cancer deaths were attributable to nine potentially modifiable behavioural and environmental risk factors. Much of the modifiable risk factor avoidance and reduction in cancer prevention have been centred on lifestyle issues and behavioural change (Austoker, 1995; Naidoo and Wills, 1998) as Curry *et al.* (2003) concluded "...major reductions in the cancer burden are achievable by sharply reducing rates of tobacco use, increasing levels of physical activity, decreasing the prevalence of obesity, improving dietary practices, keeping alcohol consumption at low to moderate levels" (p30).

## **2.4 Factors impacting on the cancer prevention role in primary care**

A number of factors impacting directly on the provision of cancer prevention in primary care have been identified:

### **2.4.1 Role and relationships in primary care**

It could be argued that the role of GPs and Primary Care Nurses (and the inter-relationship between the two professions) is central to effective cancer prevention. However, qualitative studies which have investigated the working relationship between GPs and nurse practitioners found differences in health promotion and disease prevention behaviour between the two groups; there were differences in ideology about their role as a primary health care professional (Long *et al.*, 2004; Bailey *et al.*, 2006). Evidence that GP and primary care nurse practitioners practise health promotion differently comes from Venning *et al.* (2000) who conducted a randomised control trial of the cost-effectiveness of GPs and nurse practitioners in England and Wales. Having surveyed 1292 patients they found that nurse practitioners spent more time with patients and that they carried out more opportunistic screening than their GP counterparts. Furthermore, they noted that studies looking at the role of nurse practitioners on patient

satisfaction found higher levels than that engendered by GPs. It would seem reasonable to suggest, as Austoker (1995) does, that failure to use the skills of other members of the primary care team (in this case nurse practitioners) may indeed be a barrier to effective preventative services in primary care. Downie *et al.* (1996) suggested that effective health promotion in the primary care setting involves a *“power balance distinct from that implicit in models of delegation from the doctor to others. It involves recognition and appropriate utilization of team members’ skills”* (p109). They argue that health promotion programmes need to be developed in a ‘co-ordinate manner’.

The long established working relationship between doctor and nurse has evolved over time with nurses assuming greater professional responsibilities and autonomy. The role and relationship between the nurse and doctor has been a subject of study and directly impacts on the provision of cancer prevention services. Murphy (1970) identified two types of developments in nursing roles, role extension and role expansion. Role extension is where the nurse is delegated tasks by the physician (Gerace, 1991). Typically the role is task-orientated and seen as subservient to the physician’s role as tasks are delegated to free physician’s time; these tasks are usually measurable or quantifiable in some way. Role expansion is where the nurse functions independently, dependently and interdependent, implying a collaborative, coordinated approach to planning services (Gerace, 1991). Measuring the working relationship between GPs and primary care nurses in this way may indicate the level of coordination with which health promotion activities are performed. The type of working relationship may also be associated with the type of self-reported cancer prevention activity performed by GPs and primary care nurses.

Austoker (1995) identified nine specific barriers to GPs participation in prevention activities. These are *“lack of motivation; lack of simple protocols to follow; disillusionment with low rates of success; lack of training in effective approaches; lack of time; inadequate financial reimbursement; limited availability of appropriate health education resources; lack of continuing support and a failure to use the skills of other members of the primary care team”* (p12). Attitudes and beliefs are also identified as inhibitors including a perceived moral intrusion; a potential increase in patient anxiety; a perception that interventions are not effective; low expectations of success and self-

efficacy combined with a number of situational factors such as limited training; excessive workload and competing health priorities.

The literature shows that there is a relationship between gender and the acquisition of cancer prevention information (Boudioni *et al.*, 2001; Leydon *et al.*, 2000; Keeney *et al.*, 2007).

Findings from Keeney *et al's study* (2007) showed that there was a significant positive relationship between gender and the help that could be received from the primary care nurse. Findings showed that male participants perceived it to be easier for women to get access to cancer prevention information. Reasons for this centered around male participants' beliefs that women were more at ease with medical and health related matters. They maintained that this was because women were exposed to health services at different stages of their lives, for example, for breast or cervical screening or during pregnancy and childbirth. They were also more likely to associate the nurse with screening for cancer (e.g. cervical screening). This may explain the finding that women were more likely than men to perceive the nurse as helping to prevent cancer. This would suggest that a more proactive approach is needed for men to enable them to feel comfortable with the primary care nurses' cancer prevention role.

#### 2.4.2 Quality and Outcomes Framework

The Quality and Outcomes Framework (QOF) for GPs in the UK may also influence the prevention activities undertaken by GPs and Primary Care Nurses. The QOF provides a mechanism for improving the quality of services and for rewarding GPs financially for the achievement of quality standards. The QOF contains groups of indicators, against which practices score points according to their level of achievement. The higher the score, the higher the financial reward for the practice.

The QOF framework comprises four domains, each containing a range of areas described by key indicators. The four domains are: Clinical Domain (86 indicators in 20 areas); Organisational Domain (36 indicators in 5 areas); Patient Experience Domain (3 indicators in 2 areas) and Additional Services Domain (9 indicators in 4 areas). The QOF Domains and associated area presented at Table 1.

Clinical Domain	Organisational Domain	Patient Experience	Additional Service
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		Domain	Domain
Asthma; Atrial Fibrillation; Cancer; Cardiovascular Disease - Primary Prevention; Chronic Kidney Disease; Chronic Obstructive Pulmonary Disease; Coronary Heart Disease; Dementia; Depression; Diabetes; Epilepsy; Heart Failure; Hypertension; Hypothyroidism; Learning Disabilities; Mental Health; Obesity; Palliative Care; Smoking; Stroke and Transient Ischaemic Attacks	Records and Information about Patients; Information for Patients; Education and Training; Clinical and Practice Management Medicines Management	Length of consultations, Patient surveys and Patient experience of access	Cervical Screening Child Health Surveillance; Maternity Services Contraceptive Services

**Table 1: QOF Domains and associated areas**

'Cancer' is listed as a disease area within the Clinical Domain and comprises the following elements:

- Cancer register\*;

- Cancer care review\*;
- MacMillan cancer care.

It is noted that some elements of the QOF are weighted, attracting higher points (and higher level of reward) than others. Within the 'cancer disease' element, the 'cancer register' and 'cancer care review' are weighted in this way. (In 2010, a total of 23,992 persons are listed on the Cancer Register in Northern Ireland). It is noted that 'cancer prevention' is not a component of the QOF.

Within the Clinical Domain, the QOF maintains the notional separation of risk factors recording cancer; cardiovascular disease; coronary heart disease; obesity and smoking as discreet elements.

#### **2.4.3 Provision of cancer prevention services for persons with 'special needs'**

'Special needs' clearly encompasses a number of areas. Mettlin *et al.* (2006) reported that there is a need to pay particular attention to racial and cultural minorities; impoverished persons; the cognitively impaired, and the physically impaired. However, these cohorts are not mutually exclusive and have been considered both singly (Corby-Smith *et al.*, 2002); (Gottfredson, 2004) and in combination (Ward *et al.* (2004). For example, a study by Hoffman-Goetz *et al.* (1998) showed that older black Americans with low income or less education are less likely to be screened for cancer than similar, older white Americans. The influence of the compounding variables is also reported by Barbeau *et al.* (2004) who stated that race and culture impacts on both involvement in healthcare interventions, including cancer prevention, and on behaviours; for example, smoking is most prevalent in persons with low income, low education and 'working class' jobs". Watts *et al.* (2004) highlighted that healthcare professionals' lack of understanding about the culture and values (combined with racial stereotyping) of minority ethnic groups presents particular challenges in the provision of information.

Within Northern Ireland, there are 24 ethnic minority community organizations and circa 80,000 persons born outside the UK and Ireland living in the province. (NISRA, 2010). With a population of mixed socio-demographics, each General Practice is 'weighted' to reflect the population they serve. This is done using a 'Noble Score' that measures multiple elements of deprivation including income; health and disability; employment;

education and skills; geographical access and social environment (NI Assembly, 2002). (The Noble Score methodology replaced the Jarman Index of deprivation, previously used).

Cognitive impairment is a significant feature of ageing, when cancers are most prevalent. Mild cognitive impairment is identified in the transition period from normal ageing to dementia (Petersen *et al* (2001) but may also develop progressively to Alzheimer's disease. Research investigating the relationship between cancer prevention activities to the cognitively impaired population could not be identified; however, a significant body of evidence linking cancer treatment to cognitive impairment is available.

There is evidence that chemotherapy and radiotherapy treatment for cancer may cause cognitive impairment in some patients, primarily short and long-term memory changes, attention span and concentration (Tannock *et al*, 2004); (Biegler *et al*, 2009). Matsuda *et al* (2005) reported that between 10% and 40% of all patients treated with adjuvant chemotherapy for breast cancer have some form of cognitive impairment. This is usually transient in nature, but may endure for some years.

Research investigating the relationship between cancer prevention activities to the physically impaired population could not be identified; however, a body of evidence linking cancer treatment to physical impairment is available (Iwashyana, 2010); Reich *et al*, 2008).

Truesdale-Kennedy *et al* (2011) addressed the particular requirements of persons with intellectual disability, highlighting the lack of information about breast cancer for women with Intellectual Disability and the important role of the GP and Practice Nurses (amongst others) in providing information and education to this group. The study also highlighted the particular needs of women with Intellectual Disability in accessing breast screening and reinforced the need for additional support for women with Intellectual Disability and improved education for healthcare professionals. A study by Powrie (2003) concluded that the communication barriers that exist between the person with Intellectual Disability and the primary care team, impeding access to health screening. O'Regan *et al* (2008) stressed the requirement for both accessible information and effective communication relating to cancer for persons with Intellectual Disability.



Rogers *et al.* (2006) identified problems in persons with limited literacy, citing difficulties both in relation to cancer and cancer prevention. Rogers *et al.* (2006) also reported that persons with limited literacy present with cancer at more advanced stages than persons with better literacy skills; that they are less knowledgeable about cancer prevention and less likely to undergo appropriate cancer screening. Lindau *et al.* (2002) also indicated that physicians frequently failed to recognise low literacy in their patient population.

The literature indicates that a low level of awareness of cancer signs is a major cause of delays in seeking and receiving cancer treatment. A review conducted by Ramirez, *et al.* (1999), reported that the low public awareness of cancer signs is the predominant reason for failure to seek early advice on cancer prevention. Similar findings are reported in later studies by MacDonald *et al.* (2004) and Stubbings *et al.* (2009). In a study of public awareness of cancer signs in the UK, Robb *et al.* (2009) showed that awareness was lower in males, younger adults, persons from lower socioeconomic groups and in ethnic minorities. Launched in England in 2008, the National Awareness and Early Diagnosis Initiative (NAEDI) sought to promote early diagnosis of cancer. Once again low awareness of cancer symptoms and signs was a major influencing factor in the low level of uptake of cancer screening services (Richards, 2009). Austoker *et al.* (2009) suggested that low cancer awareness also contributed to both a delay in presentation for cancer symptoms and may also delay diagnosis.

#### **2.4.4 Cancer and smoking**

Smoking is a major cause of many preventable cancers. Lung cancer is the dominant malignancy caused by smoking and a causal link is also identified in cancer of the bladder; urethra; renal pelvis; oral cavity and oesophagus (Hecht, 2005). An association has also been reported between smoking and colorectal cancer (Peppone *et al.*, 2009); oropharyngeal cancer (Hilgert *et al.*, 2009) and cancer of the pancreas and breast cancer (WHO 2008).

Tobacco use is recognised as the single most important risk factor for cancer (WHO, 2009) and is the cause of a third of all cancers, killing around 120,000 people in the UK per year and over half a million in the European Union (DoH, 2000). Worldwide, tobacco use is reported to be responsible for 1.8 million deaths per year (WHO, 2008).

It is reported that smoking also impacts negatively on the survival rate of patients following oropharyngeal cancer (Hilgert *et al.*, 2009).

The media has long been used to influence behaviour in the public for example, with significant investment in the promotion of tobacco products, the effects of which have been extensively addressed in the literature, Gilpin *et al* (1997); Baumann *et al* (1998); Ramirez *et al* (2001).

However, recognition of the relationship of smoking behaviours and cancer (and lung cancer, in particular) has underpinned the global efforts to reduce smoking with the media playing an important role in the strategy for smoking reduction. The media has also been used effectively to reduce the use of tobacco products as outlined within a Cochrane Systematic review of mass media interventions for smoking cessation in adults (Bala *et al*, 2009). Although the reduction in smoking behaviours is often transient, Unger *et al.* (1999) reported that the influence of pro-tobacco media is an important determinant of smoking initiation.

A reduction in the rate of smoking among men since the early 1970s has led to a marked fall in the incidence and death rate from lung cancer (NHS Cancer Plan, 2000) and stopping smoking avoids most of the subsequent risk. Furthermore, stopping smoking before middle age avoids 90% of the cancer risk attributable to tobacco. Within the European region, the overall prevalence of smoking is anticipated to reduce in male smokers but increase in female smokers by 2015 (Strong *et al.*, 2008). The UK has introduced a series of initiatives aimed at reducing the use of tobacco (Smoking Kills, 1998); initiating smoking cessation services in all health authorities (HSE1999.087); curtailing tobacco advertising and promotion (Tobacco Advertising and Promotion Act, 2002 and amended 2006); becoming a signatory to the World Health Organisation Framework Convention on Tobacco Control (WHO, 2005), and the ultimate banning of smoking in the workplace and in all public places in 2007.

#### **2.4.5 Obesity and cancer**

Lutfiyya *et al.* (2008) state “*obesity is rapidly approaching tobacco as the leading cause of preventable morbidity and mortality*” (p821). Calle *et al.* (2003) suggested that obesity may lead to an increase in death rates “*from all cancers combined ...were 52 percent*

higher (for men) and 62 percent higher (for women)” (p1625). Renehan *et al.* (2010) maintained that a substantial number of cancers across Europe could be avoided by reducing the prevalence of obesity.

Many types of cancer are more common in people who are obese. These include breast cancer in post-menopausal women; bowel cancer and cancer of the uterus, pancreas; kidney and gallbladder (Cancer Research UK, 2010) and prostate cancer (Hernandez *et al.*, 2009). In Northern Ireland, during the period 2004-2008, 23 deaths directly associated to obesity have been recorded (NISRA, 2010).

#### **2.4.6 Cancer and physical activity**

Maintaining physically activity has a significant impact on reducing the likelihood of developing cancer with the inverse relationship between physical activity and colon cancer well established (Moradi *et al.*, 2010). Promoting physical activity is an important element of the World Health Organisation’s Action Plan (2008) for the prevention and control of noncommunicable diseases, including cancer. In addition to reducing the risk of some types of cancer, physical activity has also been shown to have a positive influence on post-diagnosis mortality (Zoeller, 2009).

#### **2.4.7 Cancer and diet**

Hu *et al.*, (2010) report that salt in the diet is associated with an increased risk of stomach, lung, testicular and bladder cancer and processed meats are significantly related to the risk of stomach, colon, rectum, pancreas, lung, prostate, testis, kidney and bladder cancer. Epidemiological studies have demonstrated that countries in Europe, where a ‘Mediterranean diet’ is consumed, have a lower prevalence of cancer (Owen *et al.*, 2004; Gallus *et al.*, 2004). The World Health Organisation recommended that populations and individuals should limit energy intake from total fats and shift fat consumption away from saturated fats to unsaturated fats; increase consumption of fruits and vegetables; limit the intake of free sugars and limit salt (sodium) consumption from all sources (WHO, 2004). The UK Government recommended an intake of at least five portions of fruit or vegetables per person per day to help reduce the risk of some cancers (DOH, 2003)

#### **2.4.8 Cancer and alcohol**

The World Health Organisation (2007) states that, in addition to reducing cancer deaths, reducing alcohol consumption has many other health benefits, The consumption of alcohol increases the risk of cancers of the mouth; pharyngeal; oesophageal; laryngeal; breast, bowel and liver cancers. (Cancer Research UK, 2010). Doll, *et al*, cited in Cancer Research UK (2010) suggests that alcohol causes about 6% of all cancer deaths in the UK, killing over 9,000 people. Schutz *et al* (2011) report that 9.6% of cancers in men and 3% of cancers in women in Western Europe is caused by former and current alcohol consumption.

#### **2.4.9 Cancer and sun exposure**

Skin Cancer is the most common cancer in the UK (Cancer Research UK, 2010) with ultraviolet radiation being a Class 1 carcinogen. The frequency of travel to foreign (sunny) destinations, combined with the growth in the use of sun beds contributes to the prevalence of melanoma in the UK where the use of sun beds is estimated to cause 100 deaths per year (Diffey, 2003).

#### **2.4.10 Cancer avoidance services relating to cervical screening**

Austoker (1994) asserts that primary care teams have a vital role in ensuring the success of cervical screening programmes. A national programme for cervical screening is well established In Northern Ireland, with all women between the age of 25 and 49 years offered screening every three years and women between the age of 50 to 64 years offered screening every 5 years. In Northern Ireland, 76.79% of women eligible for cervical screening (n=466,725) - participated in the NI Cervical Screening Programme (Public Health Agency, 2010).

In addition to cervical screening, the Public Health Agency (NI) delivers two province-wide cancer screening programmes; Breast Screening and Bowel Cancer screening.

Breast cancer is the most common type of cancer found in women in Northern Ireland, with the risk of breast cancer increasing with age. All women between the age of 50 and 70 years are invited for mammogram's. Women over 70 years can have a mammogram on request.

A bowel cancer province-wide screening programme was launched in April 2010. The screening programme offers everyone between the age of 60 and 69 an opportunity to

participate in the screening programme with test kits sent by post to all persons in the target age group who have been identified from GP registers.

GPs and Practice nurses are ideally placed to encourage participation in the national Breast and Bowel screening programmes.

Prostate cancer is the most common male cancer in the UK, accounting for a quarter of all cancers diagnosed in men, with the risk of prostate cancer increasing with age. More than 34,000 men are diagnosed with prostate cancer each year in the UK. As men with prostate cancer are often asymptomatic, some men with fast-growing cancers are not diagnosed in time for curative treatment, leading to 10,000 deaths a year.

The benefit of screening for prostate cancer is the subject of much debate in the literature, particularly since the introduction of Prostate-Specific Antigen (PSA) testing (Brett *et al.*, 2005; Drummond, 2009). However, “there is no reliable evidence to determine whether or not early detection and treatment of prostate cancer improves survival” (Effectiveness Matters, 1997, p1).

There is no national screening programme for prostate cancer in the UK; indeed it has been recommended that routine screening “*should be discouraged*” (Effectiveness Matters, 1997, p1). However, most GPs are generally in favour of providing PSA testing to ‘informed’ males who have a concern about prostate cancer (Brett *et al.*, 2005). Brett *et al.* also questions the extent to which men are actually being informed of the risks.

### **3 Research Approach and Methodology**

The study used a sequential exploratory mixed methods approach. It comprised of two stages. The first stage was a quantitative stage and used a questionnaire approach. The results from the questionnaire informed the development of the interview schedule for

Stage 2. Stage 2 was a qualitative stage and used semi-structured interviews as the data collection method. Integration of the data was undertaken at the end of both stage of the study.

### **3.1 Stage 1: Postal Survey**

Two postal surveys were undertaken – one with GPs and one with Primary Care Nurses.

Encompassing 345 General Practices within Northern Ireland, a total of 1249 questionnaires were issued to GPs and a total of 500 questionnaires were issued to Primary Care Nurses. (General Practices that had participated in the pilot study were excluded from the main study)

### **3.2 Stage 2: One-to-one interviews**

Twenty eight one-to-one interviews were conducted with fourteen GPs and fourteen Primary Care Nurses. Each interview was recorded and subsequently transcribed for content analysis.

### **3.3 Ethical approval**

Ethical approval was granted by the School of Nursing Ethics Filter Committee and the Office for Research Ethics for Northern Ireland (ORECNI) prior to the beginning of the study.

Prior to each interview, the aims and objectives of the research were explained and the research methodology discussed. Anonymity of the questionnaire and confidentiality of the transcripts was assured. The requirement to audio tape each interviewee was reiterated and any questions raised by the interviewee responded to appropriately.

Prior to commencing the interview, each interviewee was asked to read and sign a consent form.

### **3.4 Pilot Study**

A pilot study was carried out to ensure the efficacy of the research instrument and to allow for modifications to be made to the questionnaire prior to conducting the main study.

A convenience sample of 11 Health Centres and General Practices were identified to participate in the study. Efforts were made to encourage participation and 8 Health Centres/General Practices agreed to participate, providing access to 48 GPs and 14 Primary Care Nurses.

Practice Managers in each of these facilities was identified and initial explanatory telephone conversations held with them. At the request of the Practice Manager, an appropriate number of participant documents were issued by electronic mail to each facility. A single set of 'hard copy' data collection instruments were delivered by hand to one General Practice as requested by the Practice Manager in that location.

The following documents were issued to all participating locations:

- A letter directed to the Practice Manager providing a summary of the aims and objectives of the study, the research team and instructions for the Practice Manager to follow in distributing, and returning the questionnaires;
- A 'Practice Proforma' seeking to capture generic practice data was also issued for completion by the Practice Manager;
- General Practitioner Questionnaire;
- Primary Care Nurse Questionnaire.

Practice Managers were requested to return completed questionnaires within three working weeks from receipt.

### **3.4.1 Pilot Study – Results**

A total of four practices (50%) completed questionnaires during the pilot study. Examination of the questionnaires returned highlighted a number of issues:

#### **3.4.1.1 Practice Manager**

The Practice Proforma was completed accurately, however, the Practice Manager/GPs had difficulty identifying the 'Noble Score' and all failed to do so. (The 'Noble Score' is the weighting of 'deprivation' applied to population served by the GP)

#### **3.4.1.2 General Practitioners**

Thirteen GP questionnaires (54% of potential returns within Practices that completed questionnaires) were completed – the small number limited any statistical examination.

Examinations of the data demonstrated that the questionnaire worked very well in capturing the relevant information.

Patterns in missing data highlighted some formatting issues e.g. where questions had unintentionally slipped off the page due to pagination variations between electronic systems. Where this occurred, GPs failed to answer the question.

50% of the GP Practices responding had an identified lead GP in cancer.

GPs provided more than one answer (or no answer at all) when asked to provide a reason for not providing a particular service.

