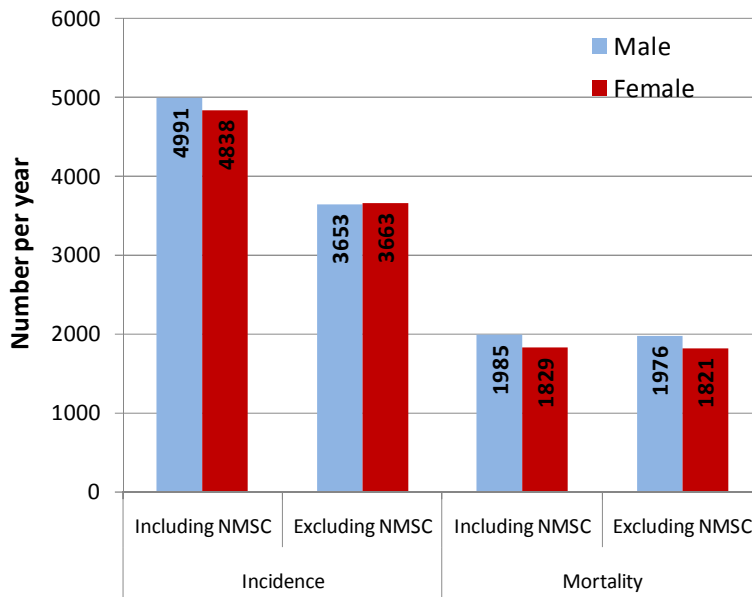


## SECTION 3 - WHY DEVELOP A SERVICE FRAMEWORK FOR CANCER?

### 3.1 Introduction

Cancer is a group of diseases caused by the rapid growth and spread of abnormal cells in the body. During 2003-2007 there was an average of 4,991 male and 4,838 female cases of cancer diagnosed each year in Northern Ireland. This includes non-melanoma skin cancer (NMSC) which is easily treated and is rarely fatal. Excluding this form of cancer there were 3,653 male and 3,663 female cases of cancer diagnosed each year. In contrast there were 1,985 male and 1,829 female cancer deaths per year during 2004-2008. Only a handful of these (9 male and 8 female) were a result of non-melanoma skin cancer. (see Figure 3)

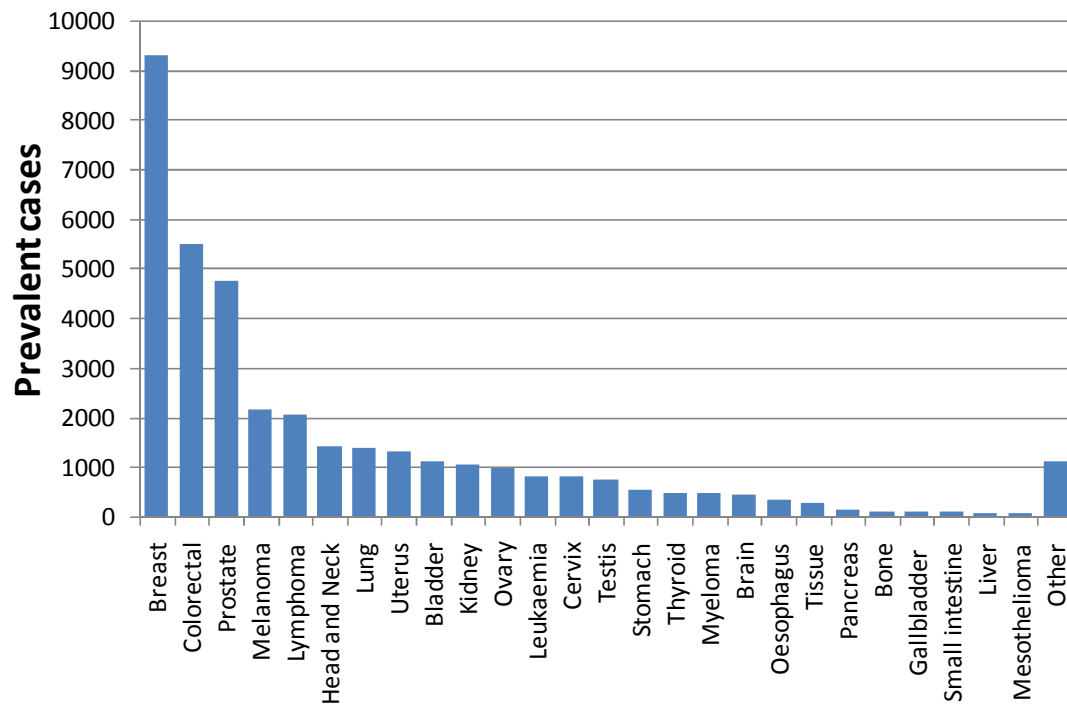
**Figure 3: Cancer incidence (2003-2007) and mortality (2004-2008)**



However, improved diagnosis and treatment means that more and more people are living longer with cancer. At the end of 2007 there were approximately 60,300 people resident in Northern Ireland who had a diagnosis of cancer since 1993 (when cancer registration started). Just under 22,800 of these people were diagnosed with non-melanoma skin cancer. Excluding this form of cancer the number of

prevalent cases at the end of 2007 was approximately 37,500. Almost one quarter of these were breast cancer patients with colorectal cancer patients and prostate cancer patients representing 15% and 13% respectively. Cancers with poor survival such as lung cancer, oesophageal cancer, pancreatic cancer and liver cancer had a low number of prevalent cases relative to the number of cases diagnosed each year (see Figure 4).

