

Cancer

Executive Summary

Cancer is a major cause of mortality and morbidity across North Somerset and the UK. In 2011, there were over 331,000 cancer diagnoses in the UK and over 1,200 in North Somerset (excluding non-melanoma skin cancer); more than one in four deaths were caused by cancer. Early diagnosis and appropriate treatment are vital for reducing cancer mortality, whilst education, prevention and health promotion measures are necessary to help reduce an individual's risk of developing cancer

Whilst cancer mortality has been falling in North Somerset, due in large to improvements in diagnosis and treatment resulting in more people surviving with the disease, cancer remains the second most common cause of death after cardiovascular disease. In 2011, 597 people died from cancer, accounting for 27% of all deaths that year. Overall, the most common cancer diagnosis is non-melanoma skin cancer. Non-melanoma skin cancers are often excluded from cancer incidence statistics as they are extremely common, causing relatively few deaths and registration data is known to be incomplete. If non-melanoma skin cancer is excluded, the most common cancer in females is breast and in men is prostate.

Across Bristol, North Somerset, Somerset and South Gloucestershire (BNSSSG), one and five-year survival rates for all cancers combined have improved over the last fifteen years. Five-year survival for people diagnosed in 2007 (50.3%) was up by almost 7% compared to diagnoses in 1996. According to a report published in 2012, the greatest improvement in survival across Avon (which covers Bath and North East Somerset, Bristol, North Somerset and South Gloucestershire) was one-year survival of lung cancer, although it was still lower than the national increase. Colorectal cancers, however, were noted to be increasing in incidence with a falling one- and five-year survival, particularly amongst women. Further uptake of the bowel screening programme in the over 60 age group in North Somerset will help reverse this worrying trend.

Many forms of cancer have modifiable risk factors, for example smoking, alcohol and obesity (including food and physical activity). These risk factors are associated with higher cancer incidence and mortality. This emphasises the importance of a joined up public health approach when tackling diseases affecting the whole of society and highlights the importance of the various health bodies, such as the Clinical Commissioning Group (CCG), local government and Public Health England, working efficiently together to provide the best outcome for North Somerset.

Challenges for consideration

- **Modifying risk factors** e.g. smoking, alcohol misuse, improving healthy eating and physical activity (obesity control) to further improve the outcomes of cancer. To include consideration of risk factors for melanoma skin cancer (e.g. sun exposure).
- **Impact of ageing population** on services.
- **Prioritisation and investment in early diagnosis** e.g. initiatives on improving awareness and early diagnoses.
- **Prioritise reducing inequalities** in cancer by focusing on improving access to earlier diagnosis for the less advantaged groups of population.
- Ensure a **prompt adherence to the NICE guidelines** on diagnosis and treatment of cancers.
- Support GPs in **reducing time from first presentation** of symptoms to a cancer **diagnosis**.
- **Improve cancer screening uptake**, in particular colorectal cancer.

Authors: Lucy McCann, Specialty Registrar, North Somerset Council Public Health Team; Bret S. Palmer, Specialty Registrar, North Somerset Council Public Health Team

Contact: Jonathan Roberts, Consultant in Public Health, North Somerset Council Public Health Team, People and Communities Directorate

Date: September 2014

Data sources:

Please note, data provided in this report are from several different data sources, with the most recent data available at the time of writing included; this may result in data presented for different years depending on the data source.

1 Why is it important?

Cancer is the leading cause of premature mortality in the under 75s in North Somerset and the UK and a major cause of death contributing to health inequalities.

More than 331,000 people were diagnosed with cancer in 2011 in the UK, that's around 910 people every day. Cancer can develop at any age, but is most common in older people. More than a third of cancers are diagnosed in people aged 75 and over.¹ This is particularly important for North Somerset, where the proportion of the population aged over 75 is higher than the national average.

Cancer in children is rare but based on national estimates, around six new childhood cancers are diagnosed in North Somerset each year.² One report³ estimated that in the West of England (Bristol, North Somerset, South Gloucestershire and Bath and North East Somerset), around 8% of all deaths in children between April 2008 and March 2011 were due to cancer.

The impact of cancer on health care costs is substantial. The total (gross) spend on cancer (and tumours), including prevention and health promotion, in England in 2012/13 was £5.68 billion. The per capita expenditure on cancer in 2012/13 in England was £107.21, an increase from £64.95 per capita the NHS was spending in 2003/04,⁴ but still short of the monies spent on cancer care in the comparable Western European Countries. The Department of Health's Programme Budgeting data⁴ show that North Somerset spent 5.8% of its total expenditure on cancer care in 2012/13. The per capita expenditure on cancer in 2012/13 was £98.1, lower than the national average.