#### **3.4.1.3 Primary Care Nurses**

Six Nurse Practitioners and Practice Nurses completed the questionnaire (100% of potential returns within Practices that completed questionnaires)

Primary Care Nurses provided more than one answer (or no answer at all) when asked to provide a reason for not providing a certain service.

### **3.5 Pilot Study - Outcomes**

Following the pilot study, the following decisions were made:

- The questionnaires would be issued in the format used within the Pilot Test;
- The questionnaires would comprise more specific instructions relating to its completion;



- The questionnaires would be distributed in hard copy only (removing the potential for pagination errors);
- The 'Noble Score' for each General Practice would be completed by the research team, prior to issue of the 'Practice Proforma'. (Where more than one Practice provides services within a health centre, the 'Noble Score' of each practice would be entered).

### **3.5.1 Stage 1: Postal Survey**

Data provided by the Business Services Organisation indicated a total of 1,168 GPs provide services across 364 General Practices within Northern Ireland.

No data relating to the numbers of 'Locum' GPs and Primary Care Nurses employed in General Practices throughout Northern Ireland were held centrally.

The following documents were issued by post to the Practice Manager in each location:

- Practice Manager Covering Letter
- Practice Proforma
- GP Questionnaire
- Primary Care Nurses Questionnaire

(Copies of all issued documents are attached at Appendix 1)

In order to maximise return of questionnaires, 'follow up' telephone calls were made to each Practice Manager. This provided the Practice Manager with the opportunity to raise questions relating to the research study and (hopefully) encourage involvement of both GPs and Primary Care Nurses. In addition, it was decided that an incentive for completion would be offered. Accordingly, a 'postcard' for return independent of completed questionnaires was prepared and enclosed with issued documents. This safeguarded anonymity. Returned postcards were entered into a prize draw for £400.

### **3.5.2 Questionnaire development/design**

An initial questionnaire (one for each of the target staff groups) was distributed to 'key stakeholders', including members of the Research Advisory Group, prior to a pre-arranged 'stakeholder meeting'. The objectives of were to:

- Gain insight into the research study from the stakeholder's perspective
- To identify issues considered of particular importance to stakeholders (as appropriate);
- To illicit stakeholder views of the initial questionnaires (issued in advance of the meeting).

A total of 8 stakeholders were consulted on the design and content of the questionnaires.

The review by stakeholders identified a number of issues that dictated a re-design of the original questionnaire. The issues raised and addressed can be summarised as follows:

- Questionnaires were considered to be too long and required an improved structure;
- The initial questionnaire required significant 'freetext' responses-this was considered by 'stakeholders' to be a potential impediment to completion (particularly by GPs). The Potential for replacing 'freetext' responses with a series of closed questions required to be considered further;
- The initial questionnaires (developed to meet the requirements of doctoral research) required a stronger re-alignment with the aims/objectives of the research study;
- Practice Managers would be best placed to provide demographics of practice population (Noble Score);
- It is necessary to capture 'locum' positions (believed to be circa 200) within the research process.

Strategies for maximising the return of questionnaires were also explored with 'stakeholders' who considered:

- Electronic distribution of questionnaires would be counter-productive due to the large volume of e-mails received by GPs;
- Practice Managers would be best placed to distribute questionnaires and this would maximise the response rate.

As a consequence of the stakeholder interviews, significant changes were made to the initial questionnaire. These included:

- Inclusion of a 'practice proforma' element to be completed by Practice Manager;
- Incorporating the principles of the universally applied approach to prevention of cancer i.e. "*cancer prevention interventions invariably take on a risk factor-orientated approach, which are aimed at the avoidance and reduction of risk factors associated with the disease, coupled with the employment of early detection practises*" (WHO 1998);
- The questionnaires were re-constructed so as to employ the 'European Code against Cancer' (2003) as a framework for the instrument;
- The questionnaires were re-constructed to include primarily closed response questions; response option questions and inclusion of free text 'other' category;
- As "*cancer prevention interventions (are) ..... coupled with the employment of early detection practises*" (WHO 1998), the remodelling of the questionnaire also incorporated the collection of data associated with screening activities.

### **3.5.2.1 Survey questionnaire**

Cancer prevention activities invariably take on a risk factor-orientated approach. Put simply, this is the avoidance and reduction of risk factors associated with the disease, coupled with the employment of early detection practices (WHO 1998). Accordingly, the questionnaires employed in this study were developed to reflect a risk factor-oriented approach. The European Code against Cancer (2003) indicated that changes in lifestyle

can also prevent certain cancers. Therefore, elements of the European Code against Cancer provided the framework for the questionnaires.

Three documents were issued to 345 general practices (Practices involved in the Pilot Study were excluded from the main study). The documents issued were the 'Practice proforma'; GP questionnaire and Primary Care Nurse questionnaire.

Questionnaires were issued to GPs and Primary Care Nurses (Practice Nurses/Advanced Nurse Practitioners) in each of the 345 general practices. Two versions of the questionnaires were designed so as to gauge the separate opinions, attitude and activities of GPs and Primary Care Nurses (PN). Although the questionnaires differed in their professional focus, many of the items were similar (See Appendix 1).

For the purpose of distribution, the Practice Manager in each General Practice was contacted to confirm the number of GPs and the number of Primary Care Nurses employed within each practice. Following the distribution of the required number of questionnaires, 'follow up' telephone calls were made to each Practice Manager to confirm receipt and to encourage responses. A second distribution of GP questionnaires to each general practice was undertaken with the Royal College of GPs monthly newsletter. In all general practices with more than one Primary Care Nurse, each was contacted by telephone to identify their name. A second distribution of questionnaires was then undertaken with questionnaires posted to named individual nurses in each general practice.

#### **3.5.2.1.1 Response Rate**

A total of 1249 Questionnaires were issued to GPs. Twenty-three percent (n=290) were returned; of these 8 were unusable as the majority of questions were not completed and, in one questionnaire, notations had been made on the document but no boxes completed.

A total of 500 questionnaires were sent to Primary Care Nurses. Forty five percent (n=225) were returned; of which 5 were unusable since the majority of questions were

not completed. (In the study Practice Nurses and Nurse Practitioners were asked to identify their role. Most (84.7%) identified themselves as Practice Nurses).

As is often the case in self-report questionnaires, not all items in the questionnaire were completed by respondents due to participant error or filtered questions. Questionnaires with more than 10% data missing were excluded from the final analysis. Missing data was spread in randomly throughout the data set. All response rates were expressed as a valid percentage of the actual sample size and the simple sizes reported accordingly.

The questionnaires returned by each cohort were subjected to power analysis in order to confirm that the level of returns would reasonably reflect the population under study. Calculation of the statistical power of the findings based on both the GP and the Primary Care Nursing sample indicates that, at a 95% confidence level and a percentage level of 50 %, the confidence interval for the GP sample is 5.06 and the confidence interval for the Primary Care Nurse sample is 4.85. This means that the research team can be confident that, even if a greater number of returns had been received, analysis of the data would produce similar results.

### **3.5.3 Survey questionnaire-data analysis**

Data were analysed using SPSS (Version 12).

In the following results section the responses provided by both the GP and the PN respondents will be displayed according to themes. Given that the majority of nurse respondents identified themselves as Practice Nurses. 'PN' refers to both Nurse Practitioners and Practice Nurses, unless stated otherwise.

### 3.5.3.1 Demographic Details

Table 2 show's a detailed breakdown of the demographic details of respondents.

	GP		PN	
	%	N	%	N
Male	44.4%	123	1.9%	4
Female	55.6%	154	98.1%	211
Full time	72.3%	201	27.4%	59
Part-time	27.7%	77	72.6%	156
Practice Nurse	--	-	84.7%	182
Nurse Practitioner	--	-	15.3%	33
Principal GP	90.9%	250		
Salaried GP	3.3%	9		
Retained GP	0.4%	1		
Locum GP	5.5%	15		

**Table 2. Demographic details of respondents**

Table 2 indicates that there were 10.2% more female GPs than male and just less than three quarters of all GPs were full time. The reverse was true of Practice Nurses.

For GPs, 26.1% (n=72) of respondents had lead responsibility for cancer services within the practice; 14% (n=30) of Practice Nurses had a specified role in cancer prevention in their Practice. Just over twenty percent (20.8%, n=57) of GPs and 14% (n=30) of Practice Nurses had completed a post-graduate course in cancer prevention/treatment.

### 3.5.3.2 Section 1: Actual role in cancer prevention

The role of the primary health professional in cancer prevention was addressed by examining the current care practices of the GP and Practice Nurse. Each participant was asked to indicate what services they provided and how often they would typically do this. The frequency of the service provision could be one of three options: 'routinely', 'sometimes' or 'not at all'. If the service was not provided, the participant was asked to proffer a reason as to why this was the case. The reasons were categorised as 'lack of demand'; 'lack of staffing resources'; 'lack of financial resources'; 'lack of time'; 'other'. While there was an opportunity for participants to provide 'other' reasons for not carrying out the particular activities only, a very small number of participants completed this section. Where this was completed, the responses given were a mixture of repetition of options provided e.g. lack of resources; comments on the questionnaire; responsibility of

other professionals etc. As no significant patterns emerged on analysis, it was decided to exclude 'other' from reporting tables. (The results of this section are presented in Appendix 2 -'Supplemental Statistical Analysis').

Nine broad categories (incorporating the elements of the European Code against Cancer) were identified as important in cancer prevention. These were 'general services; smoking; obesity; physical activity; diet; alcohol; exposure to UV rays; Cervical screening; and 'other services'. (General Services' refers to the provision of general information leaflets and issues relating to access for persons with special needs).

The results from each of the broad categories are described in the following sections.

**Figure 1: The Provision of cancer prevention activities as stated by GPs**

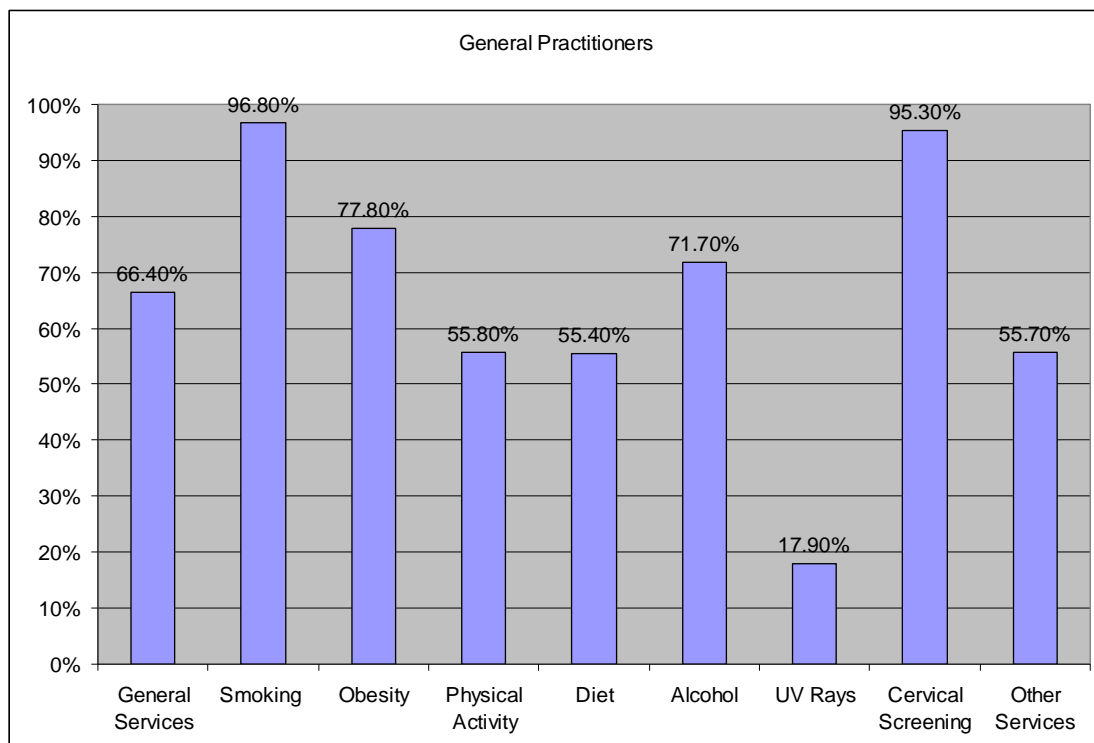
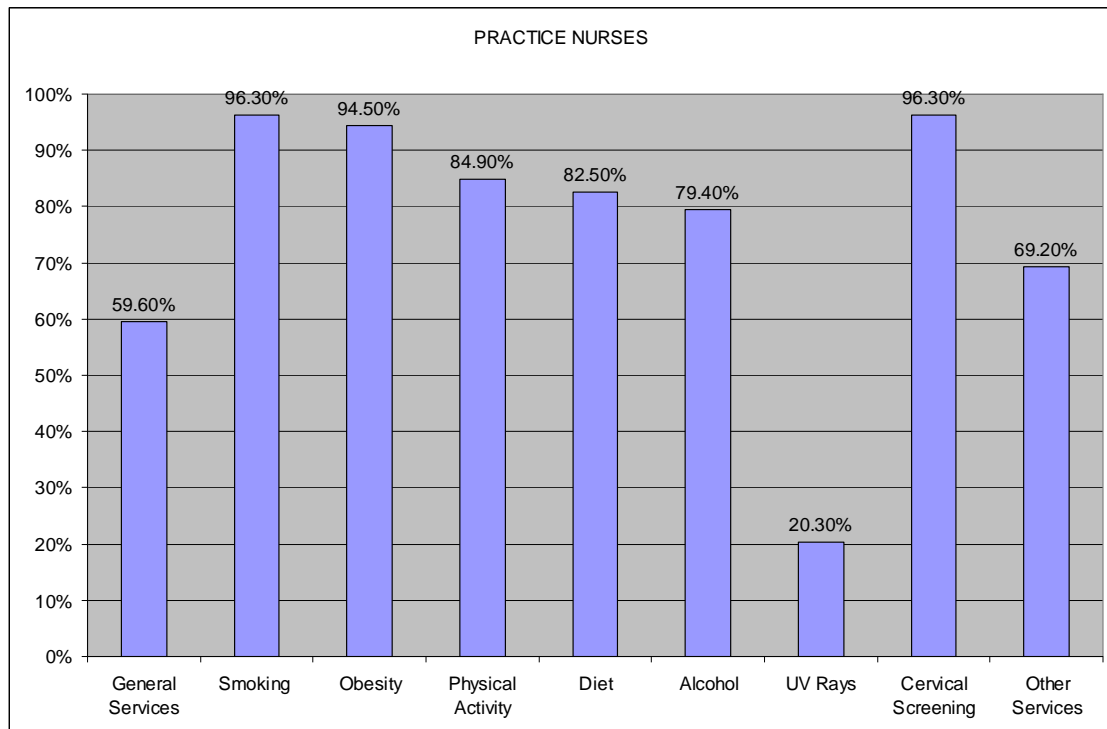


Figure 1 shows the percentage of services GPs routinely provided. They tended to focus mostly on the smoking behaviour of patients and the provision of cervical

screening. These services were conducted routinely by almost all of the GPs (Smoking - 96.8%; Cervical Screening – 95.3%). Obesity and alcohol use were the next highest service that was routinely provided. The least provided service was advice in relation to UV exposure (17.9%).

### The Provision of Cancer Prevention Activities by Practice Nurses



**Figure 2: The Provision of cancer prevention activities as stated by Practice Nurses**

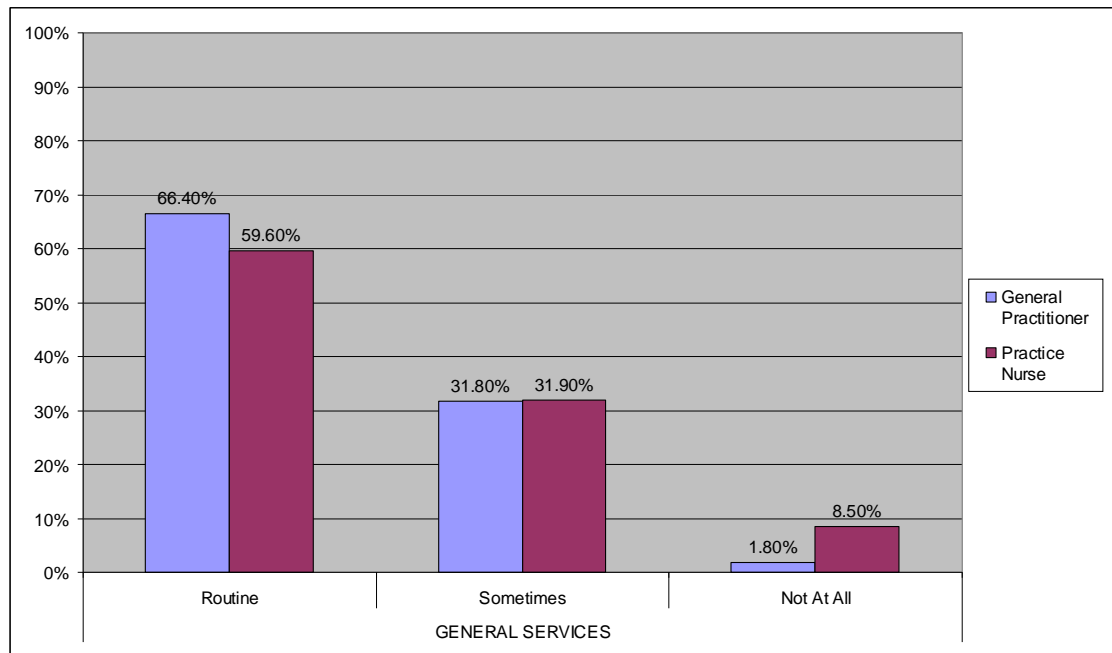
Figure 2 highlights the percentage of services Practice Nurses would routinely provide. In general, Practice Nurses provided high levels of cancer screening activities. For example, in seven of the nine areas, cancer services were routinely provided by 70% of Practice Nurses. Moreover, Smoking, Obesity and Cervical Screening services were routinely provided by over 90% of Practice Nurses. As with GPs, Practice Nurses had a low input into advice in relation to UV exposure.



In the following sections, an introductory graph presents the response from GPs and Practice Nurses in juxtaposition.

### 3.5.3.2.1 Cancer prevention services provided by GPs and Practice Nurses

Four questions addressed the provision of cancer services generally as well as in specific populations of patients.



**Figure 3: Responses from GPs and PN's to the question "Do you provide services relating to cancer prevention for the practice population?"**

	Routinely	Sometimes	Not at all
Do you provide general leaflets/information sheets relating to the prevention of cancer?	34.5% (n=96)	60.4% (n=168)	5.1% (n=14)
Do you provide general leaflets/information sheets relating to the prevention of cancer in languages other than English?	4.7% (n=13)	19.8% (n=55)	75.5% (n=209)
Do you provide services relating to cancer prevention specifically designed for patients with special needs?	4.0% (n=11)	27.0% (n=75)	69.0% (n=191)

**Table 3: GPs' responses regarding their provision of cancer prevention services**

The majority of the GPs respondents (66.4%, n=184, see figure 3) routinely provided cancer prevention. Overall, 31.8% of respondents routinely provided written information on cancer prevention. Over three quarters (75.5%, n=209) of respondents did not provide general cancer information in language other than English nor in a manner specifically designed for patients with special needs. A lack of demand for such services was cited as the main reason for these specific responses.

### Cancer prevention services provided by Practice Nurses

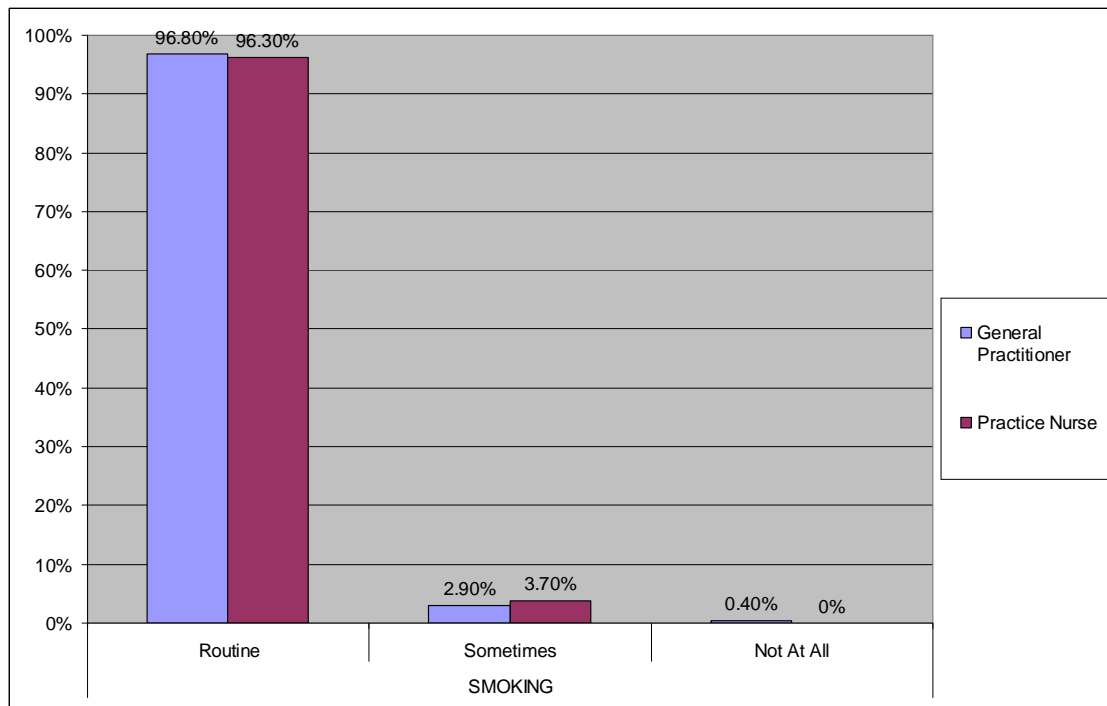
	Routinely	Sometimes	Not at all
Do you provide general leaflets/information sheets relating to the prevention of cancer?	46.3% (n=99)	51.4% (n=110)	2.3% (n=5)
Do you provide general leaflets/information sheets relating to the prevention of cancer in languages other than English?	25.4% (n=54)	6.1% (n=13)	68.5% (n=146)
Do you provide services relating to cancer prevention specifically designed for patients with special needs?	26.8% (n=57)	5.7% (n=12)	67.5% (n=143)

**Table 4: Practice Nurses' responses regarding their provision of cancer prevention services**

Similar findings to that of the GP were reported by the Practice Nurses. Practice Nurse respondents (46.3%, n=99) indicated that they routinely provided cancer prevention services, generally in the form of written literature. However, these are not available in non-English speaking formats or formats specifically designed for patients with special needs. They stated that the main reason for not doing so was the lack of demand.