**Figure 4: Prevalence by cancer site at the end of 2007**



**Note:** Cancer prevalence refers to the number of people alive at the end of 2007 who have had a diagnosis of cancer between 1993 and 2007. If a patient has had more than one cancer during that period, the most recent cancer is selected as the prevalent one.

**Appendix 2** provides an overview of cancer statistics for Northern Ireland.

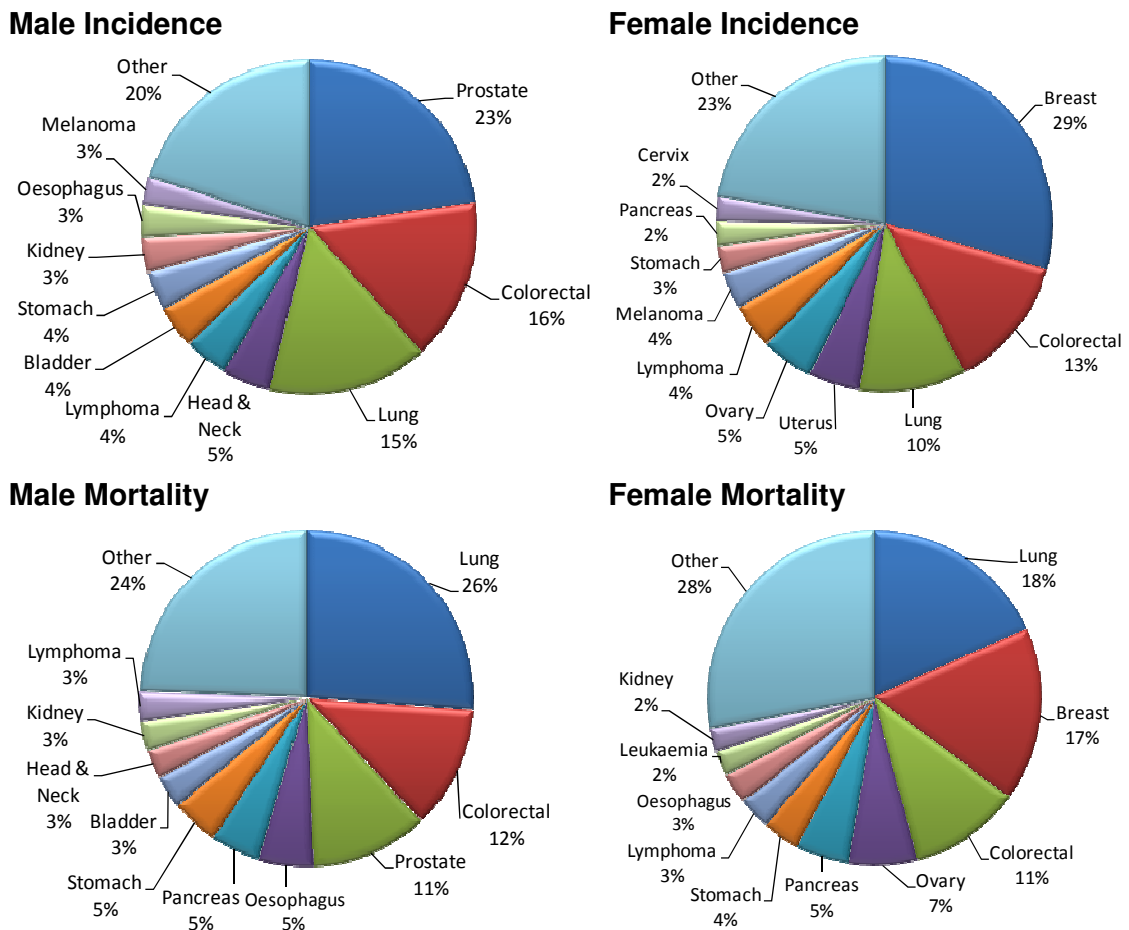
### 3.2 Most common cancers in Northern Ireland

Around one in every four cancers recorded are non-melanoma skin cancers. These are rarely fatal. Apart from this type of cancer the most common male cancers are prostate cancer, colorectal cancer

and lung cancer. Among females they are breast cancer, which made up 29% of all cases, followed by colorectal cancer and lung cancer.

The same cancers are also the most common causes of cancer deaths. Lung cancer is the most common cause of cancer death among men, followed by colorectal cancer and prostate cancer. In recent years lung cancer has overtaken breast cancer to become the most common cause of cancer deaths in women. (see Figure 5).