2 What are the needs of the populations?

2.1 Cancer incidence

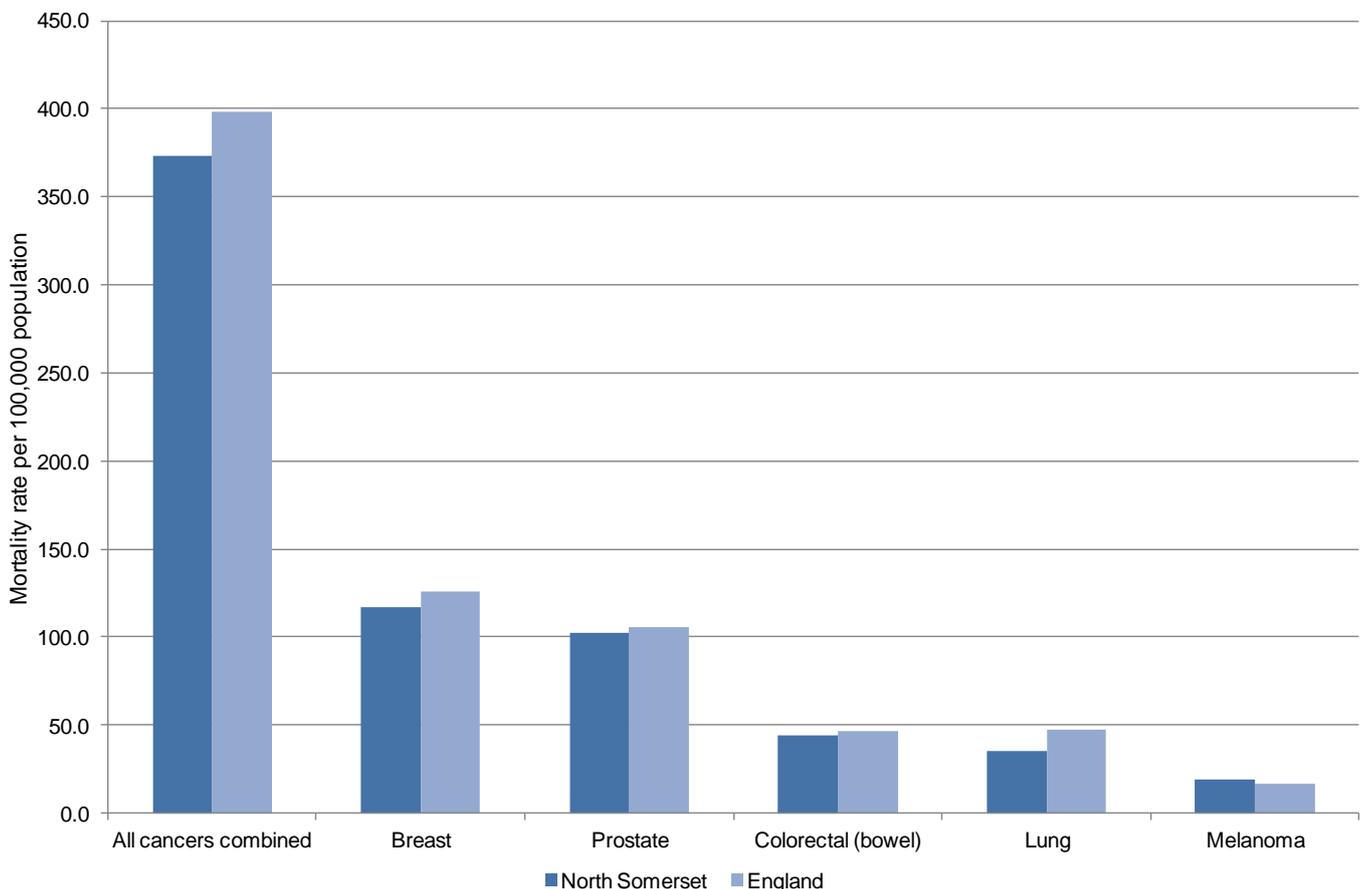
In North Somerset, between 2007 and 2011, the average number of new cancer cases per year 1,244 (excluding non-melanoma skin cancer).⁵ The average number of new cases of non-melanoma skin cancer per year was 581 for the same time period.⁶ Non-melanoma skin cancers are often excluded from cancer incidence statistics as they are extremely common, causing relatively few deaths and registration data is known to be incomplete. They are therefore excluded from this report, unless explicitly stated.