#### 3.5.3.2.2 Cancer prevention services relating to smoking

Smoking is recognised as the single most important risk factor for cancer (WHO, 2009) and is the cause of a third of all cancers, killing around 120,000 people in the UK per year and over half a million in the European Union (DoH, 2000).



**Figure 4: Responses from GPs and PNs to the question "Do you enquire about a patient's smoking habit/history?"**

	Routinely	Sometimes	Not at all
Do you provide brief advice clinics	64.2% (n=176)	18.2% (n=50)	17.5% (n=48)
Do you provide 'specialist support' clinics?	57.8% (n=159)	21.1% (n=58)	21.1% (n=58)
Do you provide Pharmacotherapy?	86.6% (n=240)	12.6% (n=35)	0.7% (n=2)
Do you provide leaflets/information relating to the dangers of smoking/passive smoking?	65.2% (n=182)	28.7% (n=80)	6.1% (n=17)
Do you provide refer patients to other services?	44.9% (n=122)	45.2% (n=123)	9.9% (n=27)

**Table 5: GPs' responses to questions relating to cancer and smoking cessation**

Almost all GPs (96.8%, n=270) enquired about a patient's smoking status: 86.6% (n=240) of them reported routinely providing pharmacological help, with 64.2% (n=176) routinely providing brief advice clinics and a similar amount providing specialist support clinics (57.8%, n=159). Overall, 17.5% (n=48) of GPs did not provide clinic support (either brief advice or specialist support). This was attributed by respondents to a lack of staff support for such clinics.

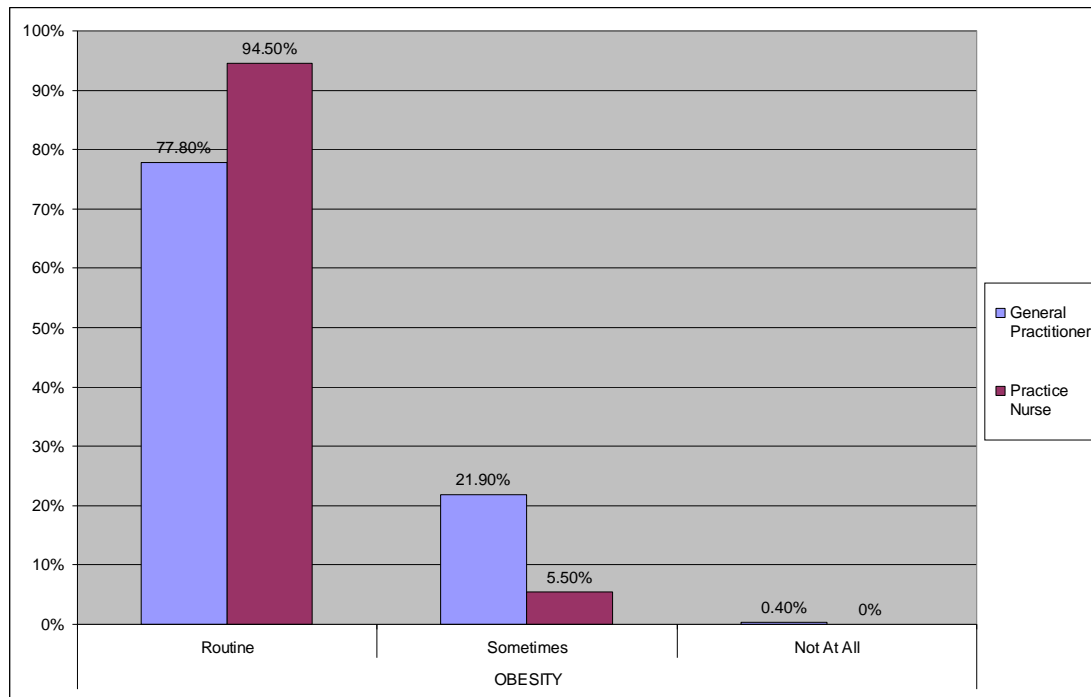
	Routinely	Sometimes	Not at all
Do you provide brief advice clinics	83.0% (n=181)	10.1% (n=22)	6.9% (n=15)
Do you provide 'specialist support' clinics?	67.5% (n=143)	13.2% (n=28)	19.3% (n=41)
Do you provide Pharmacotherapy?	68.8% (n=148)	15.3% (n=33)	15.8% (n=34)
Do you provide leaflets/information relating to the dangers of smoking/passive smoking?	84.3% (n=183)	15.2% (n=33)	0.5% (n=1)
Do you provide refer patients to other services?	46.9% (n=99)	44.1% (n=93)	9.0% (n=19)

**Table 6: Practice Nurses' responses to questions relating to cancer and smoking cessation**

Practice Nurses (96.3%, n=209) reported a high level of interest in patients' smoking behaviours, regularly enquiring about their smoking status. The key forms of assistance offered by Practice Nurses were brief advice clinics (83.0%, n=181) and information leaflets (84.3%, n=183). Similarly high levels of support were offered in the form of specialist support and pharmacotherapy. However, 19.3% (n=41) of Practice Nurses did not provide specialist support and 15.8% (n=34) did not provide pharmacotherapy. As with GP respondents, Practice Nurse respondents felt that the lack of staff support was the main reason for not doing so.

### 3.5.3.2.3 Cancer prevention services relating to obesity

Many types of cancer are more common in people who are obese including, breast cancer in post-menopausal women; bowel cancer and cancer of the uterus, pancreas; kidney and gallbladder (Cancer Research UK, 2010) and prostate cancer (Hernandez *et al.*, 2009).



**Figure 5: Responses from GPs and PNs to the question “Do you measure a patient’s weight/height/BMI?”**

	Routinely	Sometimes	Not at all
Do you provide leaflets relating to the relationship between obesity and cancer?	22.2% (n=62)	40.5% (n=113)	37.3% (n=104)
Do you display BMI charts in public areas within the practice?	34.1% (n=94)	13.0% (n=36)	52.9% (n=146)
Do you provide weight management clinics?	48.4% (n=134)	25.6% (n=71)	26.0% (n=72)
Do you refer patients to other services?	33.3% (n=93)	60.9% (n=170)	5.7% (n=16)

**Table 7: GPs’ responses to questions regarding cancer prevention services relating to obesity**

As shown in Figure 5, 77.8% (n=217) of the GP respondents routinely measured the BMI of patients. However, 37.3% (n=104) did not provide information on the relationship between obesity and cancer, citing lack of demand from patients as the main reason for not doing so. Over half of the GP respondents (52.95%, n=146) failed to display BMI charts in public areas. While 48.4% (n=134) routinely provided weight management clinics, 26% (n=72) did not do so, citing lack of resources as the reason.

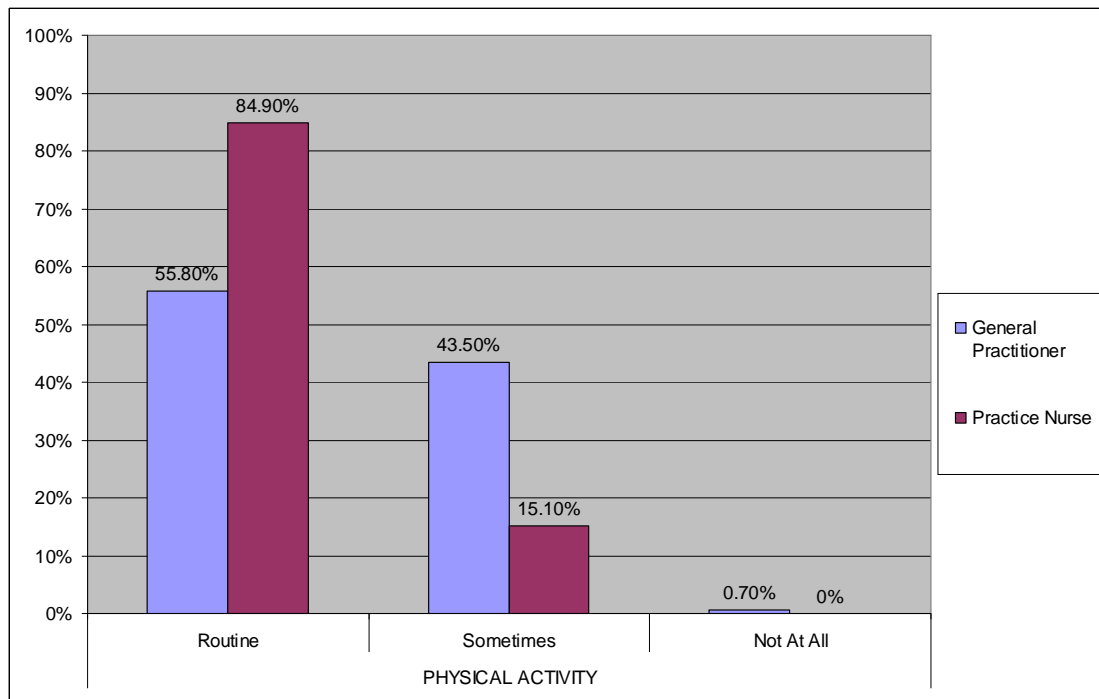
	Routinely	Sometimes	Not at all
Do you provide leaflets relating to the relationship between obesity and cancer?	51.2% (n=111)	26.7% (n=58)	22.1% (n=48)
Do you display BMI charts in public areas within the practice?	63.9% (n=138)	12.9% (n=28)	23.5% (n=51)
Do you provide weight management clinics?	56.0% (n=122)	23.9% (n=52)	20.2% (n=44)
Do you refer patients to other services?	40.8% (n=89)	52.8% (n=115)	6.4% (n=14)

**Table 8: Practice Nurses' responses to questions regarding cancer avoidance services relating to obesity**

Practice Nurses respondents had a more active approach to weight management with 94.5% measuring patients' weight/height/BMI. They routinely enquired about patients' BMI levels. Over half (51.2%, n=111) routinely provided leaflets on obesity and its relationship with cancer. Practice Nurse respondents were more likely to display BMI charts (63.9%, n=138) and run weight management clinics (56.0% n=122) than GPs. Nonetheless, 23.5% (n=51) did not display BMI Charts and 20.2% (n=44) did not provide weight management clinics. Practice Nurses cited lack of demand or lack of resources as the main reason for not doing so.

#### **3.5.3.2.4 Cancer prevention services relating to physical activity**

Maintaining physically activity has a significant impact on reducing the likelihood of developing cancer with the inverse relationship between physical activity and colon cancer well established (Moradi *et al.*, 2010). Promoting physical activity is an important element of the World Health Organisation's Action Plan (2008) for the prevention and control of non-communicable diseases, including cancer.



**Figure 6: Responses from GPs and PNs to the question “Do you enquire about a patient’s physical activity levels?”**

	Routinely	Sometimes	Not at all
Do you provide information relating to the requirements of daily physical activity?	25.0% (n=69)	55.1% (n=152)	19.9% (n=55)
Do you provide information relating to the relationship between physical activity and cancer?	15.0% (n=41)	33.6% (n=92)	51.5% (n=141)
Do you refer patients to other services?	27.7% (n=75)	61.3% (n=166)	11.1% (n=30)

**Table 9: GPs’ responses to questions regarding cancer prevention services relating to physical activity**

GP respondents were less engaged than Practice Nurses in enquiring about a patient’s physical activity levels on a routine basis with only 55.8% (n=154) doing so. Interestingly, 51.5% (n=141) of GP respondents did not provide any information linking physical activity and cancer. A lack of demand from patients for this information was cited as the main reason.

	Routinely	Sometimes	Not at all
Do you provide information relating to the requirements of daily physical activity?	62.7% (n=136)	31.8% (n=69)	5.5% (n=12)
Do you provide information relating to the relationship between physical activity and cancer?	35.0% (n=75)	36.9% (n=79)	28.0% (n=60)
Do you refer patients to other services?	28.2% (n=59)	63.2% (n=132)	8.6% (n=18)

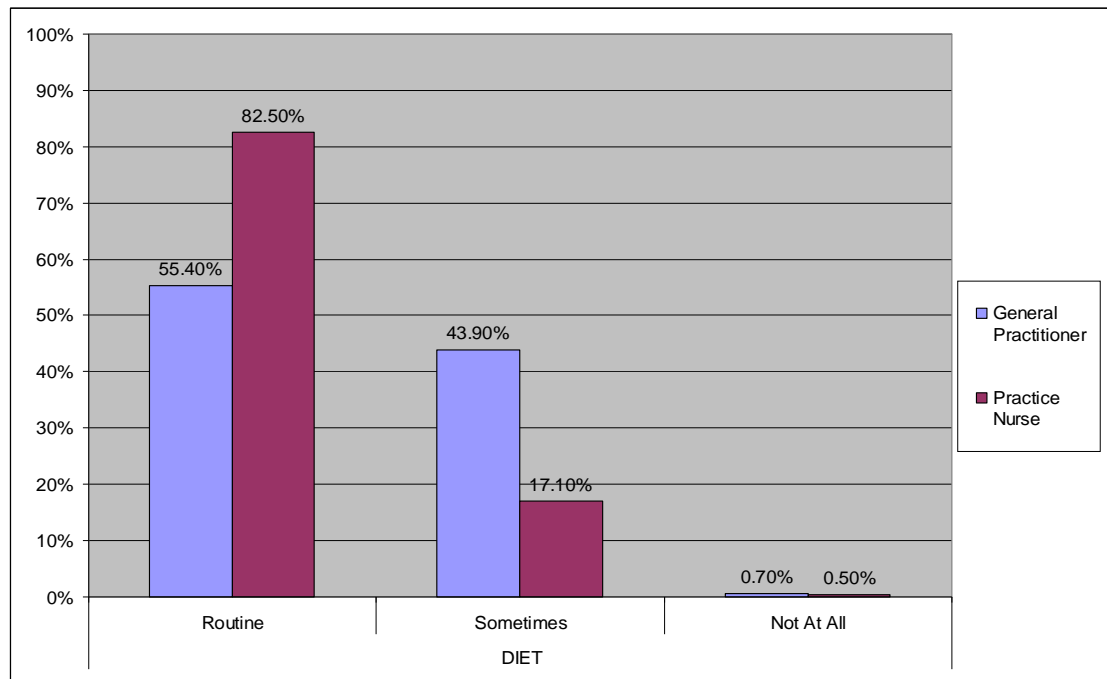
**Table 10: Practice Nurses' responses to questions regarding cancer prevention services relating to physical activity**

Practice Nurse respondents were very proactive in enquiring about a patient's physical activity with 84.9% (n=185) doing so routinely. Practice Nurse respondents also provide information on recommended daily physical levels with most patients. However, 28% (n=60) of Practice Nurse respondents failed to provide any information linking physical activity and cancer. No single specific reason was given for this failure to provide such information.

#### **3.5.3.2.5 Cancer prevention services relating to diet**

The World Health Organisation recommend that populations and individuals should limit energy intake from total fats and shift fat consumption away from saturated fats to unsaturated fats; increase consumption of fruits and vegetables; limit the intake of free sugars and limit salt (sodium) consumption from all sources (WHO, 2004). The UK Government recommended an intake of at least five portions of fruit or vegetables per person per day to help reduce the risk of some cancers (DOH, 2003)





**Figure 7: Responses from GPs and PNs to the question “Do you enquire about a patient’s diet/eating habits?”**

	Routinely	Sometimes	Not at all
Do you provide leaflets/information relating to the relationship between diet and cancer e.g. red meat and processed meat?	22.% (n=62)	45.5% (n=126)	32.1% (n=89)
Do you provide leaflets/information sheets relating to the requirements to consume at least 5 servings of fruit and vegetables daily.	26.6% (n=74)	63.2% (n=173)	11.2% (n=31)
Do you refer patients to other services?	2.7% (n=63)	70.8% (n=196)	6.5% (n=18)

**Table 11: GPs’ responses to questions regarding cancer prevention services relating to diet**

Overall, 55.4% (n=154) of GP respondents routinely ask about the patient’s diet with 44% (n=122) indicating that they sometimes do so. Notably, 32.1% (n=89) did not provide patients with literature relating to diet and cancer prevention. A lack of demand for the service was cited by GP respondents as the main reason for not providing the relevant literature.

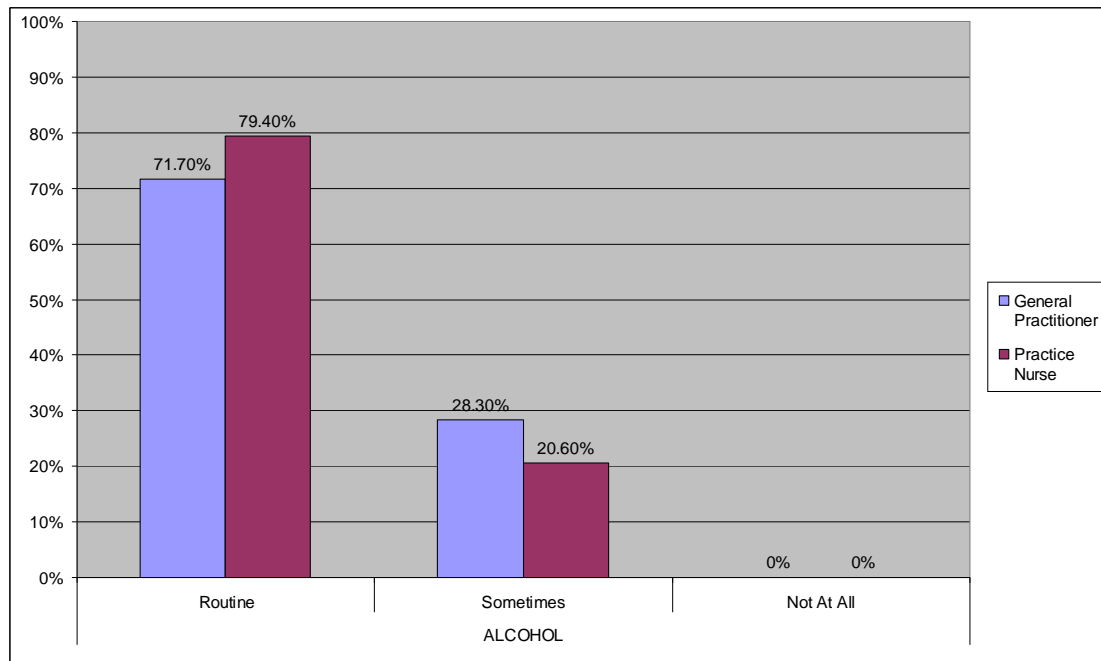
	Routinely	Sometimes	Not at all
Do you provide leaflets/information relating to the relationship between diet and cancer e.g. red meat and processed meat?	46.1% (n=100)	33.2% (n=72)	20.7% (n=45)
Do you provide leaflets/information sheets relating to the requirements to consume at least 5 servings of fruit and vegetables daily.	63.1% (n=137)	34.6% (n=75)	2.3% (n=5)
Do you refer patients to other services?	31.0% (n=67)	64.8% (n=140)	4.2% (n=9)

**Table 12: Practice Nurses' responses to questions regarding cancer prevention services relating to diet**

Practice Nurses were much more active in enquiring about a patient's eating habits, with 82.5% (n=179) doing so. Overall, 46.1% (n=100) indicated that they would routinely provide literature on the link between cancers and diet. However, 20.7% (n=45) stated that they did not do so, citing lack of patient demand as the main reason.

#### **3.5.3.2.6 Cancer prevention services relating to alcohol**

The World Health Organisation (2007) states that, in addition to reducing cancer deaths, reducing alcohol consumption has many other health benefits, Doll, *et al*, cited in Cancer Research UK (2010) suggests that alcohol causes about 6% of all cancer deaths in the UK, killing over 9,000 people. Schutz *et al* (2011) report that 9.6% of cancers in men and 3% of cancers in women in Western Europe is caused by former and current alcohol consumption.



**Figure 8: Responses from GPs and PNs to the question “Do you enquire about patient’s alcohol consumption?”**

	Routinely	Sometimes	Not at all
Do you provide leaflets/information sheets relating to the consumption of alcohol, identifying (gender-specific) recommended limits of daily alcohol consumption?	34.5% (n=96)	56.5% (n=157)	9.0% (n=25)
Do you provide information relating to the relationship between alcohol consumption and cancer?	20.6% (n=57)	44.0% (n=122)	35.4% (n=98)
Do you refer patients on to other services?	33.7% (n=92)	65.6% (n=179)	0.7% (n=2)

**Table 13: GPs’ responses to questions regarding cancer prevention services relating to alcohol**

Most GP respondents enquired about a patient’s alcohol consumption, with 71.7% (n=200) doing so on a regular basis.

Overall, 34.5% (n=96) routinely provide patients with literature on acceptable levels of alcohol consumption. Interestingly, 35.4% (n=98) did not provide patients with literature that linked alcohol with cancer. GP respondents cited lack of time and lack of demand as the two main reasons for not doing so.