**Figure 5: Top ten most common cancers (2003-2007) and causes of cancer death (2004-2008) in Northern Ireland by sex**



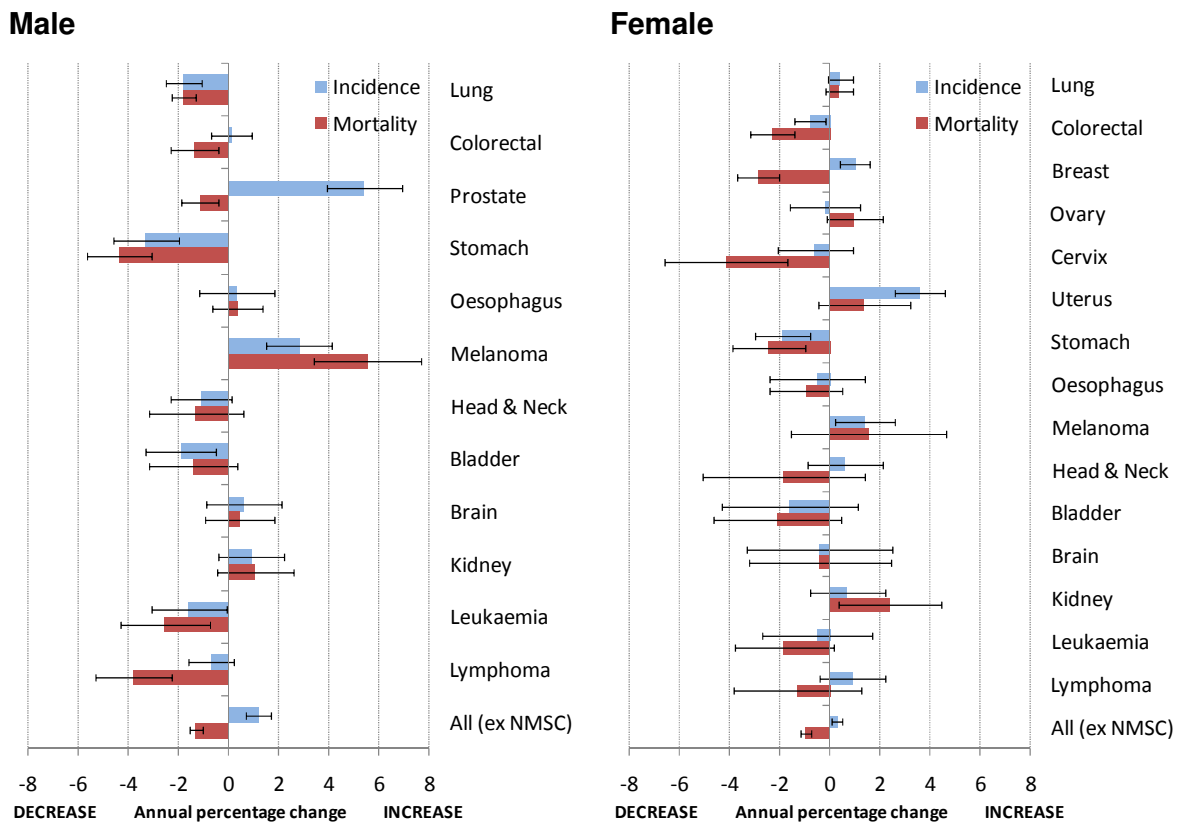
### 3.3 Cancer trends by sex

The age-standardised rate for males who develop or die from stomach cancer, lung cancer or leukaemia has fallen between 1993 and 2007. Incidence rates of bladder cancer among men have also

decreased, while rates of men diagnosed with *prostate* cancer have risen due largely to increased use of the *PSA blood test*. Mortality rates for prostate cancer however have declined as have male mortality rates of colorectal cancer and lymphoma. Rates of men developing and dying from malignant melanoma (a type of malignant skin cancer) have increased.

The age-standardised rates for females developing or dying from stomach or colorectal cancer have fallen between 1993 and 2007. However rates of females developing melanoma, breast cancer or *uterine* cancer have increased as have mortality rates of kidney cancer. Death rates from cervical cancer and breast cancer have however fallen among females. (see Figure 6)

**Figure 6: Changing cancer rates by sex: 1993-2007**  
**(Annual percentage changes in age-standardised rates by sex and cancer site)**



**Note:** Error bars that do not cross the central line (annual percentage change = 0) indicate a significant increase or decrease.

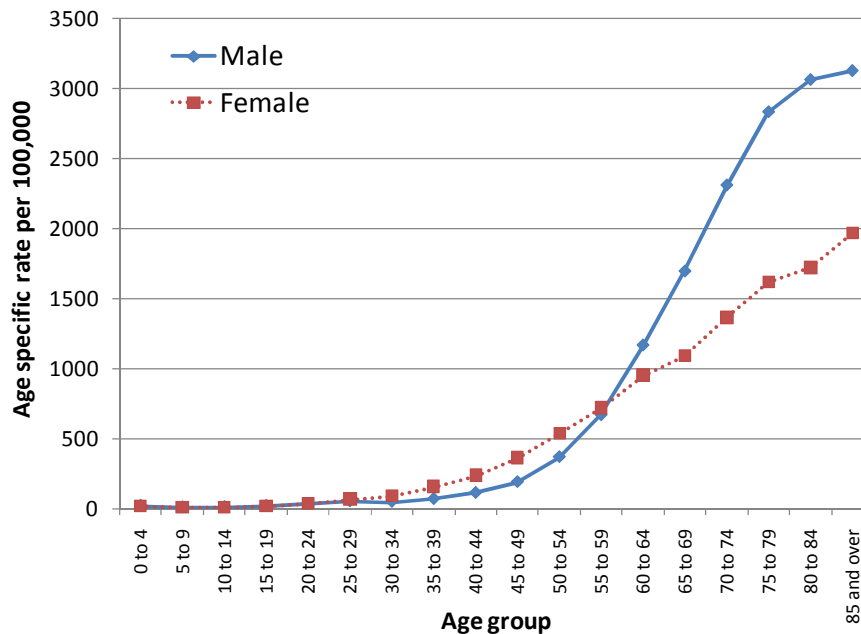
### 3.4 Cancer and age

It is predicted that by 2025 the population of Northern Ireland will increase by 8% to 1.828 million. People will be living longer - almost one in five people (18%) will be aged over 65 years.