The most common type of cancer for women is breast (195 deaths per year on average) and for men is prostate (175 deaths per year on average). Whilst the second most common cancer

diagnosis for both males and females in England, is lung, in North Somerset the second most common cancer diagnosis is colorectal (bowel).⁵ The total number of colorectal cancer cases diagnosed in North Somerset in 2011 was 31% higher than the number diagnosed in 2007. Melanoma skin cancer is now the fifth most common cancer in North Somerset (behind breast, prostate, colorectal and lung); the number of new cases has increased by 39% since 2007.

Figure 1 presents age-standardised rates (latest available data for 2008-2010 only) for the five most common cancers in North Somerset compared to England. Age-standardised rates take into account the variation in the age structures of populations. The age-standardised rates adjust for age to allow comparisons between different areas to be made.

Figure 1: Age-standardised cancer incidence in North Somerset, compared to England, 2008-2010

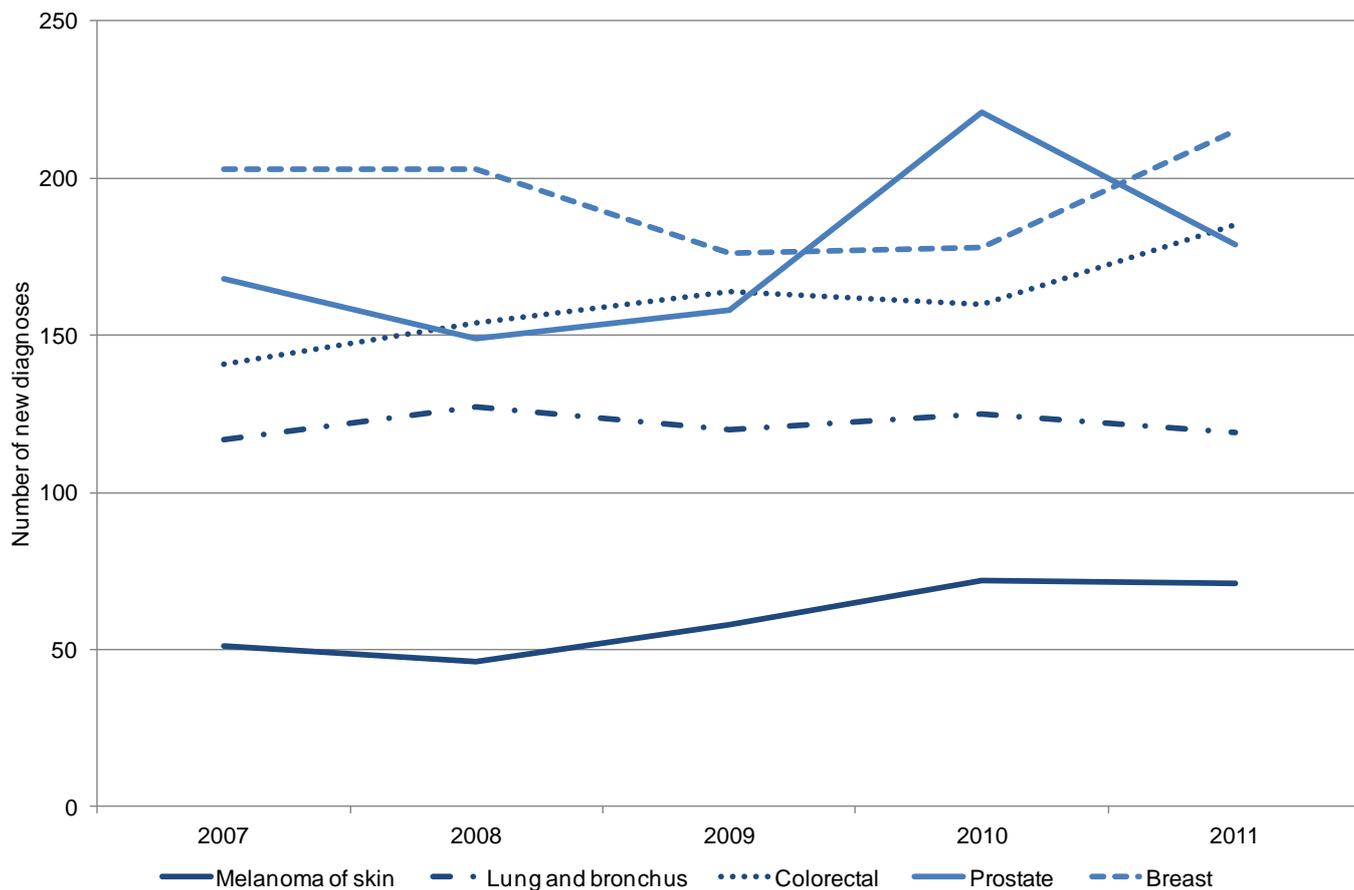


Data source: NCIN Cancer e-atlas

Overall, the cancer incidence rate in North Somerset (372.5 per 100,000) is lower than the national average (398.1 per 100,000), with incidence higher in males (425.8 per 100,000) compared to females (370.4), a pattern which is also observed nationally.⁷

Figure 2 presents the number of new cases of cancer for North Somerset, for the five most common cancer types, over time (2007-2011). Although numbers are small and therefore likely to fluctuate year on year, the data shows that there has been an increase in cases of melanoma, whilst cases of lung cancer have remained stable.

Figure 2: Number of new diagnoses, by cancer type, 2007-2011



Data source: South West Public Health Observatory (SWPHO); now the Knowledge and Intelligence Team, Public Health England