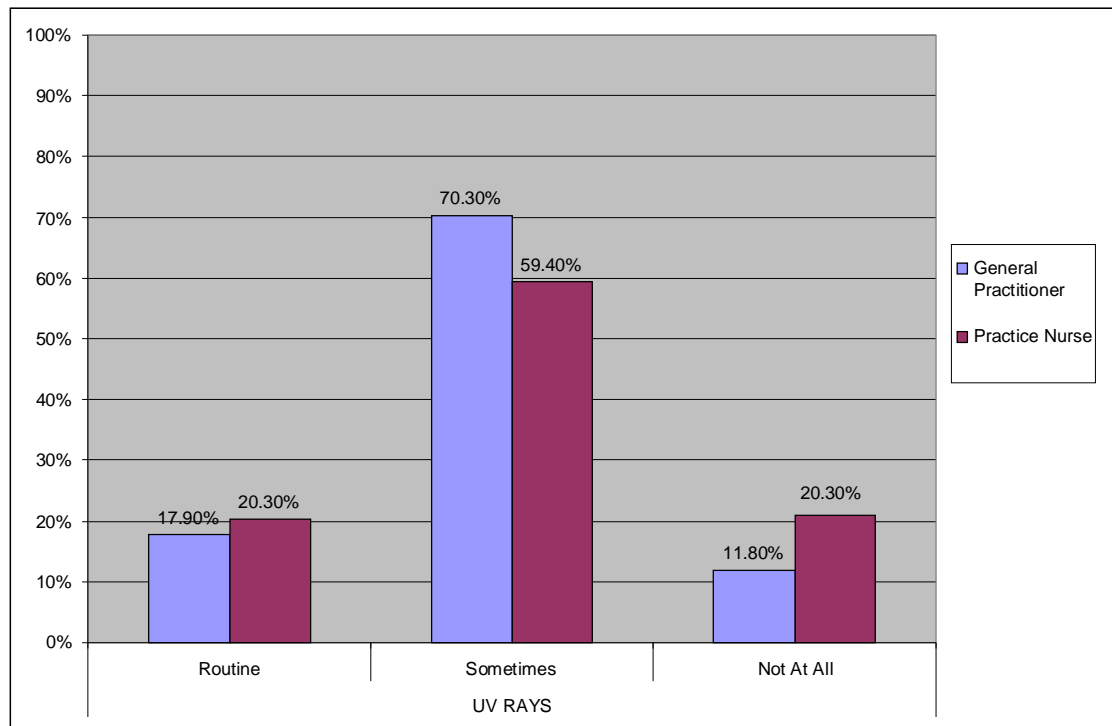
	Routinely	Sometimes	Not at all
Do you provide leaflets/information sheets relating to the consumption of alcohol, identifying (gender-specific) recommended limits of daily alcohol consumption?	54.4% (n=118)	39.2% (n=85)	6.5% (n=14)
Do you provide information relating to the relationship between alcohol consumption and cancer?	35.9% (n=78)	41.0% (n=89)	23.0% (n=50)
Do you refer patients on to other services?	21.9% (n=46)	58.6% (n=123)	19.5% (n=41)

**Table 14: Practice Nurses' responses to questions regarding cancer prevention services relating to alcohol**

Overall, 79.4% (n=173) of Practice Nurses routinely enquired about the patient's alcohol consumption, with the remaining 20.6% (n=45) doing so 'sometimes'. Over half (54.4%, n=118) of the Practice Nurse respondents indicate that they would routinely provide patients with literature relating to the link between alcohol consumption and cancer. In total, 19.5% (41) of Practice Nurses indicate that they would not refer to other cancer services, citing lack of patient demand as the main reason for not doing so.

### **3.5.3.2.7 Cancer prevention services relating to sun exposure**

Skin Cancer is the most common cancer in the UK (Cancer Research UK, 2010) with ultraviolet radiation being a Class 1 carcinogen. The frequency of travel to foreign (sunny) destinations, combined with the growth in the use of sun beds contributes to the prevalence of melanoma in the UK where the use of sun beds is estimated to cause 100 deaths per year (Diffey, 2003).



**Figure 9: Responses from GPs and PNs to the question “Do you enquire about a patient’s potential for sun/UV-ray exposure?”**

	Routinely	Sometimes	Not at all
Do you provide leaflets/information relating to the relationship between sun exposure and cancer?	7.6% (n=21)	52.9% (n=146)	39.5% (n=109)
Do you provide information sheets relating to the level of protection from UV rays, necessary for fair/sensitive skin?	6.9% (n=19)	47.8% (n=132)	45.3% (n=125)
Do you refer patients on to other services?	14.2% (n=39)	54.0% (n=148)	31.8% (n=87)

**Table 15: GPs’ responses to questions regarding cancer prevention services relating to sun exposure**

Only 17.9% (50) of GP respondents stated they routinely ask about the patient’s potential exposure to sun and 70.30% (n=196) stated that they would do so sometimes. A small percentage (11.8%, n=33) would not ask at all, citing lack of patient demand as the main reason for not doing so. Only 7.6% (21) routinely provided literature that demonstrated a link between sun exposure and cancer and on how best to protect oneself from overexposure. Over half (52.9%, n=146) of GP respondents indicated that

they do so 'sometimes' and 39.5% (n=109) indicated that they did not do so at all, citing a lack of patient demand and lack of time as the main reasons.

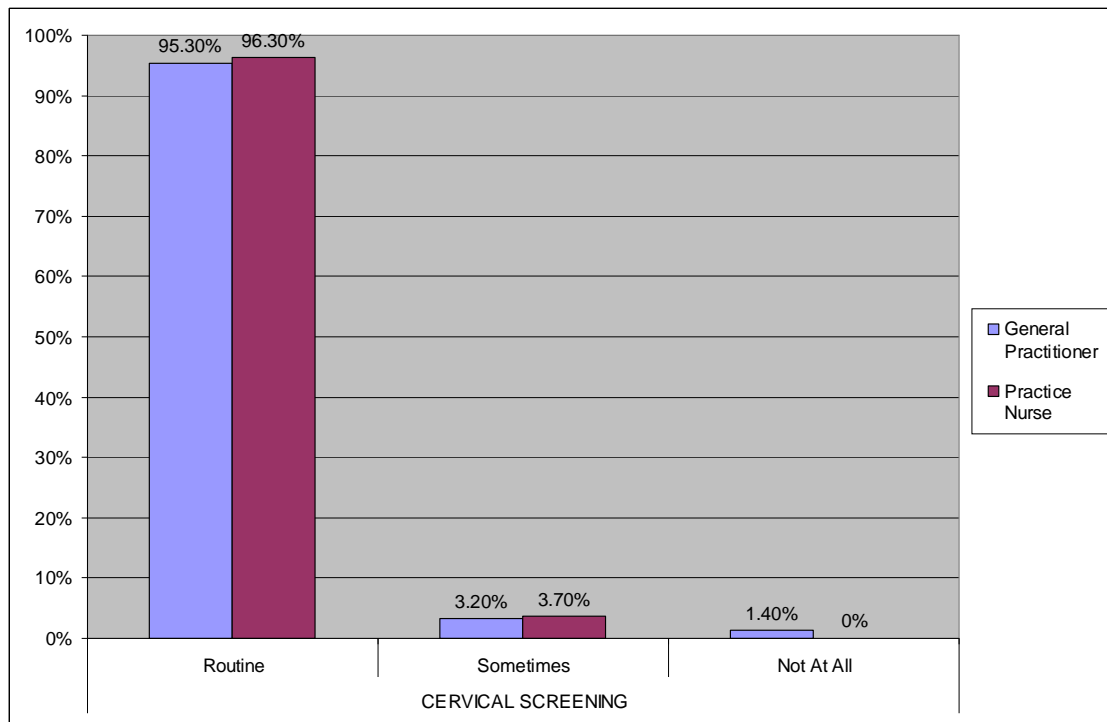
	Routinely	Sometimes	Not at all
Do you provide information relating to the relationship between sun exposure and cancer?	21.3% (n=46)	55.1% (n=119)	23.6% (n=51)
Do you provide information sheets relating to the level of protection from UV rays, necessary for fair/sensitive skin?	16.7% (n=36)	47.4% (n=102)	35.8% (n=77)
Do you refer patients on to other services related to UV Ray exposure and cancer?	9.9% (n=21)	50.5% (n=107)	39.6% (n=84)

**Table 16: Practice Nurses' responses to questions regarding cancer prevention services relating to sun exposure**

Overall, 20.3% (n=44) of Practice Nurse respondents stated that they would routinely ask about the patient's potential exposure to sun and 59.4% (129) stated that they do so sometimes. Only 16.7% (36) routinely provided literature that demonstrated a link between sun exposure and cancer and on how best to protect oneself from sun exposure. Less than half the sample (47.4%, n=102) of Practice Nurses indicated that they do so 'sometimes' and 35.8% (n=77) indicated that they did not do so at all, citing a lack of patient demand and lack of time as the main reasons.

### **3.5.3.2.8 Cancer prevention services relating to cervical screening**

A national programme for cervical screening is well established In Northern Ireland, with all women between the age of 25 and 49 years offered screening every three years and women between the age of 50 to 64 years offered screening every 5 years.



**Figure 10: Responses from GPs and PNs to the question “Do you actively promote cervical screening to all women?”**

	Routinely	Sometimes	Not at all
Do you provide leaflets/information relating to the benefits of cervical screening and the relationship to cancer?	75.0% (n=210)	19.3% (n=54)	5.7% (n=16)
Do you provide cervical screening for all women?	95.7% (n=265)	1.8% (n=5)	2.5% (n=7)
Do you refer patients to other services relating to cervical screening?	51.9% (n=140)	45.2% (n=122)	3.0% (n=8)

**Table 17: GPs’ responses to questions regarding cancer prevention services relating to cervical screening**

The provision of cervical screening services to women is largely a routine procedure with 95.3% (n=266) of GP respondents promoting it. This is reinforced with a strong routine provision of services and information of the benefits of cervical screening. Overall, 75% (n=210) of GP respondents indicated that they did so routinely and 19.3% (n=54) did so sometimes.

	Routinely	Sometimes	Not at all
Do you provide leaflets/information relating to the benefits of cervical screening and the relationship to cancer?	86.6% (n=188)	11.5% (n=25)	1.8% (n=4)
Do you provide cervical screening for all women?	92.1% (n=197)	2.3% (n=5)	5.6% (n=12)
Do you refer patients to other services relating to cervical screening?	48.6 (n=103)	44.3% (n=94)	7.1% (n=15)

**Table 18: Practice Nurses' responses to questions regarding cancer prevention services relating to cervical screening**

Similar to the findings reported by GPs, 96.3% (n=197) of Practice Nurses routinely promoted cervical screening among patients. This was supported by the provision of information on the benefits of screening which was done routinely by 86.6% (188) of Practice Nurse respondents, with 11.5% (n=25) indicating that this is done sometimes.

### **3.5.3.2.9 Cancer prevention services relating to other screening programmes**

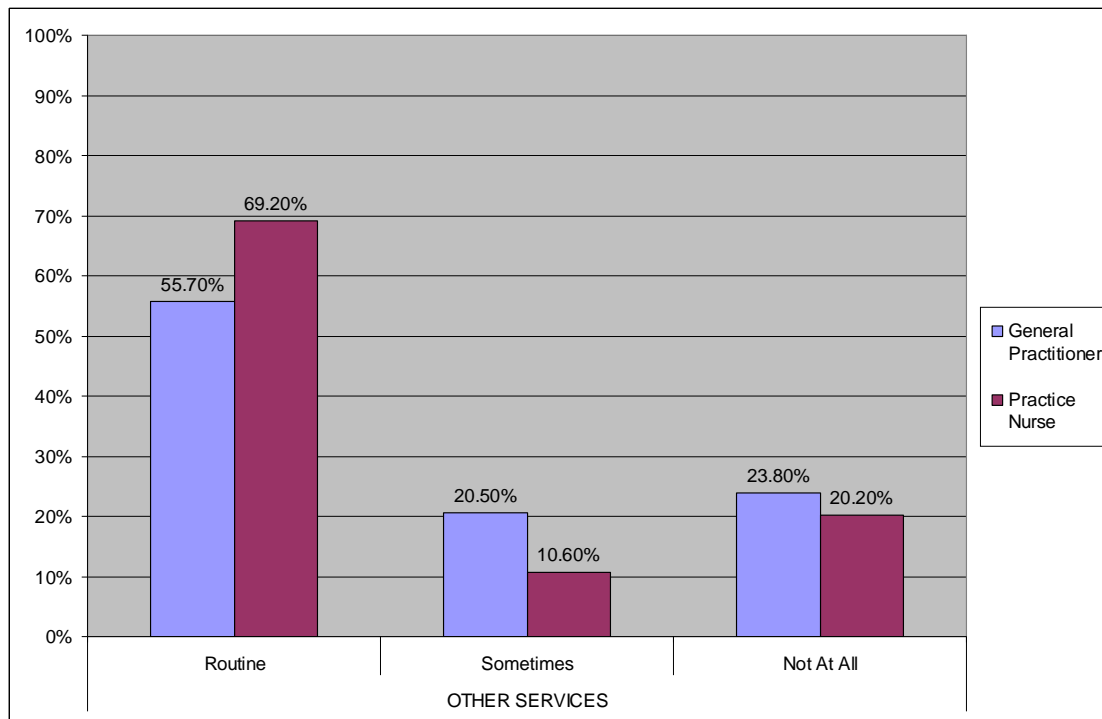
In addition to cervical screening, the Public Health Agency (NI) delivers two province-wide cancer screening programmes; Breast Screening and Bowel Cancer screening.

Breast cancer is the most common type of cancer found in women in Northern Ireland, with the risk of breast cancer increasing with age. All women between the age of 50 and 70 years are invited for mammogram. (Women over 70 years can have a mammogram on request).

A bowel cancer province-wide screening programme was launched in April 2010. The screening programme offers everyone between the age of 60 and 69 an opportunity to participate in the screening programme with test kits sent by post to all persons in the target age group who have been identified from GP registers.

As GPs and Practice Nurses are actively engaged in the national cervical screening programme and work closely with the programmes.





**Figure 11: Responses from GPs and PNs to the question “Do you actively promote other screening services?”**

The majority of GPs and Practice Nurses in this study routinely promoted active screening for cancer other than cervical cancers (see figure 11). However, 23.80% (n=29) of GPs and 20.2% (n=21) of Practice Nurse respondents did not actively promote other screening services citing lack of patient demand; lack of staff support; lack of financial resources and lack of time as the main reasons. As only a small sample completed responses relating to the reasons for not promoting participation in other screening services requires further consideration.

### 3.5.3.3 Section 2-Potential role in cancer prevention

#### 3.5.3.3.1 Empowering individuals

The six questions outlined below gauged the GPs and practice nurses' role in empowering the patient at an individual, group and community level. This empowerment would have to be based within a structured programme of coordinated and accessible cancer prevention. The findings to the questions below indicate their willingness to empower the person at all levels. Table 19 presents the responses from the GP sample.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>No Opinion</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Empowering individuals to make their own decisions about health issues	64.1% (n=177)	34.8% (n=96)	0.7% (n=2)	0.4% (n=1)	0% (n=0)
Offering advice to inform individuals about better lifestyle choices	66.8% (n=183)	32.1% (n=88)	0.7% (n=2)	0.4% (n=1)	0% (n=0)
Working with local communities to empower them to make decisions about lifestyle choices	22.3% (n=61)	39.9% (n=109)	27.1% (n=74)	8.8% (n=24)	1.8% (n=5)
Ensuring a co-ordinate cancer prevention approach within the practice?	34.4% (n=95)	54.0% (n=149)	9.1% (n=25)	2.5% (n=7)	0% (n=0)
Identifying patients at risk?	54.7% (n=155)	43.1% (n=119)	1.4% (n=4)	0.7% (n=2)	0% (n=0)
Ensuring equality of access to cancer prevention interventions?	51.6% (n=142)	40.0% (n=110)	4.7% (n=13)	1.8% (n=5)	1.8% (n=5)

**Table 19: GPs' responses to questions regarding their potential role in cancer prevention.**

Almost all GP respondents (98.9%, n=273) agreed with empowering individuals to take responsibility in making decisions regarding health issues with 64.1% (n=177) strongly agreeing to this role. Overall, 98.9% (n=271) agreed that individuals should be provided with information about better lifestyle choices with 88.4% (n=244) stating that this should be coordinated, offering equality of access to all (91.6%, n=252).

	<b>Strongly Agree</b>	<b>Agree</b>	<b>No Opinion</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Empowering individuals to make their own decisions about health issues	68.7% (149)	31.3% (68)	0% (0)	0% (0)	0% (0)
Offering advice to inform individuals about better lifestyle choices	81.5% (177)	18.0% (39)	0.5% (1)	0% (0)	0% (0)
Working with local communities to empower them to make decisions about lifestyle choices	37.5% (81)	47.7% (103)	14.4% (31)	0.5% (1)	0% (0)
Ensuring a co-ordinate cancer prevention approach within the practice?	49.1% (105)	40.2% (86)	8.4% (18)	1.9% (4)	0.5% (1)
Identifying patients at risk?	66.7% (144)	31.0% (67)	1.9% (4)	0.5% (1)	0% (0)
Ensuring equality of access to cancer prevention interventions?	63.3% (136)	30.2% (65)	6.0% (13)	0.5% (1)	0% (0)

**Table 20: Practice Nurses' responses to questions regarding their potential role in cancer prevention**

All Practice Nurse respondents (100%, n=217) felt very involved in the empowerment of the individual and the provision of advice to individuals on lifestyle choice. Overall, 85.1% (n=177) indicated that they should be involved at a local community level and 97.6% (n=211) felt that they had a duty to identify patients at risk. A high percentage (93.5%, n=201) of Practice Nurse respondents agreed to ensuring the equality of access to cancer prevention interventions.

### **3.5.3.3.2 Developing the cancer prevention role**

Eight questions were developed to explore how the health professionals' role in cancer prevention could be developed. Both GPs and Practice Nurses were invited to complete this section in order to identify areas where further development may be focused upon.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>No Opinion</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Additional inter-professional practice-based training in Cancer prevention	20.0% (n=55)	59.3% (163)	11.6% (32)	8.7% (24)	0.4% (1)
Developing the contribution of other health professional staff in strategic planning of cancer prevention within the practice environment	16.4% (n=45)	55.6% (n=153)	21.8% (n=60)	5.5% (n=15)	0.7% (n=2)
Developing the contribution of other health professional staff in cancer prevention activities within the practice environment	18.7% (n=51)	60.1% (n=164)	16.8% (n=46)	4.4% (n=12)	0% (n=0)
Developing the collaboration of other health professionals in cancer prevention activities within the practice environment	19.7% (n=54)	57.7% (n=158)	19.0% (n=52)	3.6% (n=10)	0% (n=0)
Developing the nurses collaboration of other agencies involved in cancer prevention activities within the community	19.3% (n=53)	50.5% (n=139)	25.1% (n=69)	5.1% (n=14)	0% (n=0)
Developing the nurse contribution to cancer prevention activities within the community	16.5% (n=45)	55.1% (n=150)	21.0% (n=57)	7.0% (n=19)	0.4% (n=1)
Providing additional financial incentives specifically for cancer prevention activities	22.6% (n=62)	43.1% (n=118)	23.7% (n=65)	8.4% (n=23)	2.2% (n=6)
Providing access to 'on-line' resources	18.5% (n=51)	59.3% (n=163)	17.8% (n=49)	4.0% (n=11)	0.4% (n=1)

**Table 21: GPs' responses to questions regarding their cancer prevention role**

Generally there was a very positive response to each of the eight items relating to the development of an integrative professional care service. GP respondents were in agreement that there was a need to develop the cancer prevention role with between 20% and 30% feeling that there was no need for change.

Overall, 79.3% (n=218) were supportive of additional inter-professional practice-based training with 72% (n=198) advocating a link into a strategic plan at a practice level. In total, 78.8% (n=215) felt that the contribution of other staff could be developed with 77.4% (n=212) stating that this required better collaboration. Overall, 69.8% (n=192) were in favour of establishing better links with agencies outside of the practice setting in order to promote cancer prevention. A large percentage (71.6%, n=195) of GP respondents felt that nurses could play a more active role in promoting cancer

prevention in the community. Over 65% (n=180) of respondents still felt that funding was an issue and 77.8% (n=214) felt that better online access to cancer prevention resources would help develop their role.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>No Opinion</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Additional inter-professional practice-based training in Cancer prevention	52.3% (n=112)	43.5% (n=93)	2.8% (n=6)	1.4% (n=3)	0% (n=0)
Developing the contribution of other health professional staff in strategic planning of cancer prevention within the practice environment	35.0% (n=75)	50.5% (n=108)	11.7% (n=25)	2.8% (n=6)	0% (n=0)
Developing the contribution of other health professionals in cancer prevention activities within the practice environment	31.9% (n=68)	57.7% (n=123)	8.5% (n=18)	1.9% (n=4)	0% (n=0)
Developing the collaboration of other health professionals in cancer prevention activities within the practice environment	31.1% (n=66)	59.9% (n=127)	7.5% (n=16)	1.4% (n=3)	0% (n=0)
Developing the nurses collaboration of other agencies involved in cancer prevention activities within the community	32.1% (n=68)	51.4% (n=109)	13.2% (n=28)	3.3% (n=7)	0% (n=0)
Developing the nurse contribution to cancer prevention activities within the community	34.3% (n=73)	47.4% (n=101)	14.6% (n=31)	3.8% (n=8)	0% (n=0)
Providing additional financial incentives specifically for cancer prevention activities	38.5% (n=82)	35.7% (n=76)	19.7% (n=42)	6.1% (n=13)	0% (n=0)
Providing access to 'on-line' resources	33.8% (n=72)	53.1% (n=113)	10.8% (n=23)	2.3% (n=5)	0% (n=0)

**Table 22: Practice Nurses' responses to questions regarding their cancer prevention role**

Overall, 95.8% (n=205) of Practice Nurse respondents indicated that the development of cancer prevention could be improved through additional practice based training with more collaborative (91% 193) and strategic inter-professional working (85.5% 183). In total, 81.7% (n=174) of Practice Nurse respondents agreed with the involvement of Practice Nurses in community based cancer prevention strategies and 83.5% (n=177) advocated the involvement of other like-minded agencies. This required the provision of additional resources and could be developed through access to online resources.

### 3.5.3.3.3 Self-efficacy in cancer prevention

Three items were included in the questionnaire aimed to gauge the health professional's willingness to motivate patients to take control of their lifestyles in a positive manner in order to promote cancer prevention.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>No Opinion</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
GPs can motivate patients to live a more healthy lifestyle	32.1% (n=89)	62.5% (n=173)	2.9% (n=8)	2.2% (n=6)	0.4% (n=1)
GPs play an important role in cancer prevention	35.7% (n=99)	56.0% (n=155)	5.8% (n=16)	2.5% (n=7)	0% (n=0)
GPs can contribute to changing patients attitude to cancer prevention	29.5% (n=81)	66.2% (n=182)	4.0% (n=11)	0.4% (n=1)	0% (n=0)

**Table 23: GPs' responses to questions regarding encouraging self-efficacy in cancer prevention**

The promotion of self-efficacy among patients by GP respondents was considered important. On average, more than nine out of every ten GP in the sample agreed that they were able to motivate and change a patient's lifestyle and that they have an important role in doing so (see Table 23). Nonetheless, between 0.4% (n=1) and 2.5% (n=7) disagreed that it was their responsibility to perform this role.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>No Opinion</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Practice Nurses can motivate patients to live a more healthy lifestyle	62.8% (n=135)	36.7% (n=79)	0% (n=0)	0.5% (n=1)	0% (n=0)
Practice Nurses play an important role in cancer prevention	55.3% (n=119)	42.3% (n=91)	1.9% (n=4)	0.5% (n=1)	0% (n=0)
Practice Nurses can contribute to changing patients attitude to cancer prevention	54.4% (n=117)	43.3% (n=93)	2.3% (n=5)	0% (n=0)	0% (n=0)

**Table 24: Practice Nurses' responses to questions regarding encouraging self-efficacy in cancer prevention**

Overall, 99.5% (n=214) of Practice Nurse respondents agreed that they could motivate patients to live a more healthy lifestyle with 97.6% (n=210) believing that they have an important role in cancer prevention. Almost all (97.7%, n=210) Practice Nurse

Respondents indicated that they felt they had a contribution to make to changing patients attitudes to cancer prevention.