Cancer becomes more common with increasing age (see Figure 7). Almost 2 out of every 3 cancers are diagnosed in people aged 65 and over with a median age at diagnosis of 69 years. On average, one in three of the population will develop a cancer by the age of 75 years.

Many cancers are becoming less common in younger people. However, the increasing age of the population will mean that the overall number of people getting cancer will continue to rise. It is predicted that cancer levels in Northern Ireland will increase by 30% in the next 20 years.

**Figure 7: Age specific incidence rates for all cancers combined (excluding non-melanoma skin cancer (NMSC)): 2003-2007**



### 3.5 Cancer and lifestyle

A number of lifestyle factors impact on a person's risk of getting cancer. These include smoking, a poor diet, lack of exercise and spending too much time in the sun or using sunbeds. Evidence suggests that around half of all cancers could be avoided if people made changes to their lifestyle.

### 3.6 Smoking

Smoking is a major risk factor for many cancers (lung, mouth, *larynx*, *pharynx*, *oesophagus*, stomach, liver, kidney, bladder, *pancreas* and *cervix*). Survival from smoking related cancers is poor. One in four people in Northern Ireland smoke<sup>2</sup>. More than one in four cancer deaths are caused by smoking.

If smoking continues at the level it is at lung cancers could increase by as much 54% by 2025. However, the number of men smoking and developing lung cancer is starting to fall. If smoking levels could be reduced to 5% by 2025 around 350 lives would be saved each year. Similar benefits would also be seen in other diseases that are linked with smoking such as heart disease and stroke.

### 3.7 Diet and alcohol

Current government advice is that adults, and children aged over five, should have at least five fist-sized portions of fruits and vegetables a day. Eating five portions of fruit and vegetables each day reduces the risk of a number of cancers including: colon; stomach; lung; breast; mouth; prostate; and breast. In a recent Northern Ireland survey only around one in four (27%) adults said they eat five portions of fruit or vegetables each day<sup>3</sup>.

Alcohol also causes cancer: Around 6% of cancer deaths in the United Kingdom could be avoided if people did not drink. Drinking too much alcohol increases the risk of *oral*, *laryngeal*, *oesophageal*, breast, liver and bowel cancer. Almost one in four (23%) male drinkers in Northern Ireland exceed the sensible weekly limit of 21 units; while almost one in seven (15%) female drinkers drink over their 14 unit sensible limit<sup>3</sup>.

---

<sup>2</sup> Continuous Household Survey, Northern Ireland, 2006/2007.

<sup>3</sup> Northern Ireland Health & Social Wellbeing Survey 2005/06

### **3.8 Weight & physical activity**

Being overweight or *obese* increases the risk of several cancers, including cancers of the breast (in women after *menopause*), stomach, colon, womb, *oesophagus* and kidney. Overall, one in four adults in Northern Ireland is obese (24%). The figures are about the same for men and women. Just under one in five children aged 2-15 years is obese. If action is not taken now to reduce obesity, the number of obesity related cancers and death will continue to rise.

The Northern Ireland Health and Social Wellbeing Survey showed that 70% of people do less than the recommended level of exercise or physical activity (at least 30 minutes per day, five days a week).<sup>3</sup> There is evidence that people with higher levels of physical activity have a reduced risk of colon, breast and *endometrial* cancer, no matter what their body weight is.

### **3.9 UV exposure**

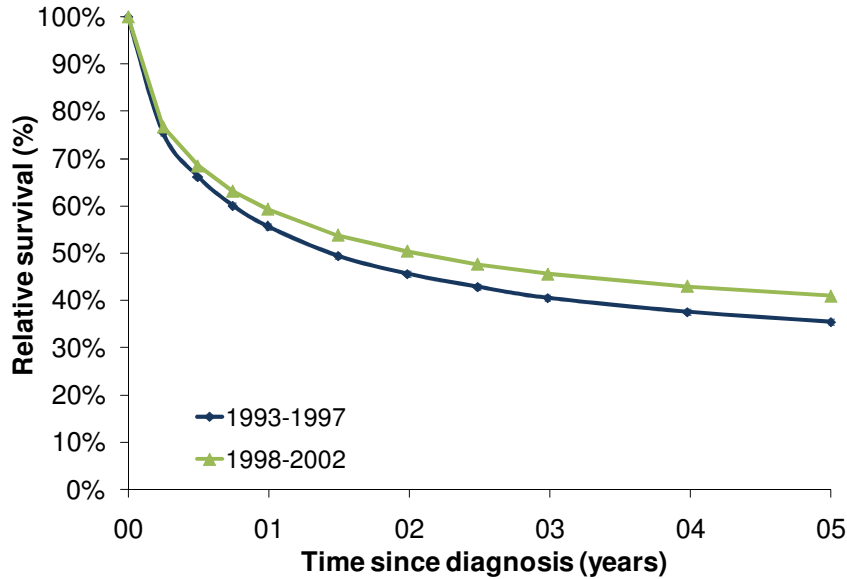
Skin cancer is the most common cancer in Northern Ireland. Exposure to ultra violet light either through sunlight or sun bed use is the single most preventable cause of skin cancer. Lifestyle changes such as increased sun exposure and sun bed use have resulted in a large rise in skin cancers, especially the most serious form of skin cancer, malignant melanoma, and especially among men.