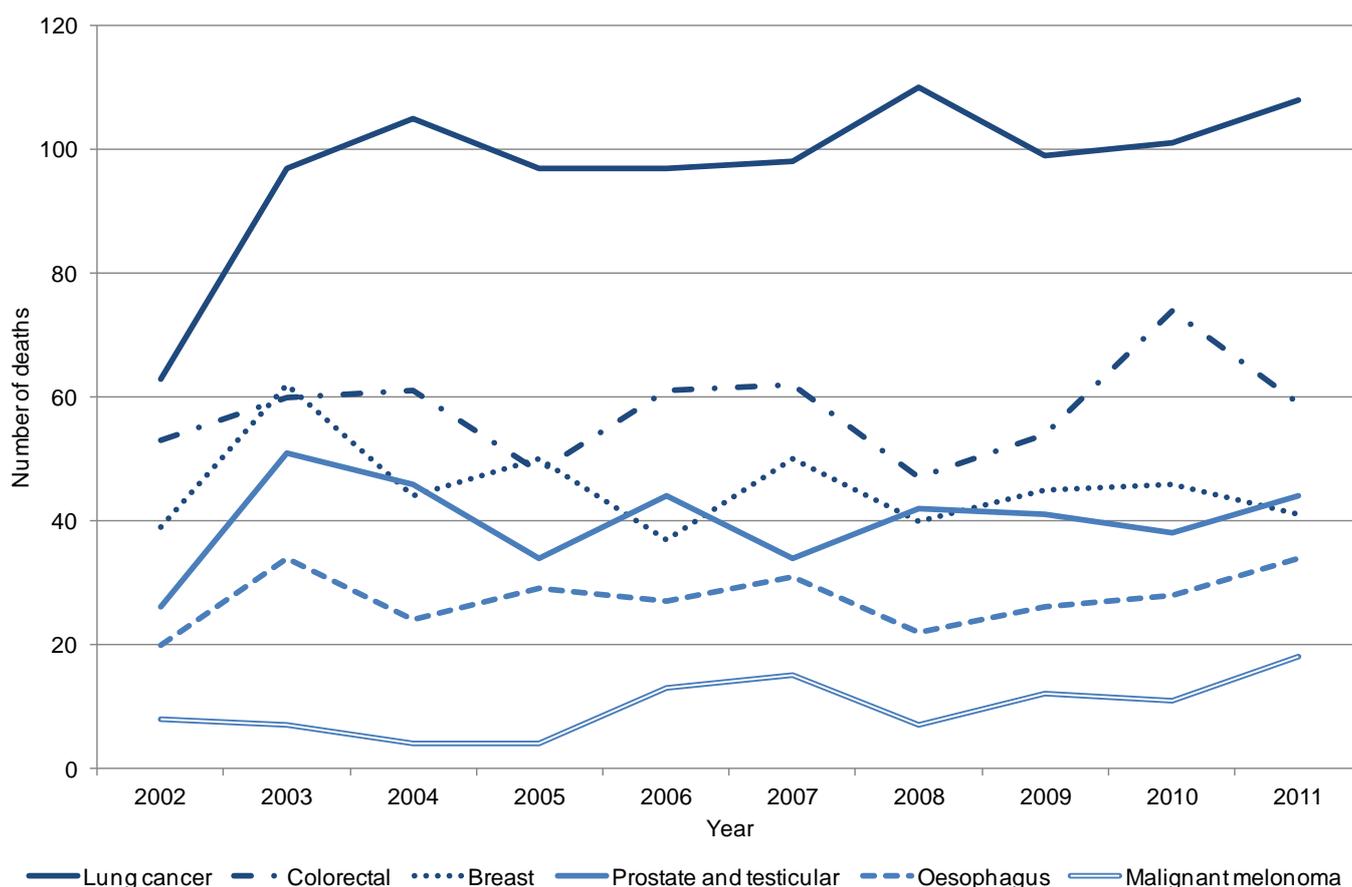
2.2 Cancer mortality

Cancer is the second most common cause of death after cardiovascular disease (CVD) in North Somerset and the leading cause of death in people aged under 75 (called ‘early’ or ‘premature deaths’).

2.2.1 All age mortality