#### 3.5.3.3.4 Feasibility of practice in cancer prevention

Feasibility was deemed to include time and opportunity to provide cancer prevention activities and the role that targets and priorities play in promoting or limiting this role.

GPs were asked to rate the feasibility of providing cancer prevention activities.

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
GPs have the time to perform cancer prevent	2.6% (n=7)	41.0% (n=110)	9.2% (n=25)	38.7% (n=105)	8.5% (n=23)
GPs have the opportunity to perform cancer prevention	15.7% (n=43)	72.6% (n=199)	5.8% (n=16)	5.1% (n=14)	0.7 (n=2)
Health priorities and targets mitigate against a focused approach to cancer prevention activity	17.5% (n=48)	43.8% (n=120)	22.6% (n=62)	15.3% (n=42)	0.7% (n=2)

**Table 25: GPs' responses to questions regarding the practical feasibility of cancer prevention**

Overall, 47.2% (n=128) of GP respondents indicated that they felt they did not have time to perform a cancer prevention role; however, 88.3% (n=242) still felt that they had the 'opportunity' to do so. Over half the sample (61.3%, n=168) indicated that health priorities and targets mitigated against providing cancer prevention activities.

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
Practice Nurses have the time to perform cancer prevent	5.2% (n=11)	45.5% (n=97)	5.2% (n=11)	39.9% (n=85)	4.2% (n=9)
Practice Nurses have the opportunity to perform cancer prevention	22.0% (n=47)	63.1% (n=135)	2.8% (n=6)	11.2% (n=24)	0.9% (n=2)
Health priorities and targets mitigate against a focused approach to cancer prevention activity	15.2% (n=32)	52.6% (n=111)	20.9% (n=44)	10.4% (n=22)	0.9% (n=2)

**Table 26: Practice Nurses' responses to questions regarding the practical feasibility of cancer prevention**

Overall, 44.1% (94) of Practice Nurse respondents indicated that they did not have time to perform a cancer prevention role while 85.1% (182) felt that they had the opportunity to do so. Over half (67.8%, n=143) of Practice Nurse respondents believed that health priorities and targets mitigated against providing cancer prevention activities.

### 3.5.3.3.5 Perceived responsibility in cancer prevention

GPs were asked about their perceptions concerning cancer prevention activities.

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
GPs should try and provide cancer prevention	29.3% (n=81)	63.4% (n=175)	3.6% (n=10)	3.6% (n=10)	0% (n=0)
GPs spend too much time on the treatment of cancer rather than providing cancer prevention	4.0% (n=11)	20.8% (n=57)	26.3% (n=72)	45.6% (n=125)	3.3% (n=9)
GPs have a responsibility to screen high-risk cancer groups	14.9% (n=41)	52.5% (n=145)	17.4% (n=48)	12.0% (n=33)	3.3% (n=9)

**Table 27: GPs' responses to questions regarding their perceived role in cancer prevention**

Overall, 92.7% (n=256) of GP respondents were very positive about their responsibility for providing cancer prevention with 67.4% (n=186) indicating that they had a responsibility to screen high risk cancer groups. Less than half of the sample (48.9%, n=134) disagreed that they spent too much time on the treatment of cancer rather than providing cancer prevention interventions.

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
Practice Nurses should try and provide cancer prevention	50.7% (n=108)	47.9% (n=101)	1.4% (n=3)	0% (n=0)	0% (n=0)
Practice Nurses spend too much time on the treatment of cancer rather than providing cancer prevention	8.9% (n=19)	17.8% (n=38)	17.4% (n=37)	52.1% (n=111)	3.8% (n=8)
Practice Nurses have a responsibility to screen high-risk cancer groups	22.8% (n=49)	52.1% (n=112)	12.6% (n=27)	11.6% (n=25)	0.9% (n=2)

**Table 28: Practice nurses' responses to questions regarding their perceived role in cancer prevention.**



Almost all (98.6%, n=209) of Practice Nurse respondents indicated that they felt that they should try and provide cancer prevention strategies and 26.7% (n=57) felt that they spent too much time on the treatment of cancer rather than cancer prevention. A high percentage (74.9%, n=161) of Practice Nurse respondents also highlighted that they felt they had a responsibility to screen high-risk cancer groups.

### 3.5.3.3.6 Perceived knowledge in cancer prevention

With regard to perceived knowledge in cancer prevention, three items gauged the current knowledge base of GPs and Practice Nurses. These items examined current knowledge levels, the requirement for further up-to-date information and the participants' confidence in their ability to change patients' opinions.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>No Opinion</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
I have sufficient knowledge to educate clients about cancer prevention	11.3% (n=31)	63.3% (n=174)	15.3% (n=42)	9.1% (n=25)	1.1% (n=3)
I require up-to-date information on cancer prevention strategies	10.9% (n=30)	54.7% (n=151)	17.0% (n=47)	16.7% (n=46)	0.7% (n=2)
I require a better understanding of how to change opinions regarding cancer prevention	6.9% (n=19)	53.1% (n=146)	20.7% (n=57)	17.5% (n=48)	1.8% (n=5)

**Table 29: GPs' responses to questions regarding their perceived knowledge in cancer prevention**

Overall, 74.6% (n=205) of GP respondents indicated that they had sufficient knowledge to educate clients about cancer prevention yet over half (n=65.6%, 181) felt that they themselves required up-to-date information on cancer prevention strategies. In total, 60% (n=165) of GP respondents indicated that they required a better understanding of the process of changing patients opinions and behaviours.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>No Opinion</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
I have sufficient knowledge to educate clients about cancer prevention	4.7% (n=10)	54.0% (n=116)	7.0% (n=15)	33.5% (n=72)	0.9% (n=2)
I require up-to-date information on cancer prevention strategies	32.9% (n=71)	58.3% (n=126)	2.3% (n=5)	6.5% (n=14)	0% (n=0)
I require a better understanding of how to change opinions regarding cancer prevention	27.6% (n=59)	56.5% (n=121)	6.5% (n=14)	8.9% (n=19)	0.5% (n=1)

**Table 30: Practice Nurses' responses to questions regarding their perceived knowledge in cancer prevention**

Over half (58.7%, n=126) of Practice Nurse respondents felt that they had sufficient knowledge to educate clients in cancer prevention; however, 34.4% (n=74) stated that this was not the case. A high percentage (91.2%, n=197) indicated a requirement for up-to-date information on cancer prevention with 84.1% (n=180) maintaining that they felt they required a better understanding of how to change opinions regarding cancer prevention.

### 3.5.3.3.7 Perceived acceptability in cancer prevention

GPs and Practice Nurses were asked to provide insight into the willingness and capacity of patients to change their opinions.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>No Opinion</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Patients are very set in their ways and do not want to change	4.0% (n=11)	36.3% (n=101)	11.9% (n=33)	46.8% (n=130)	1.1% (n=3)
Patients do not like the GP to meddle in their private life	2.5% (n=7)	16.2% (n=45)	15.5% (n=43)	62.5% (n=173)	3.2% (n=9)
Patients do not approach their GP for advice on cancer prevention	1.8% (n=5)	25.7% (n=71)	8.7% (n=24)	62.0% (n=171)	1.8% (n=5)
GPs may increase anxiety in the patient population by undertaking cancer prevention activities	2.5% (n=7)	32.9% (n=91)	15.5% (n=43)	45.5% (n=125)	4.0% (n=11)
After consultation with a client on cancer risk, I don't think they will follow my recommendation	2.2% (n=6)	11.2% (n=31)	32.1% (n=89)	51.3% (n=142)	3.2% (n=9)

**Table 31: GPs' responses to questions regarding their perceived role in changing patients' opinions about cancer prevention**

Results would suggest that GP respondents appear ambivalent as to whether they could alter a patient's lifestyle, with 40.3% (n=112) agreeing and 47.9% disagreeing that patient's behaviours are established and difficult to change. However, overall, 63.8% (n=176) believed that patients found them a valuable source of information relating to cancer prevention.

Thirty five percent (35.4%, n=98) felt that, if they took proactive approach to cancer prevention with patients, this would cause an increase in patient anxiety. However, a much larger number 49.5% (n=136) disagreed. Nevertheless, 54.5% (n=151) of GPs in the sample indicated that, if they provided advice on the risk of cancer, such advice would be followed.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>No Opinion</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Patients are very set in their ways and do not want to change	3.3% (n=7)	30.3% (n=64)	6.1% (n=13)	58.5% (n=124)	1.9% (n=4)
Patients do not like the Practice Nurse to meddle in their private life	1.9% (n=4)	7.5% (n=16)	9.9% (n=21)	73.6% (n=156)	7.1% (n=15)
Patients do not approach their Practice Nurse for advice on cancer prevention	3.3% (n=7)	22.0% (n=47)	3.7% (n=8)	61.7% (n=132)	9.3% (n=20)
Practice Nurses may increase anxiety in the patient population by undertaking cancer prevention activities	2.3% (n=5)	11.7% (n=25)	4.2% (n=9)	67.8% (n=145)	14.0% (n=30)
After consultation with a client on cancer risk, I don't think they will follow my recommendation	0.5% (n=1)	8.0% (n=17)	12.7% (n=27)	74.2% (n=158)	4.7% (n=10)

**Table 32: Practice Nurses' responses to questions regarding their perceived role in changing patients' opinions about cancer prevention**

Overall, 60.4% (n=128) of Practice Nurse respondents indicated that patients were receptive to change with over 80% (n=171) feeling that patients did not mind the Practice Nurse contributing to lifestyle changes. In total, 71% (n=152) maintained that patients would approach them seeking advice on cancer prevention. Over eighty one percent (81.8%, n=175) did not agree that engaging in cancer prevention activities caused increased anxiety in patients. In fact, 78.9% (n=168) of Practice Nurse respondents

believed that if they provided advice on the risk of cancer, such advice would be followed.

## **3.6 Stage 1-Postal Survey: Findings**

### **3.6.1 Context**

#### **3.6.1.1 Interventions relating to the prevention of cancer are largely inter-dependent and not cancer-specific**

In using the European Code against Cancer (ECAC) as the framework for the questionnaire, it is recognised that all elements delivered in combination represent a comprehensive approach to cancer prevention. With the exception of smoking interventions (and the primary, direct link to lung cancer), elements of the ECAC require to be delivered in conjunction with others to optimise the preventative potential and are, in most cases, interdependent. For example, increasing physical activity assists in the reduction of obesity which requires the adoption of a healthy diet. It is also accepted that multiple elements are often present and require to be addressed by clinicians, for example, smoking associated with alcohol consumption significantly increases the risk of cancer (Menvielle *et al.*, 2004; Hashibe *et al.*, 2007, Pelucchi *et al.*, 2008)

It is also acknowledged that the elements of the ECAC are not cancer-specific. Indeed, the World Health Organisation (2007) advise that cancer prevention must be considered in association with activities being undertaken to prevent other chronic diseases, especially those chronic diseases that share common risk factors with cancer, such as diabetes; cardiovascular disease; alcohol abuse and chronic respiratory diseases. For example, the primary risk factors for cancer are largely the same as those for coronary heart disease (CHD) – smoking and poor diet; (NHS Cancer Plan, 2000). The World Health Organisation Action Plan for the Global Strategy for the Prevention and Control of Noncommunicable Diseases (2008) incorporates cardiovascular disease; cancer and chronic respiratory disease, and identifies the main shared modifiable risk factors as tobacco use; unhealthy diets; physical inactivity and the harmful use of alcohol. The promotion of the elements of the ECAC therefore plays not only a critical role in the prevention of cancer but also in improving the general health of the population – this may have influenced the responses.

### **3.6.1.2 The influence of the Quality and Outcomes Framework on service delivery**

The Quality and Outcomes Framework (QOF) for GPs in the UK may also have influenced the responses. As alluded to above, the QOF provides a mechanism for improving the quality of services and for rewarding GPs financially for the achievement of quality standards. The QOF contains groups of indicators, against which practices score points according to their level of achievement. The higher the score, the higher the financial reward for the practice.

The QOF framework comprises four domains, each containing a range of areas described by key indicators. The indicators describe different aspects of performance. The four domains are: Clinical Domain; Organisational Domain; Patient Experience Domain and Additional Services Domain.

Within the Clinical Domain, the QOF maintains the notional separation of risk factors recording cancer; cardiovascular disease; coronary heart disease; obesity and smoking as discreet elements.

(A full overview of the QOF is provided within the literature review- see page 22)

## **3.6.2 Interpretation of Findings**

### **3.6.2.1 Section 1: Actual role in cancer prevention**

The data indicates a strong correlation between the activities of the GP and the Primary Care Nurse, with both cohorts showing 'smoking' and 'cervical screening' as the elements with the highest response rate and activities associated to 'UV-Rays' as the activity with the lowest response rate. (A section of the new Skin Cancer Strategy (2011) looks at training on this issue). It is of note that 85% of respondents in the nursing cohort identified themselves as 'Practice Nurses', a staff group employed directly by GPs to support the delivery of services within the practice, primarily involved in chronic disease management. The employer-employee relationship will directly influence activities undertaken by Practice Nurses and this may explain the strong correlation across the finding between the two staff groups.

The data indicates that Practice Nurses spend more time than GPs on many of the ECAC elements. GPs typically allocate a consultation time of 10 minutes to each patient while Practice Nurses typically allocate a 20 minute consultation time. This may explain the variation in time spent on ECAC activities between the two staff groups.

### **3.6.2.1.1 Cancer prevention services provided by GPs and Practice Nurses**

#### **3.6.2.1.1.1 Provision of written information related to cancer prevention**

While the majority of the GPs and Practice Nurses in this study routinely provided written information related to cancer prevention, less than one third routinely provide written information in a language other than English. A lack of patient demand for such services was cited as the main reason.

The population demographic in Northern Ireland has changed dramatically over the last decade, particularly since the accession of eight Central and Eastern European Countries in May 2008 (referred to as A8 countries). The Northern Ireland Cancer Network (NiCAN) provides a list of some 24 ethnic minority community organizations in Northern Ireland). Although a downward trend in net migration is reported, it is estimated that some 80,000 persons born outside the UK and Ireland were living in Northern Ireland in 2010, of which some 39,000 from the A8 countries. (NISRA, 2010)

The spread of non-nationals throughout Northern Ireland is inconsistent, with non-nationals tending to live within specific geographical areas. For example, A8 nationals represent some 8% of the population in Dungannon Local Government District but less than 0.5% of the population in Larne Local Government District (NISRA, 2010). This uneven distribution of non-nationals throughout the province may explain the absence of non-nationals in the catchment population of respondents and this may validate the stated reason of 'lack of demand'. However, the requirement to ensure equitable access to cancer prevention services needs to be considered further.

#### **3.6.2.1.1.2 Provision of services for people with 'special needs'**

The majority of respondents (both GPs (69%) and Practice Nurses (67.5%)) indicated that they do not provide services relating to cancer prevention specifically designed for patients with special needs. A lack of demand for such services was cited as the main

reason for not doing so. 'Special Needs' incorporates a range of conditions that may negatively impact on a person's capacity to seek out or understand information relating to cancer prevention. The number of persons that have 'special needs' within Northern Ireland is difficult to identify but will include persons with Learning Disabilities (8,071) and dementia (10,637) (QOF, 2010). It is estimated that 2% of the population has a learning disability – over 33,000 people in Northern Ireland. The Bamford Review indicated that the numbers of people with a learning disability was likely to increase, drawing attention to the assumption being made in England of a 1% growth in population per year for the next 15 years (All Party Assembly Group on Learning Disability, 2010).

Both Mental Health and Learning Disability are elements within the clinical domain of the Quality and Outcomes framework.

### **3.6.2.1.3 Reasons for Not Providing Cancer Prevention Activities**

#### **3.6.2.1.3.1 Demand for Service Provision**

The data indicate that a number of respondents do not provide some cancer prevention activities citing a 'lack of demand' (written information; obesity; physical activity; diet; alcohol; UV-Rays); 'lack of time' (Alcohol; UV-Rays); 'lack of resources' (obesity) and 'lack of staff support' (smoking).

'Lack of Demand' is the most frequently stated reason for not providing cancer prevention services in all the elements of the ECAC and requires further discussion. To cite 'lack of demand' as the reason for not providing information on the link between the remaining elements of the ECAC and cancer indicates a presumption that the patient population is aware of the link but does not seek further information. The level of awareness of the link between the elements of the ECAC and cancer in the general public (with the exception of the widely publicized link between smoking and cancer) is open to question. Furthermore, according to Keeney et al (2010) the general public's knowledge with regards to cancer prevention and awareness is low. This would suggest that primary care needs to develop a more proactive approach to addressing this issue.



#### **3.6.2.1.3.2 Cancer prevention services relating to smoking**

The QOF requires the initial (and ongoing assessment) of an individual's smoking status and the response rate from both cohorts reflects this focus.

Almost all GPs and Practice Nurses enquired about a patient's smoking status, with the primary form of assistance offered being brief advice delivered by Practice Nurses. Where such support clinics were not provided, the lack of staff support was stated as the main reason for not doing so.

#### **3.6.2.1.3.3 Cancer prevention services relating to obesity**

The management of obesity is a discreet intervention in the QOF clinical domain and 174,180 persons are recorded on the Obesity Register in Northern Ireland (NISRA, 2010)

While the majority of GPs and Practice Nurses in this study routinely measured the BMI of patients, a significant percentage (37.3% of GPs, and 48.8% of Practice Nurses) did not provide information on the relationship between obesity and cancer. This suggests that the activities in relation to obesity within General Practice are focused primarily on the management of chronic disease and promotion of a healthy lifestyle rather than on the link between obesity and cancer.

Weight management clinics are only provided in approximately half of the GP practices with lack of resource and lack of patient demand proffered as the main reason for not doing so.

#### **3.6.2.1.3.4 Cancer prevention services relating to Physical Activity**

In the study, while approximately half of GPs (55.8%) routinely enquired about a patient's physical activity, Practice Nurses were significantly more engaged in enquiring about this, with 84.9% (n=185) doing so routinely. However, 51.5%, and 28% of Practice Nurses did not provide any information linking physical activity and cancer. A lack of patient demand for this information was cited as the main reason.

#### **3.6.2.1.3.5 Cancer prevention services relating to Diet**

While approximately half of GPs (55.4%) in this study routinely enquired about a patient's diet, Practice Nurses were, once again, significantly more engaged in this activity with 82.5% doing so routinely. Approximately one third of GPs (32.1%) and more than half (53.9%) of Practice Nurses in this study did not provide any information linking diet and cancer. Again, a lack of patient demand for this information was cited as the main reason.

#### **3.6.2.1.3.6 Cancer prevention services relating to Alcohol**

Most GPs (71.7%) and Practice Nurses (79.4%) enquired about a patient's alcohol consumption.

Approximately one third of GPs (35.4%) and just under half of the Practice Nurses (45.6%) stated that they did not provide any information to patients linking alcohol and cancer. A lack of time and a lack of patient demand for this information were cited as the main reason.

#### **3.6.2.1.3.7 Cancer prevention services relating to Sun Exposure**

The low response rate to the dangers of 'UV-Rays' is of note. Ultraviolet radiation is a Class 1 carcinogen and skin cancer is the most common cancer in the UK (Cancer Research UK, 2010). Therefore, the low level of response to this is of interest. This is of particular significance given the fact that the incidence of skin cancer has been rising in recent years, and it is now the most common form of cancer in Northern Ireland. During the period 2003-2007, an average of 2750 new cases were diagnosed annually – around 233 of which were malignant melanomas, the most serious type of skin cancer. The main preventable factor for skin cancer in the indigenous population of Northern Ireland is excess exposure to ultraviolet radiation (UVR), the principal source of which is the sun. According to the recent Skin Cancer and Prevention Strategy for Northern Ireland the popularity and accessibility of travel to foreign countries and increased use of sunbeds have undoubtedly contributed to the recent rises in the disease (DHSSPS, 2011).

Only 17.9% of GPs and 20.3% of Practice Nurses would routinely ask about the patient's potential exposure to sun although the majority of informants indicated that they would do so 'sometimes'. Only a small number of respondents GPs 39.5% and of Practice Nurses (16.7%) indicate that they provide relevant literature, with both cohorts citing a lack of patient demand and lack of time as the main reasons for not doing so.

#### **3.6.2.1.3.8 Cancer prevention services relating to Screening**

The QOF identifies 'cervical screening' as an 'additional service'. The high response rate to 'cervical screening' is as expected. A national programme for cervical screening is well established in Northern Ireland, with all women between the age of 25 and 49 years offered screening every three years and women between the age of 50 to 64 years offered screening every 5 years. In Northern Ireland, 76.79% of women eligible for cervical screening (n=466,725) had participated in the NI Cervical Screening Programme (Public Health Agency, 2010).

The provision of cervical screening services to women is largely a routine procedure with most GPs and Practice Nurses promoting it, supported by the provision of services and information of the benefits of cervical screening.

#### **3.6.2.1.3.9 Cancer prevention services relating to other screening programmes**

Approximately 20% of GPs and Practice Nurses did not actively promote other screening services, citing lack of patient demand; lack of staff support; lack of financial resources and lack of time as the main reasons.

### **3.6.2.2 Section 2: Potential role in cancer prevention**

#### **3.6.2.2.1 Empowering individuals**

Almost all GPs and Practice Nurses agreed with empowering individuals to take responsibility for making decisions regarding health issues and that individuals should be provided with information about better lifestyle choices.