### **3.10 Improvements in cancer survival & care**

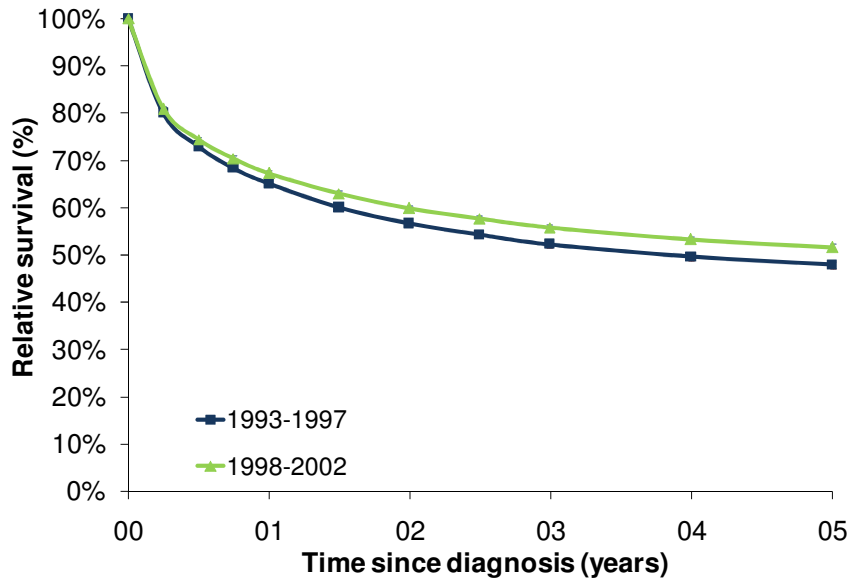
The number of people still alive one and five years after diagnosis improved between 1993-97 and 1998-2002. Almost two out of every three people (59.2% for males and 67.3% for females) diagnosed with cancer are alive one year after their diagnosis. Almost one in two people (40.9% for males and 51.6% for females) are alive 5 years after diagnosis. (see Figure 8)

**Figure 8: Relative survival of patients with cancer (excluding NMSC) by year: 1993-2002**

**Male**

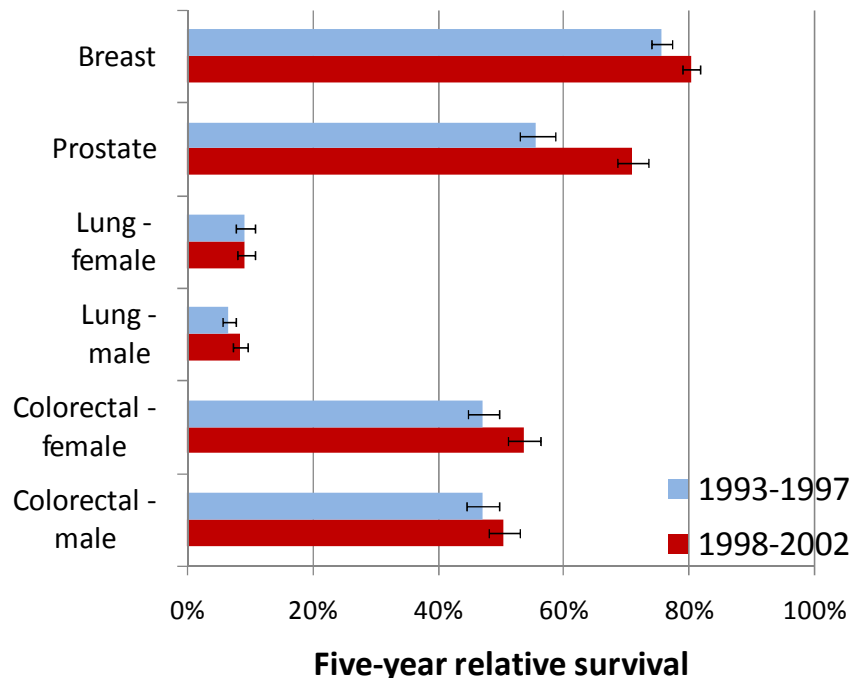


**Female**



There are no cancers for which survival rates have decreased, while significant increases were apparent for breast cancer, colorectal cancer and prostate cancer. There was however no change for lung cancer (see Figure 9)

**Figure 9: Changes in five-year relative survival for patients with lung, colorectal, breast and prostate cancers: 1993-2002 and followed up to 2007**



This improvement in survival is due to big changes in cancer care within Northern Ireland over the last 10 years. The most visible change has been the opening of the Northern Ireland Cancer Centre with the concentration of cancer services at fewer specialist sites. Other changes that will further improve survival are:

- *Multidisciplinary Teams* (MDTs) deliver better care than traditional methods of care. More and more patients now are being managed by MDTs (see **Appendix 2**, Table 3);
- Accurate and complete cancer staging which allows clinicians to make the best possible treatment choice for the patient. Cancer staging has increased (see **Appendix 2**; Table 4);
- New treatments have also helped to improve survival, with more and more patients being referred to an *oncologist* (see **Appendix 2**; Table 5).