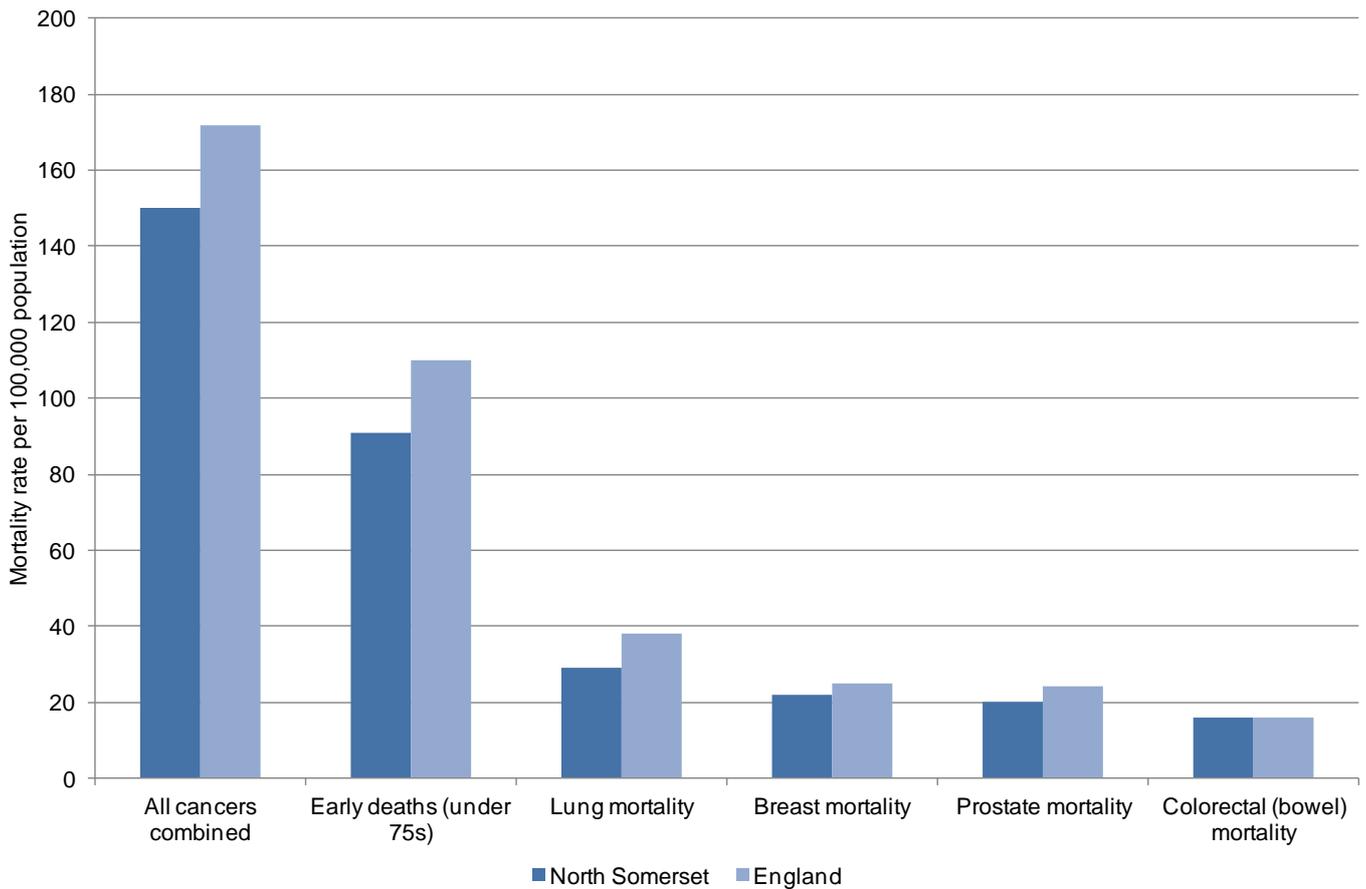
In 2011, 597 people from North Somerset died of cancer, accounting for 27% of all deaths. Figure 2 presents the number of deaths, by cancer type, for the five most common cancers in North Somerset, between 2002 and 2011.