Almost all GPs (91.6%) and Practice Nurses (93.5%) agreed that equality of access to cancer prevention interventions was important, however, it is of note that the majority of

respondents did not provide services specifically designed for persons with 'special needs'

#### **3.6.2.2.2 Developing the cancer prevention role**

The majority of GPs and Practice Nurses were in agreement that there was a need to develop the cancer prevention role, and supportive of additional inter-professional practice based training with 72% advocating a link into a strategic plan at a practice level, stating that this required better collaboration. However, only 26% of GPs had a 'lead responsibility' for cancer within the practice. Effective development of a strategic, collaborative approach to cancer prevention would require leadership at a local level.

While the majority of GPs felt that nurses could play a more active role in promoting cancer prevention in the community, they maintained that this required the provision of additional resources.

#### **3.6.2.2.3 Self-efficacy in cancer prevention**

Both GPs and Practice Nurses agreed that they could motivate patients to live more healthy lifestyles, believing that they have an important role in cancer prevention and that they had a contribution to make to changing patients' attitudes to cancer prevention.

#### **3.6.2.2.4 Feasibility of practice in cancer prevention**

Both GPs and Practice Nurses felt that they had an opportunity to perform a cancer prevention role but that this was significantly limited by the time available to them. The requirement to meet the requirements of QOF mitigated against providing cancer prevention activities.

#### **3.6.2.2.5 Perceived responsibility in cancer prevention**

The majority of GPs and Practice Nurses were very positive about their responsibility to provide cancer prevention, indicating that they had a responsibility to screen high risk cancer groups. Just under a quarter (24.8%) of GPs and 26.7% of Practice Nurses agreed that they spent too much time on the treatment of cancer rather than providing cancer prevention interventions.

#### **3.6.2.2.6 Perceived knowledge in cancer prevention**

Overall, 74.6% of GPs indicated that they felt confident to educate clients about cancer prevention with 58.7% of Practice Nurses indicating that they had sufficient knowledge to educate clients in cancer prevention. However, both cohorts indicated a requirement for up-to-date information on cancer prevention.

Both GPs and Practice Nurses indicated that they required a better understanding of the change process.

#### **3.6.2.2.7 Perceived acceptability in cancer prevention**

The majority of GPs and Practice Nurses indicated that patients were receptive to change, would follow advice on the risk of cancer and that patients were not set in their ways and resistant to change. This view reflects the perception of Practice Nurses who also believed that patients would approach their General Practitioner for advice on cancer prevention.

The positive response to questions relating to perceived acceptability in cancer prevention challenges the oft stated response that services were not provided due to a lack of demand. The apparent conflict in responses requires to be considered further.

A minority of GPs (35.4%) of GPs felt that, if they took proactive approach to cancer prevention with patients, this would cause an increase in patient anxiety. However, this was outweighed by the 49.5% of GPs and 81.8% of Practice Nurses who did not agree that engaging in cancer prevention activities caused increased anxiety in patients.

### **3.7 Stage 2: One-to-one interviews**

Twenty eight one-to-one interviews were conducted with fifteen GPs and fifteen Primary Care Nurses. Interviewees were selected from the returned postcards indicating a willingness to participate in Stage 2. Returned postcards were grouped according to Health and Social Care Trust and participants were identified within each of the five trusts in Northern Ireland.

The interview process provided the opportunity to expand further on the findings of stage one and to explore more broadly how interviewees perceived the role of GPs and

Primary Care Nurses in cancer prevention and how this role could be further developed. The interviews also addressed issues relating to self-efficacy and the professionals' willingness and ability to motivate patients to take control of their lifestyles in a positive manner to promote cancer prevention. Issues relating to the time and opportunity to provide cancer prevention activities and the role that targets and priorities play in promoting or limiting this role were also discussed. Current knowledge levels and the requirement for further up-to-date information were also explored.

Prior to interview, the research aims and objectives were discussed with each participant and consent to interview formally recorded. Each interview was recorded and subsequently transcribed for content analysis, using the three-stage approach to data analysis suggested by Strauss and Corbin (1990).

### **3.7.1 Findings**

The main findings from the interviews are presented under themed headings, using quotations to illustrate each point

#### **3.7.1.1 Actual role in cancer prevention in primary care**

Discussion of the role of GPs and Primary Care Nurses in the prevention of cancer has identified a number of issues impacting directly on cancer prevention in the primary care setting.

##### **3.7.1.1.1 Cancer Prevention Role**

Whilst the interviewees indicated a broad agreement that cancer prevention is considered to be an important part of the role of both the GP and the Primary Care Nurse, the evidence suggests that cancer prevention is subsumed within the delivery of primary health care. The following responses from GP interviewees are indicative:

*“we are generalists by our very nature. You are talking about cancer, you are talking about cardiovascular, you are talking about other risks factors and I think you try and look at this multi-factorial approach” (GP2)*

*I mean, we'll send for our smokers in relation to COPD, but it's not really cancer related. (GP3)*

Primary Care Nurse interviewees supported this position, stating:

*“smoking prevention is one of the problems that we look at as far as helping to reduce the incidence of somebody developing cancer, but it’s only just one of the aspects that we would like look. I suppose we would take into consideration, any other factors as well, if they were obese, or if they had any other chronic conditions, like COPD, or asthma, or anything else” (NI3)*

*“I would perceive it (cancer prevention) to be an extremely important role. However, I do think that there’s certain – at the minute it’s really the GP contract and we’re looking at certain areas such as diabetes, mainly because there’s financial enticement, you know, towards achieving certain standards and targets in those areas. So that would be the main focus, asthma, diabetes, COPD” (NI6)*

### **3.7.1.1.2 Smoking cessation interventions**

As indicated in Stage 1 questionnaires, the primary intervention specifically aimed at cancer prevention are consistently reported by interviewees to be related to smoking cessation.

*“I think it’s also partly driven by our indicators, our QOF - quality and outcome framework has built into it, an incentive to establish everybody’s smoking status, if they smoke, establish it every 18 months you have to keep asking them and keep recording them”. (GP4)*

*“The big thing that we would advocate is smoking cessation. That’s the main cancer causing drug as such, so all our patients are actively encouraged to stop smoking” (GP11)*

*“a big thing is asking people’s smoking status and things, so that would obviously be a big thing for the cancer prevention” (NI13)*

*“information, up-dating people’s smoking habits and whether you give smoking cessation advice, hits all areas in the GP contract.*

However, one Primary Care Nurse interviewee indicated that withdrawal of resources has had a negative impact on her capacity to deliver smoking cessation interventions, stating:

*“Well, we had run a very successful – I had run a very successful stop smoking clinic. We had the highest rate, in the xxxxx Board, of success. It was the highest, and because the funding was taken away, we don’t provide that any more, and I think that’s terrible. I do really, but that’s a lack of resources. So I don’t provide that any more” (NI8)*

### 3.7.1.1.3 Relative Risk

Why cancer interventions related to smoking cessation have a higher focus than other elements of the European Code against Cancer (ECAC) was explored with interviewees who indicate the requirement to assess the potential risk of activities causing cancer.

When comparing the relative risks of smoking causing cancer and sun exposure causing cancer, GP interviewees suggested that:

*“The smokers are going to die because of their habits. Not half the people who go to Spain on holidays are going to die because they went to Spain” (GP1)*

*“I don’t think you say to somebody, you’re overweight – you run the risk of getting cancer. I think that’s not something that flows well during the consultation, and to be fair, you, or me, or anybody cannot tell anybody what they will develop. You can only talk about relative risks of things” (GP4)*

When comparing the relative risks of smoking causing cancer and obesity causing cancer, a Primary Care Nurse interviewee suggested that:

*“We would probably target more the smoking, to reduce the cancer impact, rather than the weight reduction” (NI1)*

The relative risk of smoking causing cancer was also highlighted by other interviewees:

*“Because it’s the nastiest habit and it causes more – I just feel it causes more illness and is a bigger cancer risk than some of the other things” (GP8)*

*“No matter what disease, or chronic disease they may have, or may hopefully not get – smoking would be one of the main risk factors. I try to get them to reduce their smoking” (NI1)*

### 3.7.1.1.4 European Code against Cancer

It is evident that, with the exception of smoking related interventions, the link between many elements of the European Code against Cancer (2003) and the potential to develop cancer is not addressed by the majority of interviewees.

When further exploring the clinicians’ interventions associated to the relationship between alcohol, physical activity, diet and cancer, interviewees also indicated that the



focus of intervention was on more immediate clinical concerns. This suggests that the longer term potential for developing cancer was less of a concern both to the clinician and to the patient.

For example, when discussing issues relating to obesity, GP interviewees indicate that the primary concerns are focussed on more immediate clinical issues, stating:

*“These (obese) patients, you would be looking at diabetes and hypertension – they are the two primary focuses there. Cancer – no. Unless the patient brought it up. It really wouldn’t be in the forefront” (GP11)*

*“yes, there is a link between obesity and some forms of cancer, whether it be a man or woman type thing, but if it’s not – for me, it’s not top of the list. Diabetes is at the top of the list” (GP12)*

Primary Care Nurse interviewees presented a similar focus, stating:

*“It’s not the first message – reduce your weight because there’s potential that you could get cancer, because you’re overweight..... trying to get people to change their lifestyle in trying to get them to reduce weight or things like that there. But I wouldn’t necessarily be thinking cancer would be my first thing in all this, except obviously the smoking” (NI1)*

*“As far as obesity is concerned, we would be looking at probably them developing diabetes through their obesity, or their general health being affected if they didn’t lose weight with physical activity levels being reduced and I suppose their overall lifestyle would be impaired because of their obesity” (NI3)*

The importance of moderating alcohol intake, consuming a nutritious diet and taking some form of physical exercise is addressed by participating clinicians; however, this is primarily in the context of promoting a healthy lifestyle. As suggested by Primary Care Nurse interviewees:

*“most of the work that we do, would be more lifestyle. Even with the smoking cessation, I would explain to people that it’s not just a matter of stopping smoking, you have to increase your activity. You have to change your lifestyle, reduce your alcohol level – things like that” (NI1)*

*“We would be using the healthy lifestyle as model, to prevent cancer” (NI11)*

The requirement for explicit cancer prevention interventions was questioned by two GP interviewees who suggest that the focus on healthier lifestyles was, in effect, achieving the objective of more overt cancer prevention strategies, stating:

*“I suppose you could argue that, because we are addressing it, we are addressing obesity, then the outcome should be the same, you know, no matter what the link is” (GP10)*

*“good healthy living advice is, in itself, preventative in terms of cancer” (GP6)*

It is also of note that patients frequently present with multiple issues, often encompassing many of the discrete elements of the European Code against Cancer and this also influences the focus on cancer prevention. As one GP interviewee explains:

*“we see people here running with four or five chronic illnesses, do you know. Maybe there’re not thinking of cancer. They’re thinking of keeping everything else on, you know, you have your COPD, then the diabetic and they’re overweight, and as you say, they’re anxious, they’re depressed. They want to go to counselling, you know. It’s prioritising a lot of that, and I suppose cancer prevention drops down when you have a lot of co-morbidity” (GP6)*

#### **3.7.1.1.5 Quality Outcomes Framework**

It is also apparent that the primary focus of interventions by GP (and Primary Care Nurses in particular) is closely associated to the requirements of the Quality Outcomes Framework (QOF).

The QOF provides a mechanism for improving the quality of services and for rewarding GPs financially for the achievement of quality standards. The QOF contains groups of indicators, against which practices score points according to their level of achievement. The higher the score, the higher the financial reward for the practice. A major focus of the QOF is the management of chronic diseases within a practice - this dictates that the GP employs the Primary Care Nurse primarily to address this requirement.

At each patient consultation, the QOF displays a series of ‘prompts’, based on clinical information stored on the GP’s computer. There is a requirement for the GP to respond to each ‘prompt’, dictating that a significant proportion of consultation time is consumed by this activity, a problem highlighted by some GP interviewees, for example:

*"When we open up a consult, we have a box that comes up and says you need to check this person's medication. Haven't had their blood pressure checked. Needs thyroid done. You get a list of about six things, and that is before they have sat down and said "this is my problem today." ...it's very difficult, because you allocate then all of that time for all these templates to be filled in, and then you've sort of got maybe six minutes left then, and you're saying "Right, what are you here with today then?" (GP6)*

*"the problem is, it eats into the consultation, and as I say, you're agenda is getting QOF done, a patient's agenda is they're sick and they want to know what's wrong with them. So it's eating into that, and that's the time that, as I say – again it's the pressure of time type thing" (GP12)*

One GP interviewee suggests that QOF actually dictates that practice is focussed on chronic disease management at the expense of planned cancer prevention activities stating:

*"I suppose one of the problems with us, as far as our new contract is concerned, we're very much target driven towards certain diseases and no allocation for cancer prevention, so it's opportunistic" (GP6)*

The requirement to address the QOF domains also impacts on the role of the Primary Care Nurse as explained by interviewees:

*"Our work is generally focused round what the GP contract wants. So they have so many categories that you get your points by" (NI4)*

*"if it gets to the end of the year, say after December, and you're coming into the end of the QOF year and you need to get certain points, we would hold, sometimes we would hold special clinics to get those people in" (NI2)*

The potential to utilise the QOF mechanism to enhance the focus on cancer prevention was explored with interviewees. 'Cancer' is listed as a disease area within the QOF Clinical Domain and comprises 'cancer register'; 'cancer care review' and 'MacMillan cancer care'. It is suggested by some interviewees that, if cancer prevention was included in the clinical domain (and attracted points towards financial gain), a greater focus on cancer prevention could be achieved:

*"Certainly, if you have a (QOF) pop up on there, it's going to remind you to do things, you're more likely to do it, and if you know that you have to get a certain percentage of those in order to get your practice income, you are more than likely to do it – there's no doubt about that" (GP7)*

*“We’re always chasing the points needed for our income, so if it (cancer prevention) was there, the GPs chase the carrots and tick all the boxes, so we’ll do it” (GP9)*

*“I would say, maybe this is more clinical, but I would say if there’s a box that said there’s financial enticement – there’s a reward for giving specific advice regarding – I mean we all give advice regarding diet and exercise, certainly within these areas that I’m mentioning. But if it was specifically towards cancer prevention, it would be more of an emphasis on it” (NI6)*

### **3.7.1.1.6 Consultation Time**

Time is a critical limiting factor in the provision of cancer prevention interventions in primary care.

GP surgeries may be wholly ‘walk in’ i.e. where no appointments are required; exclusively scheduled appointments (most commonly), or a combination of both. At ‘walk in’ surgeries, consultation time is reported to be as little as 2 minutes. A typical GP/Patient scheduled consultation is reported to be 10 minutes with a typical Primary Care Nurse/Patient consultation reported to be between 15 and 20 minutes in both settings.

GP interviewees indicate that time dictates that their primary role is more focussed on addressing presenting problems rather than on preventing ill-health and that cancer prevention activities are unplanned and opportunistic, for example:

*“I think the nature of the job is more intervention treatment focussed.....I don’t think GPs think preventively. I think GPs think in terms of treatment interventions. So in other words, prevention isn’t a priority for GPs. But I think they take opportunities that arise, to communicate a prevention message” (GP5)*

*“Time, it’s always time. Ten minute slot – people coming in with a whole variety of problems. It’s very hard to allocate that time as well for prevention” .....“prevention isn’t a priority for GPs. But I think they take opportunities that arise, to communicate a prevention message”.....“we are pro-active, but it’s in an opportunistic way” (GP6)*

*“we just don’t have the time to do it. It’s not that we’re not doing it, we’re doing it opportunistically, but not actually proactively going out there”.....“I suppose, you’ve only got 10 minutes per patient, and also with all the other things that we have to do, that are popping up – like the patient has got their agenda when they’re coming in to us, and then we’ve got (QOF) things that*

*we have to make sure we've sorted out, and sometimes at the end of it.....at the end of it, you just simply don't have time to start into prevention" (GP7)*

### **3.7.1.1.7 Raising cancer as an issue with patients**

The interviews provided the opportunity to explore clinicians' willingness to raise cancer as an issue with patients. Opinions on this were mixed, for example:

*"I don't think you say to somebody, you're overweight – you run the risk of getting cancer. I think that's not something that flows well during the consultation, and to be fair, you, or me, or anybody cannot tell anybody what they will develop.....again you're back to telling somebody about something that might never happen" (GP4)*

*"you are scaring people with the spectre of cancer if you bring it up all the time in conditions that they don't always have a huge amount of control over. Whereas, with smoking, it can be more targeted and obviously there can be support for that. If somebody is obese, you're just going to pile on further problems and sense of guilt to them if you tell them you've a 25% increased risk of cancer" (GP5)*

*"I think certainly there's a taboo about talking about – not as much as what it was years ago, the 'big C' it would have been talked about, but certainly not so much now" (NI6)*

*"For me personally, if a patient didn't bring it up, I wouldn't probably – unless I felt very strongly that there was a chance they had cancer, you know – they were at risk of cancer" (NI7)*

One Primary Care Nurse interviewee suggests that discussing cancer with patients is directly linked to the clinical intervention, stating:

*"You're morbidly obese and this is going to impinge on your health" but you know, me saying "have you thought about preventing cancer happening in the future?" I would never dream of saying that to a patient. ....your smear patients, so it's a very natural – we're trying to prevent cancer of the cervix, as if it's a natural thing to talk about cancers within that, and you would an option to bring in ovarian cancer and breast. You would never do a smear without asking somebody if they were breast aware, do you know what I mean? It's all – there's three opportunities to talk about three different types of cancer in a women, whereas if someone is in for their blood pressure check, it's not a natural thing to say to them, do you know what I mean? (NI11)*

Two GP interviewees suggested that there was a requirement to be selective when considering raising the notion of cancer with patients, stating:

*“it varies from person to person, I think.....if I’d a very anxious person, that if I even mention cancer in a consultation with some other subject, they’ll go out the door and they’ll hear cancer, and they’ll – they’ll be back – unless I manage to say skilfully, they’ll be back in again. Some patients, yes, you probably wouldn’t even mention it” (GP10)*

*“I think it all depends on the patient’s perception and the experience – that’s the big factor I think. If a close member who has lung cancer, or bowel cancer or whatever, they would be far more aware anyway.....Less threatening for the patient when they realise the risk of ischemic heart disease and diabetes from obesity and things, but the big ‘C’ don’t use – anxiety I think” (GP14)*

However, one GP interviewee discounted the notion of raising anxiety in patients, stating:

*“my theory is they come in with such and such a symptom, and you say “Look, I’m sure you’re thinking that’s probably cancer, but I don’t think it is. I think cancer is a possibility, but it’s away down the list.” At least it has brought it out into the open, and they can then work with that. Most people have it in their minds, I think, before they bring the symptoms to you anyway” (GP8)*

#### **3.7.1.1.8 Provision of information in languages other than English**

Given the changing demographics within Northern Ireland (alluded to previously), the interviews provided the opportunity to explore clinicians’ perception as to the need to provide cancer prevention information in languages other than English.

A number of Interviewees suggested that there is a requirement for information leaflets in other languages that is not being properly addressed, for example:

*“practice leaflets, no, is definitely not done in different languages, because the cost of that. We looked at it before and it was quite expensive and we weren’t getting any help towards paying that” (GP7)*

*“We would maybe get that (leaflets) translated for them, if they’re in with you. But they don’t have the same right as everyone else, because they’re not getting that, so they’re not” (NI8)*

The absence of leaflets in some areas is presented as less of a problem as non-nationals unable to speak English may be accompanied by a family member who is able to speak in English, for example:

*We have quite a lot of Eastern Europeans in the area..... the older people who didn't speak English, would always have brought a younger member with them. But that doesn't solve the issue of leaflets really for them" (GP7)*

*We have a language line, but I have to say, most of the Polish community that I have met, have actually quite good English, and if they haven't, they always bring – they're quite a close know community, so they would bring somebody with them who could interpret" (NI9)*

The use of the interpretation service is also referenced by a number of interviewees, stating:

*"we have an interpreter phone connection that we can get to get information to and from the patient" (GP7)*

*"We do have translators for Polish patients that are coming to see us and they're usually booked in advance" (NI3)*

However, the requirement of the interpretation service is not universal as indicated by one interviewee who states:

*"A lot of the people are not bad with their English. In recent times, I've only had to use the translator line once, for somebody who actually couldn't speak English" (NI5)*

#### **3.7.1.1.9 Access to cancer prevention services for people with special needs**

Both 'mental health' and 'learning disability' are elements within the clinical domain of the Quality Outcomes Framework. The interview process provided the opportunity to explore the access to cancer prevention services for people with special needs. Interviewees indicated that persons with special needs receive services in accordance with QOF requirements. However, the focus of the annual consultation is not on cancer prevention, for example:

*"Well we do have a learning disability, we started just last year, a specific clinic for them once a year, and the GPs attendance at that, and then you also have a learning disability nurse, who attended also..... and then the mental health review, you are getting those patients in once a year as*

*well.....It's quite an intensive health check... Then if there's some left at the end of the year, that haven't received them, we send for them.” (GP7)*

*“part of a GP contract – people with disabilities, or severe mental health problems, would be invited in for an annual health check. It's a general check.... so actually reviewing some of them annually, and that really is a general health thing” (NI4)*

The absence of focus on cancer prevention is also indicated by one interviewee who states:

*Usually our mental health patients are – when they attend, they attend either with a carer or a family member, so again, there's nothing specific offered to them. Their cervical screening definitely would be offered to the ladies now, but unless there was any complaints, we wouldn't be investigating it further. (NI3)*

The challenges in delivering care to persons with special needs are highlighted by another interviewee who states:

*I would see a lot of patients with learning disabilities, and I would use the packs I got from the learning disability team, to draw messages and they have given me different things to use. So I've used that, in particular, for explaining maybe about a smear test to someone with a learning disability, who was sexually active, and it's very hard to get that message through. So I would use these pictures and different things that they had given us, and then their key worker, or their parent or whatever – but it's not an easy area, I don't think. That needs a lot of time. That needs a lot of time to do correctly” (NI8)*

### **3.7.2 Developing the cancer prevention role**

#### **3.7.2.1 Responsibility**

When exploring the potential for further developing cancer prevention interventions, one GP interviewee was unenthusiastic about developing this role, stating:

*“GPs are up to their eyes, I think, doing the blood pressures and cholesterol checks and assessing patients with sore backs and that sort of thing. I don't think GPs are going out looking for more work to do, or more responsibilities, to be perfectly honest” (GP5)*

It is of note that many GP interviewees perceive the role of the Primary Care Nurse (Practice Nurse) as being best placed to provide cancer prevention interventions:



*“they (Practice Nurses) tend to have more time with the patients and they tend to work with patients in an educational role, rather than a GP does” (GP5)*

*“I would see it more maybe that the nurses could take on that (cancer prevention), in some role .....because we (GPs) deal with the illnesses, nurses deal with the more preventative and education roles” (GP9)*

The potential for Primary Care Nurses to assume greater responsibility for cancer prevention within general practice was explored with Primary Care Nurse interviewees. Primary Care Nurse interviewees generally concurred with the view that nurses were better placed than GPs- to assume greater responsibility for cancer prevention with one Primary Care Nurse citing both opportunity and role as follows:

*“Because they (nurses) have more time. GPs don't have as much time” (NI2)*

Both GP and Primary Care Nurse interviewees also suggest that the skill set of Primary Care Nurse the nurse:patient relationship is different to that of GP:patient, affording greater opportunity for cancer prevention activity.