Other improvements in cancer care are:

- more people are being referred for *specialist palliative care* (see **Appendix 2**; Table 6); and

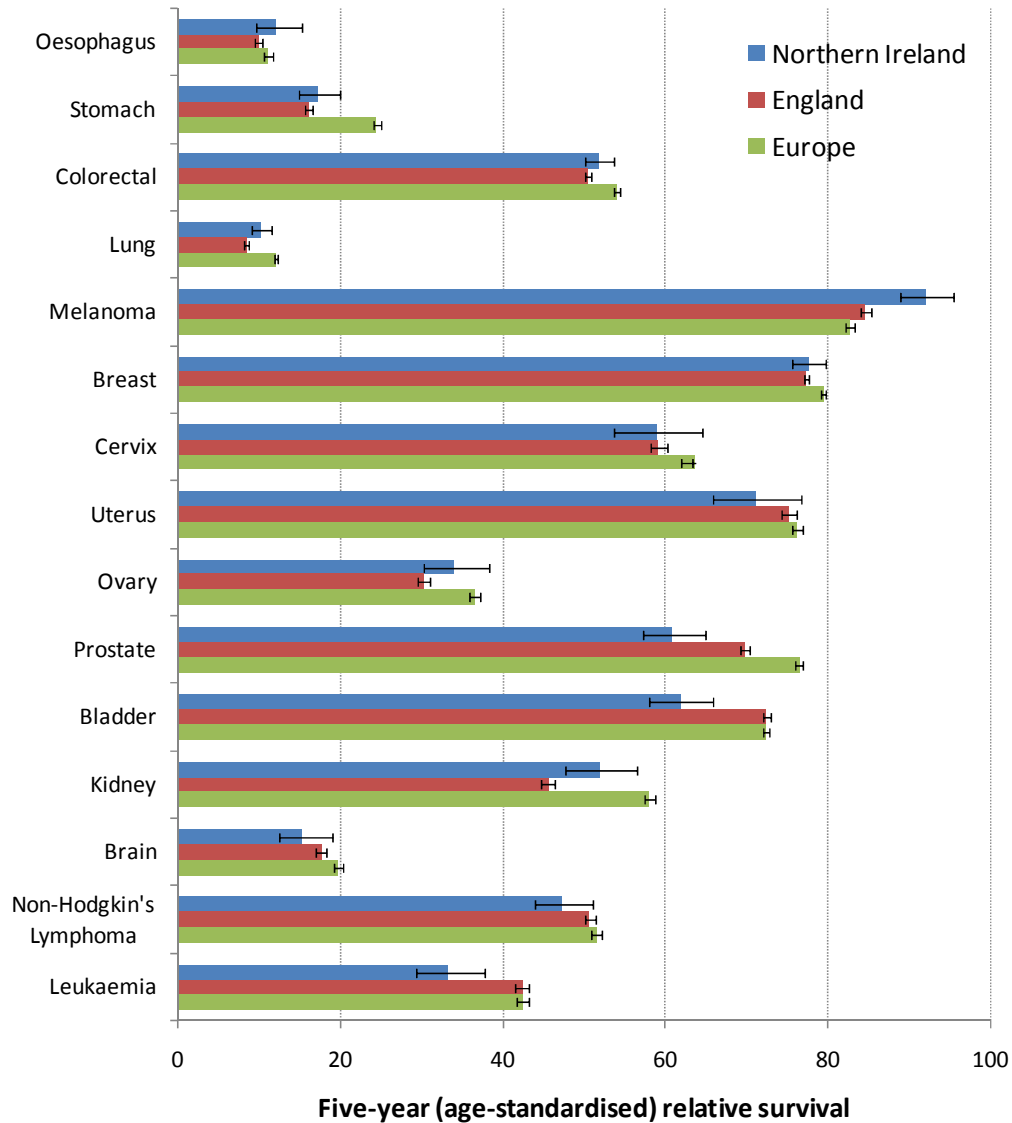
- GPs are getting better information about the care of the patient (see **Appendix 2**; Tables 7 and 8).

The DHSS&PS anticipates that the Cancer Access Standards (see **Appendix 3**) will also lead to improved survival as patients will be diagnosed and treated sooner.