Figure 2: Number of deaths by cancer type, North Somerset, 2002-2011



Cancer-specific mortality rates are the number of deaths, with the specific cancer as the underlying cause of death, occurring in a specified population during a year. The rates presented here are age-standardised.⁷ In North Somerset mortality rates are highest for lung cancer, followed by breast cancer, then prostate cancer and then colorectal (bowel) cancer (figure 3). These four cancers comprised 44% of the yearly cancer deaths average for 2009-2011 (566 deaths).

Figure 3: Age-standardised cancer mortality in North Somerset, compared to England, 2009-2011



Data source: NCIN Cancer e-atlas

2.2.2 Early deaths (under 75 years)

In England, one in three deaths are in people aged under 75. Between 2010 and 2012, the average number of early deaths from cancer in North Somerset was 252,⁸ accounting for 41% of all early deaths.

The five most common causes of early deaths from cancer in North Somerset in 2010 and 2011 are listed in table 1.

Table 1: Five most common causes of early deaths (under 75s) from cancer in North Somerset, 2010 and 2011

Cancer type	Proportion of all early cancer deaths	
	2010 (n=245)	2011 (n=290)
Lung	18%	22%
Colorectal (bowel)	14%	9%
Breast	9%	8%
Oesophagus	5%	7%
Melanoma	3%	5%

Data source: Office for National Statistics

The Public Health Outcomes Framework 2013-2016⁹ has identified a number of indicators of public health importance. Two of these indicators relate to early deaths from cancer:

- *under 75 mortality rate from cancer,*
- *under 75 mortality rate from cancer considered preventable.*

Rates for 2010-2012 were 130.48 and 74.90 deaths per 100,000 population aged under 75, respectively; this is a 14.8% and 19.3% decrease compared to 2001-2003 rates.