*“My experience of nurses is that they can take a role, and develop it a lot more than GPs can. I think they also are probably more easier to talk to, than GPs, in a lot of respects. I know from the surgery, an awful lot of patients would go and see a certain nurse, before they'd see a GP, because they find her easier to talk to” (GP11)*

*“you are coming on the same level, and you're treating someone the say way as you would expect to be treated as well, whereas I think patients, in a lot of cases, see GPs on a slightly higher level, and maybe some of them are afraid to ask what does this mean, or what do I need to do about this, or whatever” (NI1)*

*“So I think we probably do have a wee bit more time and I think, on the whole, generally, patients would be more relaxed with a nurse, than they would with a doctor.....It's going to sound terrible – I think we're better at communicating!” (NI7)*

### **3.7.2.2 Social Media**

Social media is increasingly being used by commercial organisations in the development of business strategy and for marketing purposes. The potential for social media to be

used in cancer prevention has been identified by some clinician participants who indicate that such a strategy would be beneficial:

*“things are changing and how the doctors and nurses need to change as well and how you get your information out there. They were really going down telemedicine and Facebook, Twitter – all those sort of things. Random emails – do you know such and such can reduce your risks of cancer, or diabetes. But yes, I think that definitely is the way forward”. (N17)*

*“I often thought it would be a very good thing if you could have that (text messages) coming from your practice, to each patient.....from the practice to each patient, in each category, which was specific to their need at that time. That would be wonderful” (N18)*

Whilst being generally acknowledging the potential of social media, one GP interviewee highlighted the requirement to be circumspect in the use of text technology, stating:

*“You just need to be careful for texts and things like that, because you don’t know who else is going to read that person’s texts. .... but anything where you have to do, like add population and get them in to get things done, we would normally do it by post really, but text is the other way, maybe in the future, as long as it’s not sensitive information that someone else could read” (GP9)*

### **3.7.2.3 Resource implications of cancer prevention**

In acknowledging the potential to further develop the cancer prevention role, both GP and Primary Care Nurse interviewees consistently indicated that development of a cancer prevention role would require to be supported with additional resources. For example:

*“...would need extra hours added on in order to do that. That would come out of our staff costs then. So you’re going to need more money to fund that as well then, because that costs” (GP7)*

*“I would have difficulty finding time that I would be able to allocate. Now, certainly we could employ a nurse to do it. I’m not saying that it would necessarily have to be a GP, but we would need the extra resources” (GP3)*

*“if there was the money there, and we did have the time, it would be nice to be able to offer a more direct, I suppose, take a more direct approach to cancer prevention” (N13)*

*“As a nurse – in my role as a practice nurse – if it was added on to the GP contract, where there was dedicated time, specifically targeting certain groups and you had the time and the resources to deliver it” (NI6)*

### **3.7.3 Influences on cancer prevention activities**

#### **3.7.3.1 Personal Family Experience of Cancer**

Interviewees indicate that the patient’s experience of cancer within the family circle influences the requirement for cancer prevention activity:

*“I suppose frequently – a relative has cancer, a parent, and then they’re worried about themselves and they think they’ve a lump, or they’ve some minor cyst and they think this could be cancer, so it’s using that opportunity then to tell people” (GP9)*

*“So they’ll come in for the smoking advice, because they’ll say I’m concerned – my mum has had cancer of the lungs and I’m a smoker, so I want to stop smoking”. (GP11)*

*“Sometimes people might come and say they’re worried because there’s a history of cancer in the family, and they had maybe found a lump somewhere, or they just generally don’t feel well – could it be cancer, and they’d maybe be looking advice or looking me to do a blood test to check is it, or isn’t it” (NI2)*

*“I do think is, you have people who say, either a mother diagnosed with cancer, and say it was ovarian, maybe you would have a daughter or a sister or something, pitching up and saying “My mother or my sister has just been diagnosed, can I get screened?” (NI9)*

#### **3.7.3.2 Clinician’s Personal Experience of Cancer**

Interviewees also indicated that personal experience of cancer within the family circle influences the delivery for cancer prevention activity by clinician’s:

*“because I know someone who had a malignant melanoma. So I find, when I’m doing travel or that, I’ll push it quite hard about safe in the sun” (NI7)*

*“my own mother was affected by cancer and three aunts of mine, and then you would just be aware of it in the community” (NI9)*

*“with regard to my patients and exposure to the sun, because it’s something that I have experienced, I would be fairly focussed and sort of know what to say to the patient” (NI12)*

#### **3.7.3.3 Gender**

Clinician interviewees stress that gender influences cancer prevention activity, with women typically more open to healthcare interventions than men:

*“you will always get the men who never darken our doors. They’re probably the hardest people to reach out to. But they are the hardest people anyway because they don’t tend to seek anybody’s opinion” (GP4)*

*“it’s the women come, and women come worried about the men. You get all these phone calls from women saying “my husband’s coming. He’s not going to tell you x, y, z. You put it down, but don’t tell him that I told you” (GP6)*

*“Men, if they’re accompanied by their partner or their spouse, and everything is discussed openly – sometimes through their encouragement, they would maybe be more willing to go” (NI3)*

*“Women are much more willing to engage with you. I think there’s a major gap there with men. I think we really are quite good at getting women to engage with us, but we’re not good at men” (NI11)*

#### **3.7.3.4 Media**

Clinician interviewees indicate that the media has a strong influence on patients seeking cancer prevention activities and, in particular, when media coverage is related to known celebrities:

*“I suppose the media, because that’s the way a lot of people get their information from advertising and things .....I think you only have to pick up the Daily Mail on a daily basis and there would be some sort of health advice on the front of it”.....“Jade Goody made a big difference to these people coming in for a smear who necessarily hadn’t had one before” (GP4)*

*“Lance Armstrong, people like that, has helped, definitely helped” (GP6)*

*“Awareness – patient awareness.....I suppose at the minute, it’s driven by media campaigns” (NI7)*

*“....cancer of the cervix, that type of thing – Jade Goody certainly did an awful lot for that. We had a big influx of people coming for their smears after that, which was great, you know. So I think, if there’s more in the media, it becomes less threatening” (NI6)*

*“Jade Goody did the biggest thing for cervical screening – our levels with through the roof, of people coming in to get screened” (NI10)*

### 3.7.3.5 Clinician's Knowledge of Cancer

The interviews provided the opportunity to explore clinicians' perception of their knowledge in relation to cancer. It is noted that a number of clinicians were unaware of the European Code against Cancer (NI2; NI6; NI7; NI9; GP11; GP13; GP14) and, when asked directly if they believed their personal knowledge was sufficient to provide cancer prevention advice, interviewees indicated that further information would be of benefit. For example:

*"I think perhaps, training for nurses would be helpful as well, just increasing their knowledge and also their understanding of motivational techniques, to get people to change behaviour and I think those would be the two main things. I suppose educational materials for GPs" (GP5)*

*"Probably not. I mean, we all know the common causes, you know. We are simply reacting to patient's symptoms and signs and taking it from there. As a preventative system, we just don't – knowledge wise – it wouldn't do us no harm to have an update once in a while, just for common causes of cancer – we may not remember" (GP11)*

*"No it's not, because things have changed. There's new tests available now ... So things have sort of changed, and within palliative care there's new treatments and new" (NI9)*

*I don't think you ever have enough knowledge, and very much in nursing you pick it up as you go along. But I don't really think there is a lot of things – I don't really think there's a lot of courses out there that can help you with that" (NI13)*

However, one GP interviewee suggests that the level of knowledge required must be consistent with their role, stating:

*"we are what we are. We are General Practitioners. General Practitioners – we're not specialists" (GP10)*

Interviewees were invited to suggest the best format for improving their knowledge, consistent with their role. Clinician interviewees were broadly consistent in their requirement for updates and suggested a number of options for this:

*"Personally, for me, I like an A4 with bullet points and boxes and if you hand me six pages, I'm not going to read it. But yes, I think that would be beneficial" (GP5)*

*"Updates and just a reminder – are you aware of these targets at the moment, or are you aware these are the new guidelines and sometimes*

*we're not thinking about it enough and you tend to bring it more into your practice. When you have updates on stuff, you're always bringing it in"* (NI10)

*"Plenty of updates on current practices. I don't think anybody should work in that field, that isn't updated.....I would prefer face-to-face, a half day study day or whatever, and listen to people who are actively working in that field, for us, it's only part of our work. They're always picking up new ideas"* (NI11)

Other interviewees suggested a more formalised course would be beneficial, for example:

*"Well probably your best route would be – we have protected learning time. Our last protected learning time was all practices, and it was to do with child abuse, and there was a specialist came and addressed, and it was excellent and everybody was there"* (GP10)

*"I would like to do a proper course and have proper guidelines for doing it"* (NI12)

*"I think a study day is good, because you go to it, and you're completely focussed on the study day.....the fact you meet other health professionals and obviously whoever was going to facilitate the day, would have quite a high level of knowledge....it sort of gives you the opportunity to ask questions too, from people who are specialising in that area"* (NI9)

One GP interviewee broadened the topics for training including training in strategies for behaviour change:

*"I think perhaps, training for nurses would be helpful as well, just increasing their knowledge and also their understanding of motivational techniques, to get people to change behaviour and I think those would be the two main things.....I think also now, help in motivational training – brief interventional interviews and those sorts of things, those techniques would probably be really helpful for GPs"* (GP5)

### **3.7.3.6 Influencing patient behaviours**

The capacity of clinicians to positively influence patient behaviours was explored during the interview process and indicates that the majority of clinicians believe that they are able to influence many patients who respond positively to advice and guidance given by them. However, a combination of factors are relevant, primarily knowledge of the patient; the relationship with the patient and the patient's personal level of motivation. For example:

*“they still have to have the motivation themselves to do it. But I think it does – if you keep on, it’s like the water dripping on the stone, keep on with it, I think they do listen. (GP8)*

*“If they want to change, they will be receptive, but as you know, a lot of people are totally rigid in their way of life and have no interest”.....”I think the majority of the patients would respond, you know. I think if you sit and give the patient a bit of time, and you know, take their concerns seriously and respond, I think a majority of patients will respond positively” (GP3)*

*“I don’t think all patients are set in their ways. There are certain people who would be more inclined to change, than others, and through knowing them a long time, you sort of get to know which ones will, and which ones won’t” (NI2)*

*“Gaining the trust of your patient, and once you have gained the trust of your patient – and I think nurses are good at that generally, patients listen to you and take onboard what you are saying, as a rule” .....You really have to do your best to motivate, but if it doesn’t come from the person within themselves, that they really want to do this, you’re going to lose it. (NI5)*

However, one GP interviewee held an opposing view stating:

*Generally listen to advice – patients, no they don’t. ....You try and explain something to them, they literally interrupt you when you’re talking to them. So they don’t listen” (GP11)*

One Primary Care Nurse interviewee highlighted the challenges that clinician’s face when attempting to change patient behaviours, stating:

*“Their lifestyle – you find probably somebody that is unemployed, on benefits, are the least willing to participate in anything at all. You see them coming back year after year, same problems – nothing has changed. Sometimes you feel as if you are banging your head off a brick wall, really, trying to get through to them” (NI3)*

## 4 Discussion

This study focussed on the role of GPs and Primary Care Nurses in the prevention of cancer. A number of important issues were identified.

### 4.1 Smoking cessation and cancer screening

Smoking cessation and cancer screening are the primary cancer prevention activities carried out in primary care and this is consistent with the findings of a similar study carried out by Ganry *et al.* (2004) in France. In a study in the UK, McEwan *et al.* (2001) reported that 96% of GPs and 99% of Practice Nurses accepted that intervening in smoking behaviour was part of the role.

As a signatory to the World Health Organisation Framework Convention on Tobacco Control (WHO, 2005), the national agenda to reduce the use of tobacco and the negative impact of smoking on health has been aggressively pursued and is widely publicised in the UK. The response rate from both cohorts reflected this focus, as does the Department of Health Social Services and Public Safety policies with publication of a '5 year Tobacco Action Plan 2003-2008' (June, 2003) - subsequently replaced with the '10 year Tobacco Control Strategy' (DHSSPS, 2012)

GPs monitor the smoking status in accordance with QOF prompts and address smoking behaviours with patient during consultations. Evidence, however, from this study indicated that Practice Nurses assumed lead responsibility for ongoing smoking cessation interventions. This is consistent with the findings of McEwan *et al.* (2001) who reported that 50% of GP and 71% of Practice Nurses advise patients to stop smoking at most or all consultations.

The Public Health Agency (NI) delivers the province-wide cervical screening programme and most of the GPs and Practice Nurses participating in this study were routinely involved in this programme. In addition to the cervical screening programme, two province-wide cancer screening programmes; Breast Screening and Bowel Cancer screening are also delivered. Evidence from this study showed that 21.4% of GPs and 20.1% of Practice Nurse respondents did not actively promote participation in these screening programmes. It was reported that 'referral' is a reactive process, done only



when a patient presents with symptoms relevant to either breast cancer or bowel cancer. (It is noted that the full roll out of the Northern Ireland Bowel Screening programme was achieved only after a lengthy delay). The reason for not promoting participation in other screening services requires further consideration.

## **4.2 The current role of GPs and Primary Care Nurses in the prevention of cancer**

### **4.2.1 The role of GPs in the prevention of cancer**

While GPs in this study recognised unanimously their role in cancer prevention, they did so in the context of a wider health promotion agenda. The principal activities undertaken and explicitly linked to cancer prevention in general practice were smoking and cervical screening. (It is of note that both activities are elements within the clinical domain of the Quality Outcomes Framework (QOF), the formal mechanism for structuring clinical interventions in primary care). GPs do address the other important risk factors for cancer e.g. alcohol consumption, obesity, diet and physical exercise; however, this was done in the context of promoting a healthier lifestyle and chronic disease management.

The evidence indicated that GPs are primarily interventionist in their clinical practice. This is consistent with research undertaken by McAvoy *et al.* (1999). They reported that GPs spend only 16% of their time on prevention and Seale *et al.* (2006) found that GPs focus on gathering information directly relevant to diagnosing and treating immediate presenting complaints. Two main reasons were identified: the need to respond to interventions required by QOF that generates a list of required interventions (consistent with the patient's clinical history) and the need to address the patients' problems at consultation. GP participants reported that the time available for consultation (typically 10 minutes for scheduled appointments) limited the opportunity to engage in prevention activities, unless directly linked to the presenting problem. Findings indicated that cancer prevention activities at consultation were primarily undertaken when associated to smoking status of patients.

The evidence indicated that the link between cancer and the key risk factors of alcohol consumption, diet and physical exercise were generally only discussed with patients at consultation in the context of the patients' presenting problems. The potential for

developing cancer in the long term as a consequence of unhealthy alcohol consumption, poor diet and nutrition and a lack of physical exercise is considered to be of less relevance at consultation than addressing more immediate clinical and/or social problems that are of more pressing concern for the GP.

Findings also indicated that cancer prevention activities performed by GPs were opportunistic. With the exception of the promotion of cervical screening, no evidence emerged of GPs engaged directly in proactive, planned cancer prevention activity. Findings from this study also indicated that both the GPs and Primary Care Nurses considered that the GP/patient consultation provided the primary opportunity for cancer prevention activity. This is consistent with international research that suggests consultations in primary health care are “ideal for health promotion” (Getz *et al.*, 2003) and a model for doctor: patient consultations that identified opportunistic health promotion as one of four key potentials, the others being the management of presenting problems; modification of help-seeking behaviours and the management of continuing problems (Stott *et al.* (1979). When GPs identify particular clinical indicators or patient behaviours that are directly associated to risk factors for cancer, they will give advice necessary to reduce the risk of developing cancer.

Findings from this study also indicated that GPs perceive nurses to be better placed to provide cancer prevention activities. Primary Care Nurses typically allocate some 20 minutes for a patient consultation, and GPs are of the view that nurses have more time available to them for education of patients and the promotion of a healthy lifestyle, producing better outcomes. This is consistent with findings of Murchie *et al.* (2003 and Laurent *et al.* (2007). Reflecting the findings of research carried out by Seale *et al.* (2006), GPs also perceived nurses to have more educational and preventive roles when compared to GPs, who are focussed on treatment. A study carried out by Calnan (1995) examined the role of the GP in the prevention of heart disease; found that the ‘prevention’ role was often delegated to primary care nurses. Evidence from the present study also indicated that GPs had a high level of confidence in nurses performing this role, suggesting that nurses are better than GPs at following guidelines.

#### 4.2.2 The role of Primary Care Nurses in the prevention of cancer

Most Primary Care Nurse respondents (87%) identified themselves as Practice Nurses. The Practice Nurse is directly employed by the GP, primarily for chronic disease management and ensuring QOF obligations can be achieved by the general practice. Evidence indicated that nurses concur with the view that they are best placed to provide cancer prevention activities, acknowledging that the time they have available for each consultation is more suited to the educational and preventative role. This is consistent with the literature. Ganz *et al* (2008) reported that incorporating cancer prevention and health promotion in general is a natural activity for nurses to undertake.

Evidence from this study indicated a number of activities within particular disease areas undertaken by Primary Care Nurses, the majority of which directly relate to QOF obligations for chronic disease management and within particular disease areas (McDonald *et al.* (2006). As direct employees, Practice Nurses are required to perform only activities approved by the GPs, limiting their capacity to cancer prevention activities outside of the parameters established by the GPs. Many of the risk factors for cancer (which are also common to other chronic diseases) are incorporated as discreet elements within QOF and are therefore addressed by Primary Care Nurses, albeit subsumed within the provision of healthy lifestyle advice. The primary intervention and most directly associated to cancer is the provision of smoking cessation advice and support. However, advice relating to diet, obesity and physical activity were also provided. This is contrary to findings by Tessaro (1996) who found that nurses were most likely to provide breast and cervical screening and less likely to provide advice on smoking cessation.

Many of the respondents made reference to the differing relationship Primary Care Nurses have with a patient, suggesting that patients may be more comfortable in conversation with nurses rather than GPs. The nurses' interaction with patients is explored in the literature. Davies (1995) suggested the nurses' traditional values of an holistic approach to care where the nurse places a high level of importance on the emotional and personal relationship that they have with patients is critical. Charles-Jones *et al.*, (2003) explained that the nurse's professional identity, framed in terms of communication and compassion, are the foundation of effective delivery of care. Good communication skills are reported to be among the most sought after qualities of

those whom patients consult about their health problems (Drury *et al.*, 1988). Kasch (1994) highlighted these interpersonal competencies and the ability to establish 'relational competence'. This is an ability to establish a collaborative provider-patient relationship critical to securing nursing and medical goals in primary care as distinct within nursing. The capacity to develop strong interpersonal relationships contributes to the higher level of patient satisfaction with nurse consultations than with doctor consultations as reported by Brown *et al.* (1995); Venning *et al.* (2000); Horrocks *et al.* (2002); and Johansson *et al.* (2002).

The relationship developed between the nurse and the patient provided opportunities for open discussion and the potential to address issues broader than particular presenting conditions. For example, when undertaking cervical smears, Practice Nurses may also use the opportunity to discuss breast self-examination and sexual health. In this way, cancer prevention activities undertaken by Practice Nurses are planned in accordance patient need. However, cancer prevention activities may also be opportunistic.

#### **4.3 The potential role of GPs and Primary Care Nurses in the prevention of cancer**

##### **4.3.1 Cancer prevention services for people with 'special needs'**

This research study has addressed access to cancer prevention services for persons with 'special needs'. No evidence of meeting the requirements of persons with 'special needs' other than mental health or learning disability was identified during the current study. The evidence suggests that participants in this study limit their perception of 'special needs' to the areas required by QOF i.e. mental health and learning disabilities.

'Special needs' clearly encompasses a number of areas. Mettlin *et al.* (2006) reported that there is a need to pay particular attention to racial and cultural minorities; impoverished persons; the cognitively impaired, and the physically impaired.- areas that have been the subject of research, both singly (Corby-Smith *et al.*, 2002); (Gottfredson, 2004) and in combination (Ward *et al.* (2004). The requirement to ensure equitable access to cancer prevention services was widely acknowledged by participants in this study. However, most GPs (69%) and Primary Care Nurses surveyed (67.5%) indicated that they did not provide cancer prevention services specifically for people with special

needs (other than for mental health and learning disability services). This is despite the significant body of literature relating to the requirement for providing services tailored to persons with 'special needs'. This was explored during Stage 2 interviews. Participants reported that as part of the Quality and Outcomes framework persons with mental health problems and with learning disabilities received an annual consultation. However, the consultation is general in nature, not focussing on cancer prevention or, indeed, cancer *per se*. Any risk factors related to cancer that may be identified are therefore an element subsumed within the broader health consultation and, therefore, reactive.

Recognising the requirement to address the needs of racial and cultural minorities and given the changing population demographic in Northern Ireland, the availability of information in languages other than English was explored in both questionnaires and interviews. Evidence from this study indicated that there is a dearth of information leaflets produced in languages other than English. No information leaflets in foreign languages are routinely held within general practice and, if required, need to be sourced from individual organisations - none of which relate to cancer prevention. There is no general availability of literature in languages most appropriate to the ethnic origins of the majority of non-nationals in Northern Ireland. Cancer Research UK produces information leaflets only in Urdu; Bengali and Welsh.