### **3.11 International comparisons**

Survival from most cancers in Northern Ireland is similar to that in England. However survival for patients with lung cancer, melanoma and kidney cancer is better in Northern Ireland, while survival is lower than in England for prostate cancer, bladder cancer and leukaemia. (see Figure 10)

**Figure 10: Five-year (age-standardised) relative survival in Northern Ireland compared to England and European average (EUROCARE-IV study; patients diagnosed in 1995-1999)**



Source: EUROCARE-IV

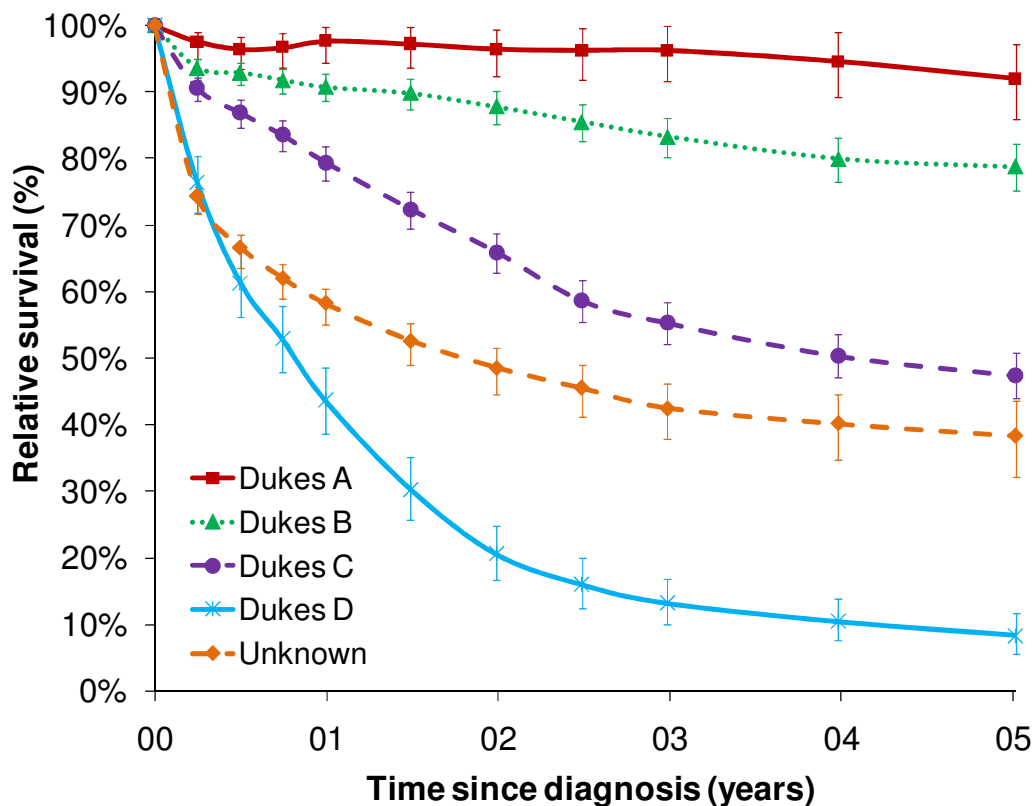
Compared to Europe, survival in Northern Ireland is lower for stomach cancer, colorectal cancer, lung cancer, prostate cancer, bladder cancer, kidney cancer, cancer of the brain and leukaemia. However, survival from melanoma and oesophageal cancer is among the highest in Europe (see Figure 10).

### 3.12 Stage and survival

The *stage* of a tumour is based on four things: the size of the tumour; the type of cells in the tumour; whether it has spread to the

*lymph nodes*; and whether it has spread to any other parts of the body. In most cases catching cancer at an earlier stage improves survival. For example, nine out of ten people whose colorectal cancer was diagnosed at an early stage (Dukes Stage A) were alive five years later. In contrast just one in ten of people whose cancer was found at a later stage (Dukes Stage D) were alive after five years (see Figure 11).

**Figure 11: Relative survival from colorectal cancer by stage at diagnosis: Patients diagnosed 1998-2002 and followed up to 2007**