2.3 Survival

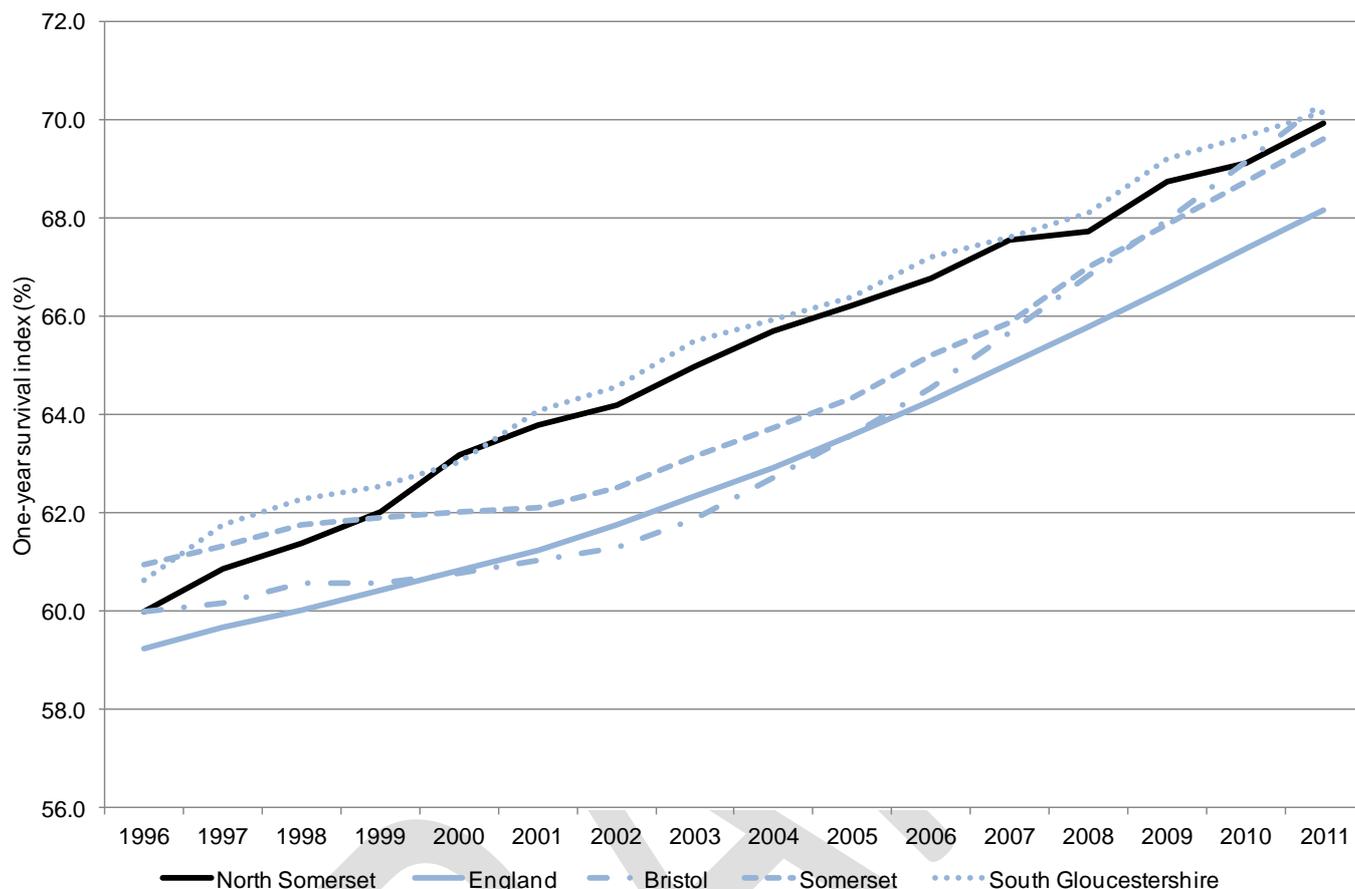
Survival estimates are the percentage of patients who are still alive a specified time after their diagnoses of cancer. The most common estimates are one-year and five-year survival.¹⁰

2.3.1 Overall cancer survival

The one- and five-year survival rates for adults (aged 15-99 years) in BNSSSG (Bristol, North Somerset, Somerset and South Gloucestershire) have shown improvement since the mid-1990s.

Five-year survival increased from 43.5% for adults diagnosed in 1996 (followed up in 2001) to 50.3% for adults diagnosed in 2007 (followed up in 2012).

Figure 4: One-year survival index (%) for all cancers combined, by calendar year of diagnosis: all adults (aged 15-99 years), North Somerset compared to local areas (Bristol, Somerset and South Gloucestershire) and England, 1996-2011



Data source: Office for National Statistics

One-year cancer survival in North Somerset has seen an improvement of 10% over the last 15 years (figure 4) and remains above the England average. However, the rate of improvement has slowed in recent years, whilst other local areas have seen a sharper improvement.

One year cancer survival rates are a good indicator of whether cancer is being diagnosed early and whether access to optimal treatment is available. On average, one year cancer survival rates in England lag behind the best in Europe, so there is still scope for improvement. *Improving Outcomes: A Strategy for Cancer*¹¹ noted that if Britain matched mean European survival, about 6,000-7,500 deaths in under 75s would be avoided per year; this figure represents approximately 10-12% of current national premature cancer deaths.