The use of information leaflets to supplement clinical consultations and/or to promote awareness is also variable across general practice. Observations made during the study shows that the number of leaflets (and posters) related to cancer prevention displayed in the public areas of the 20 general practices participating in the interviews ranged from 2 – 13, none of which were produced in languages other than English.

#### **4.4 Inhibiting and facilitating factors in the current and potential role of GPs and Primary Care Nurses in the prevention of cancer**

##### **4.4.1 Influence of QOF on cancer prevention**

Evidence from this study indicated that QOF determined much of the activities undertaken both GPs and Practice Nurses. Addressing the areas identified within QOF (and particularly those areas that attract the highest points) offers the potential for GPs to maximise the income for their practice while, at the same time encouraging improved

quality in service delivery. Many participants in this study indicated that the requirement to follow QOF 'prompts' reduced the time during consultation for addressing the patient's presenting problem. This is compounded in General Practices that provide 'walk in' surgeries, where consultation time is seriously restricted.

'Cancer' is listed as a disease area within the Clinical Domain. While GPs are required to maintain the cancer register and ensure proper post-diagnosis care, cancer prevention is not an element within QOF. Evidence from this study suggests that the absence of a 'cancer prevention' element within QOF dictates that, with the exception of smoking cessation interventions and cervical screening, it is not an area of particular focus for GPs.

However, evidence from the study also indicated that GPs and Practice Nurses address many of the risk factors for cancer in the course of chronic disease management and when providing healthy living advice. As outlined previously, many of the risk factors for cancer are also common across a number of disease groups. When managing issues associated to obesity, diet, alcohol consumption and physical exercise (in addition to smoking behaviours), the principal risk factors for cancer are being addressed.

#### **4.4.2 Time is the critical limiting factor in cancer prevention**

Evidence from this study indicated that, whilst acknowledging that cancer prevention was an integral part of the role of both GPs and Practice Nurses (and that the potential to further develop the cancer prevention role existed), time was consistently identified as a critical limiting factor. This factor is reflected in the literature (Tracy Orleans *et al.* (1985); Grol *et al.* (1985); Austoker (1995); Calnan (1995) and Kimberly *et al.* (2003). Completion of QOF obligations was reported to significantly reduce the time available to address the presenting problem. On arrival at consultation, QOF software generates a series of prompts-interventions that require to be carried out and are generated directly from the patient's clinical record. The GP is required to undertake the interventions to secure the necessary points that dictate the income level of the general practice and, as a consequence, the time available to address the patients' presenting problems is significantly reduced and militates against prevention activities, unless directly related to the presenting problem.

#### **4.4.3 Negative and positive beliefs held by GPs**

A number of reasons for limited interventions by GPs have been identified by Vogt *et al.* (2005) who conducted a systematic review of the literature relating to GPs' and family physicians' negative beliefs and attitudes towards discussing smoking cessation with patients. The most common negative beliefs held by participants in the study were that such discussions were too time-consuming (42%) and were ineffective (38%). This is consistent with the findings of a similar study in Nordic countries by Helgason *et al.* (2002) and in an Italian study conducted by Pizzo *et al.* (2003). A lack of training has also been identified as a major barrier to smoking cessation activities being undertaken by GPs (McEwan and West 2001; Twardella and Brenner, 2005).

Consistent with the findings of Hall *et al.* (2005) and Rice *et al.* (2009) evidence from this study indicated that Practice Nurses believed that smoking cessation advice can be effective and almost all Practice Nurses (96.3%) routinely engaged with patients concerning smoking behaviours, primarily in the form of brief-advice clinics and providing information leaflets.

#### **4.4.4 The clinician:patient relationship**

Changing the nature of clinician-patient engagement from a bio-medical model of diagnosis and treatment to one of an effective therapeutic relationship is challenging. O'Cathain *et al.* (2009) identified time; respect; listening; support and the provision of information as prerequisites of empowerment and suggested that such attributes are perceived to be lacking in the wider NHS.

Almost all GP and Practice Nurses in this study agreed with empowering individuals to take responsibility for making decisions regarding health issues and providing patients with information about better lifestyle choices. While identifying time as a critical limiting factor, significant efforts are made by both GPs and Practice Nurses in encouraging patients to take personal responsibility for lifestyle choices and changing their behaviours. It is apparent, however, that the relationship established between GPs, Practice Nurses and the patient is critical to achieving behaviour change in patients. The combination of factors considered relevant by participants in this study have been identified as knowledge of the patient; the relationship with the patient and the patient's personal level of motivation. Both GPs and Practice Nurses agreed that they could

motivate patients to live a more healthy lifestyle, believing that they have an important role in cancer prevention and that they had a contribution to make to changing patients' attitudes to cancer prevention. This is contrary to the findings of O'Cathain *et al.* (2009) and Chew-Graham *et al.* (2004).

#### **4.4.5 The influence of personal experience of cancer**

Evidence from this study showed that a personal experience of cancer directly influenced both cancer prevention activities undertaken by clinicians and the public seeking access to cancer prevention interventions.

Interviewees indicated that personal experience of cancer within the family circle influenced the delivery for cancer prevention activity by clinician's. This is reflective of the literature (Armstrong *et al.*, 2006); (Lykins *et al.*, 2008). Evidence from this study also suggested that, when a clinician has had personal experience of cancer, they more actively pursue cancer-specific prevention interventions, particularly associated with the type of cancer experienced.

Interviewees indicated that the patient's personal experience of cancer also influenced the involvement in cancer prevention activity as confirmed by French *et al.* (2010) and Lykins *et al* (2008).

Evidence from this study suggested that, when a member of the public has had personal experience of cancer, particularly within the family circle, they more actively seek out cancer prevention interventions, particularly associated to the type of cancer experienced.

#### **4.4.6 Professionals' knowledge of cancer and cancer prevention**

Evidence from this study suggested that GPs and Practice Nurses believed that their current knowledge of cancer and cancer prevention needed to be enhanced and also indicated a marked difference in their confidence levels in the delivery of cancer prevention activities. Overall, 74.6% of GPs indicated that they felt confident to educate clients about cancer prevention; however, only 58.7% of Practice Nurses indicated that they had sufficient knowledge to educate clients in cancer prevention. Evidence from the study also indicated that a significant percentage of GPs and Practice Nurses were



unaware of the European Code against Cancer, identified as a key component of cancer prevention in primary care in the Campbell Report (1996).

While most participants believed that they were reasonably informed about cancers and cancer prevention, they acknowledged that their current level of knowledge could be improved upon. This is consistent with the literature (Szarews,2009); Berkowitz *et al* (2008); Carter & Ogden, 2007) and Patton *et al* (2006). Thompson *et al* (2006) conducted a 'gap analysis' of current knowledge of breast cancer research. The findings included the identification of gaps in knowledge of "*psychosocial aspects of cancer (the personal impact of all stages of the disease among patients from a range of ethnic and demographic backgrounds)*" (p1). Participants identified the need to receive regular updating and information relating to clinical developments in cancer and new developments in cancer prevention.

Evidence from this study also indicated that both GPs and Practice Nurses believed that they can influence patients to change their lifestyle (where patients were motivated to do so). However, a requirement for training in the modality of behavioural change was identified by GP participants. A significant body of literature exists to support learning in this area. Prentice-Dunn *et al* (2009) presented a Protection Motivation Model for promoting healthy sun-behaviours and Velicer *et al* (2009) presented a model of change based on the two major stages of change - motivation and action. Velicare *et al* (2009) outlined a two stage model of change encouraging movement from intention to action. Health behaviour change models often overlap, however, the underlying philosophies may differ. Schwarzer (2008) provided an extensive review of seven different models and their application in the health environment.

The interview process provided the opportunity to explore alternative approaches to improving the knowledge of GPs and Practice Nurses.

Evidence from this study suggested that GPs generally had a preference for routine updates, distributed electronically. The volume of electronic information received by GPs dictates that such updates should be short and explicit. Alternatively, brief presentations given during the GP 'protected study time' would be of interest. However, Practice Nurses indicated a preference for more formal presentations, suggesting that study days

would be preferable, providing the opportunity to discuss and explore issues with fellow professionals with particular expertise. The potential for having multi-disciplinary training programmes was also viewed positively.

#### **4.4.7 Public knowledge of cancer and cancer prevention**

'Lack of Demand' is the most frequently stated reason for not providing cancer prevention services in all the elements of the ECAC and requires further discussion. The uneven distribution of non-nationals in Northern Ireland may validate the reason of 'lack of demand' in relation to the non-provision of information leaflets in languages other than English. However, citing 'lack of demand' as the reason for not providing information on the link between the remaining elements of the ECAC and cancer indicated a presumption that the patient population was aware of the link but do not seek further information. However, this appears a mistaken assumption and a more proactive approach to raising cancer issues may be required.

The level of awareness of the link between the elements of the ECAC and cancer in the general public (with the exception of the widely publicized link between smoking and cancer) is open to question. A review of the literature clearly established that there is a low level of awareness of cancer signs and symptoms in the general population (MacDonald *et al* (2004); Stubbings *et al* (2009); Robb *et al* (2009); Richards (2009); Austoker *et al* (2009); Keeney *et al* (2007).

In a study of awareness of colorectal cancer screening spanning 21 European countries, Keighley *et al* (2004) reported that there was a low level of awareness of colorectal cancer and that although 70% of respondents were aware of dietary factors, only 30% knew that lack of exercise might be a risk factor. In a study of awareness of cancer risk factors in the UK, Wardle *et al* (2001) also found that there is cause for concern about the low level of awareness of common risk factors for cancer, although men and women with better education were more informed.

#### **4.4.8 The role of the media in cancer prevention**

The media has long been used to influence behaviour in the public. The use of leaflets/posters is a common educational strategy designed to promote health and to encourage people to adopt healthy lifestyles. (Coulter, 1998) and having written

information tailored to individual circumstances is reported to be particularly valued, enhancing effectiveness. (Raynor *et al.*, 2007). Significant investment in the promotion of tobacco products, the effects of which have been extensively addressed in the literature, (Evans *et al.* 2008; Alpert *et al.* 2008).

The media has also been used effectively to reduce the use of tobacco products as described by Bala *et al* (2008) in a systematic review. Media has also been used (to a lesser degree) in the prevention of other cancers, for example, skin cancer (Montague *et al.*, 2001). The literature suggests that children and young persons are particularly susceptible to advertising, viewing in excess of 40,000 advertisements each year on television alone (Paediatric Committee on Communications, Policy Statement, 2006). By way of example, Oakley *et al.* (1995) reported that children and young people (including a cohort of children aged 9-10 years) view television and media as the primary source of information and that, although they possessed considerable knowledge about cancer (mainly smoking and lung cancer), health was not the most important issue for them. In Australia, a study investigating the level of knowledge of the HPV virus carried out by Pitts *et al* (2007) showed that the majority of women with knowledge of the HPV virus indicated that they had learned of this from the media. The potential for the media to not only inform but also to change behaviour is identified in a study by Moriarty *et al* (2008).

Both GPs and Practice Nurses in this study made reference to the potentially significant and positive contribution to cancer prevention made by the media, particularly when this is linked to known personalities, for example, Jade Goody. Following her widely publicised death from cancer, a significant increase in the uptake of cervical screening is referenced by many participants. This is reflective of many international studies conducted following widely publicised incidences of cancer in public figures, for example Brown *et al.* (1990); Cram *et al.* (2003).

#### **4.4.8.1 The role of the social media in cancer prevention**

Evidence from this study indicated that social media (and social network sites in particular) had significant potential in cancer prevention. A number of participants made reference to social networking sites as a method for the promotion of cancer prevention activities, ranging from the use of general text messaging to identified target groups e.g. younger female patients (relating to accessing cervical screening) to the use of broader

social networking sites such as Facebook; Twitter etc. (Cancer Research UK currently use this approach, providing links to each site from their website). Social networking sites are not limited to the 'Facebook generation' but are being increasingly used by professionals for the purpose of business development ('LinkedIn') and many businesses now promote their services on 'Facebook' pages. (It is noted that the research sponsors, Cancer Focus NI, use 'Facebook', with a direct link from the charity's website). The routine monitoring of social media traffic is also being used to inform business and service developments to promote competitive advantage. As stated by Viswanath (2005) "*Advances in communications technology, particularly with regards to computer-based media, have opened up exciting possibilities to intervene and influence the trajectory of cancer control, from disease prevention to survivorship, and to reduce the cancer burden*" (p 828).

The use of social media as a means of communication across all social demographics has grown exponentially in recent years. However, the capacity to inform and influence health behaviours remains an area that is underexploited. It is, however, necessary to take account of potential limiting factors in selection of target audience (Friedman *et al.* (2008). The potential for social media to contribute to cancer prevention requires to be considered further.

## **5 Conclusions**

This study investigated the role of General Practitioners and Primary Care Nurses in the prevention of cancer. The study identified the activities routinely performed by clinicians and ways enhance service provision relating to cancer prevention in primary care. Based on the findings, the conclusions are summarised under the following three headings:

### **5.1 The current role of GPs and Primary Care Nurses in the prevention of cancer**

- Most cancer prevention activities that take place in primary care are delivered by Primary Care Nurses;
- Primary Care Nurses address many of the risk factors for cancer incorporated as discreet elements within QOF, albeit subsumed within the provision of healthy lifestyle advice;
- Smoking cessation and cancer screening are the primary cancer prevention activities carried out in primary care;
- While GPs in this study unanimously acknowledge their important role in cancer prevention, they do so in the context of a wider health promotion agenda as cancer prevention is not a discreet element within QOF;
- The link between cancer and the key risk factors of alcohol consumption, obesity, diet and physical exercise is generally only discussed with patients at GP consultations in the context of the patients' presenting problems and in relation to clinical complications that may arise in the short-medium term. (The potential to develop cancer in the longer term is invariably outside the remit of the consultation);
- Primary Care Nurses only perform activities approved by the GPs (typically directly associated to the requirements of QOF), limiting their capacity in relation to cancer prevention activities outside of the parameters established by the GPs;
- GPs are primarily interventionist in their clinical practice and cancer prevention activities performed by them are generally opportunistic, such as when clinical symptoms indicate a potential diagnosis of cancer;

- GPs perceive nurses to be better placed to provide cancer prevention activities and the findings indicate that nurses concur with this view;
- Primary Care Nurses have a relationship with patients that is different to the GP:patient relationship, with patients perceived to be more comfortable in conversation with nurses rather than GPs;
- The relationship developed between the Primary Care Nurse and the patient provides opportunities for open discussion and the potential to address issues broader than the particular presenting conditions, including behaviour/lifestyle change in relation to cancer prevention;

## **5.2 The potential role of GPs and Primary Care Nurses in the prevention of cancer**

- Primary Care Nurses are best placed to further develop the cancer prevention role in primary care (subject to the necessary resources)
- The requirement to ensure equitable access to cancer prevention services was widely acknowledged by participants in this study; nonetheless, there was no evidence of meeting the requirements of persons with 'special needs' (other than mental health or learning disability);
- Participants reported that, as an element within QOF, persons with mental health problems and with learning disabilities receive an annual consultation. However, the consultation is described as general in nature, not focussing on cancer prevention or, indeed, cancer *per se*;
- There is a dearth of information leaflets produced in languages other than English. However, it would appear that this does not compromise clinical interventions as each clinician has access to an interpreter and English-speaking relatives typically accompany patients who are unable to speak English.

### **5.3 Inhibiting and facilitating factors in the current and potential role of GPs and Primary Care Nurses in the prevention of cancer**

- QOF determines much of the activities undertaken by both GPs and Primary Care Nurses and reduces the time during consultation to address the patient's presenting problem;
- The absence of a 'cancer prevention' element within QOF dictates that it is not an area of particular focus for GPs;
- While acknowledging that cancer prevention is an integral part of the role of both GPs and Primary Care Nurses (and that the potential to develop further the cancer prevention role existed), time is consistently identified as a critical limiting factor;
- The clinician:patient relationship is critical to securing behaviour change in patients;
- Almost all GP and Primary Care Nurses in this study agreed with empowering individuals to take responsibility for making decisions regarding health issues and providing patients with information about better lifestyle choices;
- Both GPs and Primary Care Nurses believed that they can influence patients to change their lifestyle (where patients were motivated to do so). However, a requirement for training in behavioural change was identified;
- A personal experience of cancer directly influenced both cancer prevention activities undertaken by clinicians and the public seeking access to cancer prevention interventions;
- There is a marked difference in confidence levels in delivering cancer prevention activities between GPs and Primary Care Nurses, with GPs perceiving themselves as being more confident;
- While GPs and Primary Care Nurses believed that they were reasonably informed about cancers and cancer prevention, they acknowledged that their current level of knowledge could be improved upon;

- GPs generally have a preference for routine updates, distributed electronically. However, Primary Care Nurses indicated a preference for more formal presentations, suggesting that study days would be preferable;
- Both GPs and Primary Care Nurses made reference to the potentially significant and positive contribution to cancer prevention made by the media, particularly when this is linked to known personalities;
- Social media (and social network sites in particular) offer a significant potential to inform and influence health behaviours in cancer prevention but this remains an area that is underexploited.



## **6 Recommendations**

Recommendations are presented in two sections: recommendations for general application and recommendations that may be taken forward by Cancer Focus Northern Ireland.

### **6.1 Recommendations for General Application**

It is recommended that:

#### **6.1.1 Role Development**

- Consideration should be given to the incorporation of cancer prevention as a discreet element within the QOF framework. This would further encourage GPs to incorporate cancer prevention into their patient consultation:
- Consideration be given to the development of a more formal cancer prevention role for Primary Care Nurses;
- As the majority of respondents (87%) were identified as Practice Nurses, consideration should be given to the role of the Nurse Practitioner in cancer prevention activities in primary care. These specialists have greater freedom in their role and may offer greater potential for developing the nurses' role in cancer prevention in primary care;
- Further consideration requires to be given to the nurse:patient interaction/relationship as both GPs and Primary Care Nurses believe that the Primary Care Nurse is best placed to deliver cancer prevention activities in primary care;

#### **6.1.2 Persons with 'Special Needs'**

- Cancer prevention activities require to be formally incorporated into the annual clinical GP consultation for persons with mental illness and learning disabilities.

## **6.2 Recommendations to be taken forward by the Cancer Focus Northern Ireland**

It is recommended that:

### **6.2.1 Persons with 'Special Needs'**

- A strategy to address the deficits in cancer prevention activities for persons with 'special needs' be developed. The strategy should seek to change the contemporary, limited perception of 'special needs' as held by primary care clinicians in this study and should have a particular focus on persons of older age when the incidence of cancer rises dramatically (WHO, 2011) and cognitive impairment is most common;

### **6.2.2 Training and Education**

- As Primary Care Nurses perform the lead role in cancer prevention activities in primary care, appropriate training programmes should be developed for this staff cohort so as to optimise their performance. Training should include theories of behaviour change;
- Further inter-professional training in cancer and cancer prevention should be developed to increase awareness of risk factors in cancer associated with elements of the European Code against Cancer (2003). Further training should take cognisance of the requirement for routine information on developments in cancer prevention, diagnosis and treatment and to extend cancer prevention activities beyond the current focus on smoking cessation and cervical smears;

### **6.2.3 Provision of Information**

- GPs and Primary Care Nurses should receive regular updates, possibly *via* email, social networking, or leaflets, providing information on cancer prevention, developments and events. Presentations and study days for Practice Nurses should also be supported;

- A strategy to maximise the impact of public notices and leaflets should be developed as the study has demonstrated a wide variation in the use of such media in general practice;
- A strategy to optimise the potential for the use of social media in cancer prevention, particularly with children/adolescents when there is an opportunity to influence their behaviour/lifestyle choices at their stage of life.

## 7 Recommendations for Further Research

- A detailed study of how older persons receive and process cancer prevention information should be undertaken to investigate how to improve awareness of the risk factors for cancer in older persons;
- A survey should be undertaken into Trust-employed community nurses' actual and potential role in cancer prevention and how this differs from that of the GP-employed PCN;
- An action research study should be undertaken to test the effectiveness of cancer prevention interventions among PCNs;
- A clinical trial should be undertaken where the knowledge, behaviour and attitudes of PCNs who receive an educational package on cancer prevention and behavioural change are compared with PCNs who receive no such training;
- An observational study should be undertaken to investigate whether the actual cancer prevention activities of PCNs reflects what they say they do in this regard.
- A survey of general practitioners should be undertaken to investigate how GPs can maximise the engagement of patients with public displays of cancer prevention material in general practices;
- A survey of patients' perception of public notices and leaflets should be carried out to better understand how patients perceive and respond to the display of cancer prevention material in general practices;
- A survey of general practitioners should be undertaken to investigate how cancer prevention activities can be incorporated 'walk in' services where consultation time is further restricted;
- There is a need to identify how best to promote cancer prevention within the parameters of the annual consultation (required by QOF) that GPs have with persons with mental illnesses and learning disabilities.
- As the clinician:patient relationship was identified as critical to securing behaviour change in patients, a study should be undertaken to investigate the most effective theory of change to apply in general practice;

- A survey should be conducted to better understand how younger persons use social media in order to identify the most effective strategy for engaging this audience in cancer prevention activities using such media.

## 8 Limitations

The use of surveys is reliant on the people to complete and return questionnaires and a number of strategies were employed to maximise the return of questionnaires by GPs and Primary Care Nurses. However, a response rate of 23% (GPs) and 45% (Primary Care Nurses) may be viewed as low. This reflects the experience of other primary care researchers.

As with all self report surveys, it is possible that GPs and PCNs responded in ways that reflected best practice rather than what they actually do. Response rates from both cohorts were slightly lower than the anticipated response rate of circa 30% (GPs) and in excess of 50% (Primary Care Nurses).

The questionnaires returned by each cohort were subjected to power analysis in order to confirm that the level of returns would reasonably reflect the population under study. Calculation of the statistical power of the findings was based on both the GP and the Primary Care Nursing sample. It indicates that, at a 95% confidence level and a percentage level of 50 %, the confidence interval for the GP sample is 5.06 and the confidence interval for the Primary Care Nurse sample is 4.85. This indicates that, even if a greater number of returns had been received, one could be 95% confident that the analysis of the data would produce similar results.

Following the stakeholder interviews, it was decided to issue all questionnaires through the Practice Manager in each general practice. Despite significant follow-up telephone calls, it is possible that the Practice Manager delayed the distribution of the questionnaires to both GPs and Primary Care Nurses or, in some cases, failed to do so. This may have further reduced the response rate from both cohorts.

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