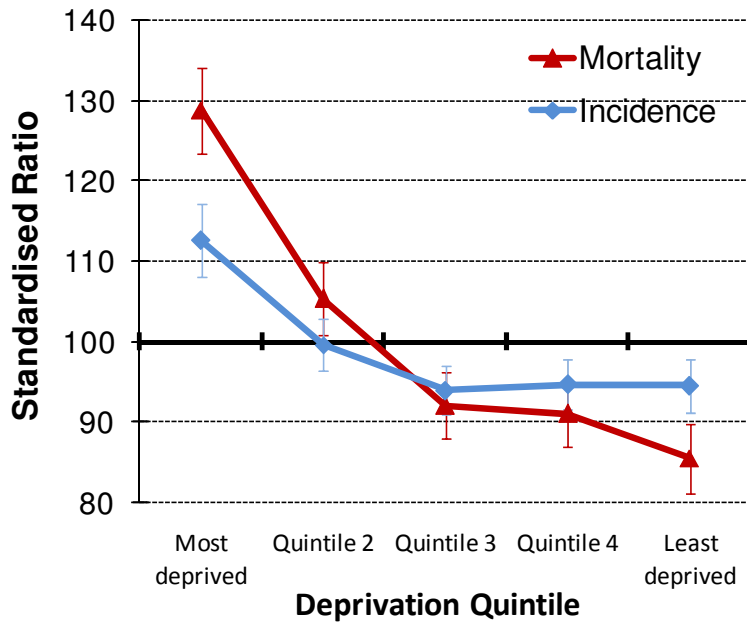


### 3.13 Deprivation and cancer in Northern Ireland

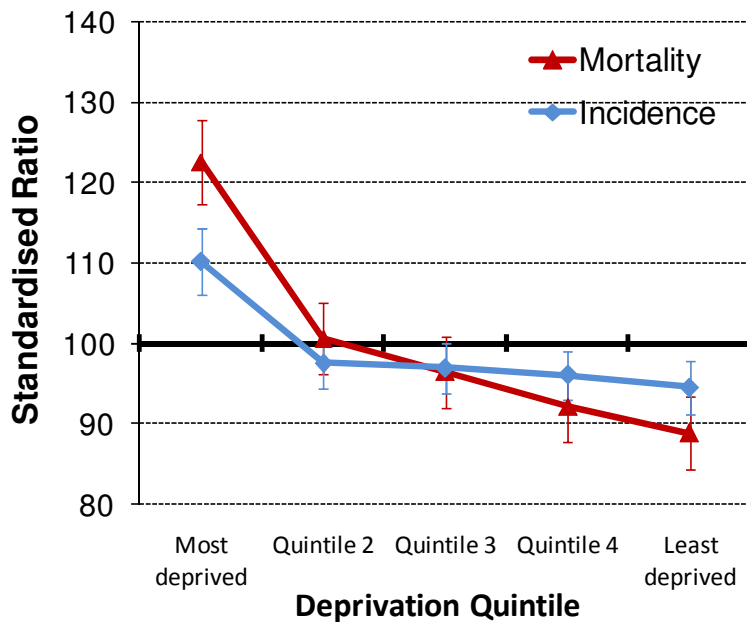
Deprivation is a measure of poverty which is based on a number of factors such as income, employment and housing. New cancer cases and deaths in total are much higher in the most deprived areas compared to the more well off areas. The increased risk in deprived areas is mostly in those cancers linked with smoking (i.e. lung, oesophagus, stomach, mouth, pancreas, kidney, bladder and cervix). However, people living in more well off areas have more breast, prostate and skin cancers. On balance, if cancer in deprived areas could be reduced to the same level as the more well off areas

there would be 16% fewer cancer cases in Northern Ireland each year (see Figure 12).

**Figure 12: Cancer incidence (2003-2007) and mortality rates (2004-2008) by deprivation quintile for all cancers combined (ex. NMSC) relative to all of Northern Ireland Male**



**Female**



People in deprived areas who get cancer have poorer outcomes than people with the same cancers living in less deprived areas.

For example, people with lung and breast cancer living in deprived areas are less likely to be alive five years after their diagnosis than those living in less deprived areas.

### **3.14 What does this mean for cancer care?**

By 2025 it is predicted that there will be an increase of between 30-54% in all cancers due to population growth and ageing. While we have seen big improvements in survival there is still more to be done. We must act now to reduce the risks and to prepare cancer services for the future. The Cancer Services Framework will continue to build on the good work that is already underway within the service.

### **3.15 People living with a cancer diagnosis**

Better survival means that 60,300 people are alive in Northern Ireland today who are living with cancer. Cancer has become a chronic disease that people have to live with for a number of years. Many of these people have an ongoing need for care, rehabilitation, information and support. This need should be recognised and addressed.

### **3.16 Palliative & end of life care**

About 3,814 people die from cancer each year. It is likely that each of them will benefit from some level of *palliative care*. This would help the patient and their family to deal with their emotional, social and spiritual needs as well as helping to relieve symptoms like pain and nausea. Services will need to expand to cope with the predicted increase in numbers of people with cancer by 2025 to ensure that people have dignity and are given choice at the end of their lives.

### **3.17 Prevention, Awareness & early detection**

#### **(a) Health promotion**

There are a number of things that are being and can be done to reduce the number of people developing cancer and improve survival. The first is to encourage and enable people to live healthy lives. The best way to cut cancer risk is to: not smoke; to be a healthy weight; to be physically active on a regular basis; to make healthy food choices; and to avoid too much sun and never

use sun beds. A great deal of work has already been done to reduce obesity and smoking, and to promote healthy eating and physical activity. These programmes need to be extended if we are to reduce the number of people developing cancer and other chronic diseases.

**(b) Screening programmes**

Cancer screening programmes are also key to improving early detection and survival. Screening programmes aim to find cancers as early as possible - when the chance of cure is highest. Work is ongoing to encourage women to attend existing breast and cervical screening programmes, particularly those who live in deprived areas. The introduction of new cancer screening programmes like the Bowel Cancer Screening Programme in April 2010 will also improve early detection and survival.

**(c) Genetic testing**

Around 5-10 per cent of cancers are thought to be caused by faulty genes that run in families. Northern Ireland has a genetic service that can test people for such genes. It can also provide people with counselling, information and advice to help them to reduce, or manage, their risk of cancer. More needs to be done to raise GP awareness about which people should be referred for genetic testing.

**(d) Vaccines**

A vaccine has been developed which can protect women from the Human Papilloma Virus (HPV). The HPV can cause cervical cancer. The introduction of the HPV vaccine for girls aged 12 will mean that the number of women developing cervical cancer will fall over time.

**(e) Awareness of early signs & symptoms**

More needs to be done to ensure that cancers are identified and treated at an early stage. Health professionals and the public need to have better awareness of the early signs and symptoms of cancer. Awareness campaigns should particularly target deprived areas where people are at greater risk of getting cancer. These campaigns should encourage people to visit their doctor if they think they might have cancer.