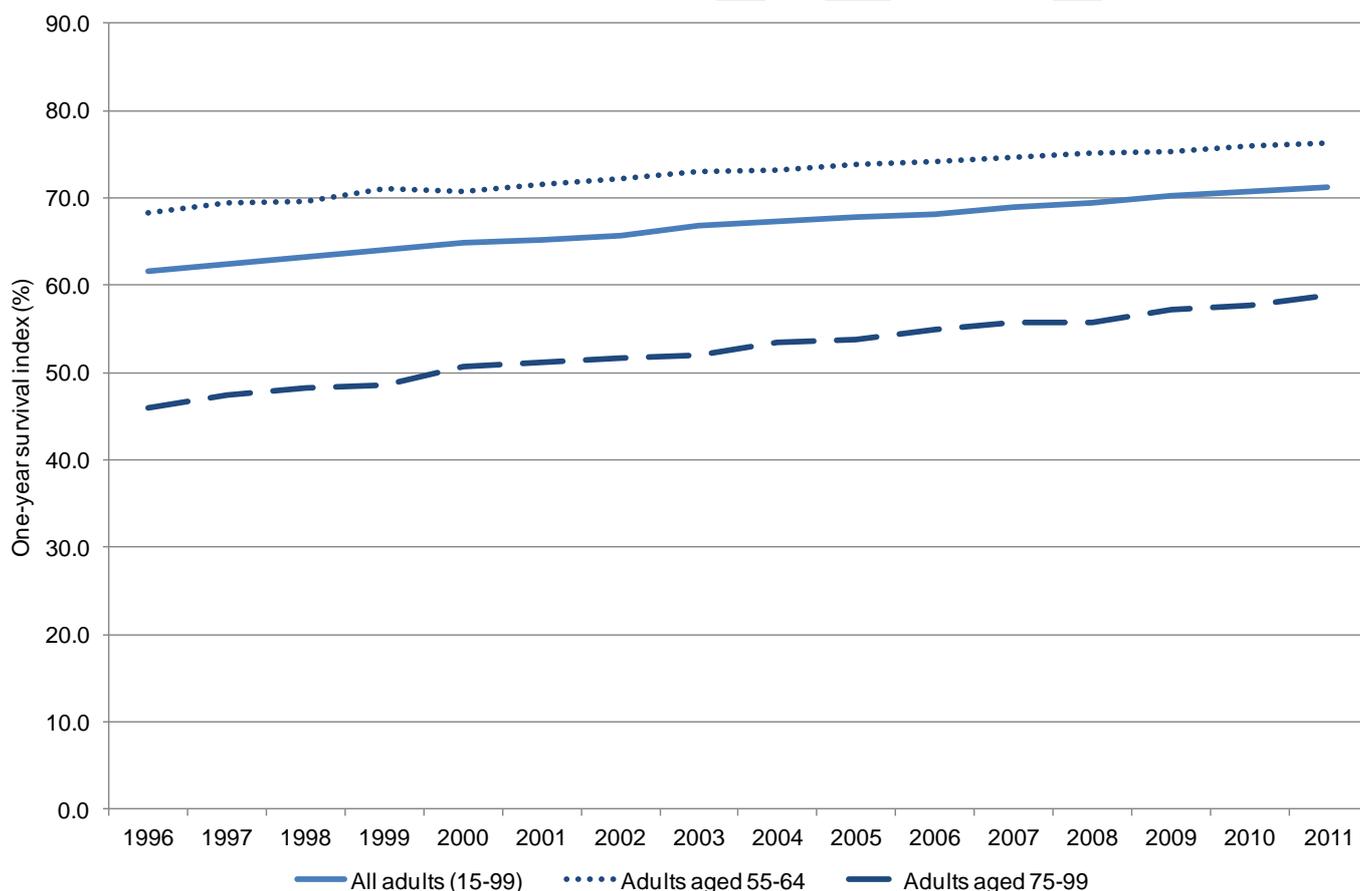
2.3.2 Survival by cancer site

A report¹² on cancer mortality in Bristol, North Somerset and South Gloucestershire in 2012, highlights that the greatest improvement in survival across Avon (which covers Bath and North

East Somerset, Bristol, North Somerset and South Gloucestershire) for the period 1998-2007 was one-year survival of lung cancer, although it was still lower than the national increase. Colorectal cancers, however, were noted to be increasing in incidence with a falling one- and five-year survival, particularly amongst women.

More recent data is available for one-year survival for three cancers combined: breast (women only), colorectum and lung cancer. For North Somerset, survival for all adults (15-99 years), diagnosed in 2011 was 71.2%, but survival and improvements in survival over time differed by age (figure 5). There was a larger improvement in survival between diagnoses in 1996 compared to 2011, for adults aged 75-99 (13.2%), compared to adults aged 55-64 (8.1%).

Figure 5: One-year survival index (%) for three cancers combined (breast (women), colorectum and lung), by calendar year of diagnosis: all adults (aged 15-99 years), compared to adults aged 55-64 years and adults aged 75-99 years, North Somerset, 1996-2011



Data source: Office for National Statistics

2.4 Cancer and inequalities

Guidance on reducing inequalities (2010) noted that: *“There is some evidence to suggest that otherwise similar patients from different socioeconomic groups receive different treatment within the NHS, although this requires further investigation to understand how much of this is due to later stage of presentation and co-morbidities.”*¹³

Nationally, incidence and mortality is higher for the more deprived groups in most cancers, apart from breast, prostate, and cancer of the testis, which display a higher incidence in the more affluent groups.¹⁴ In North Somerset, life expectancy is 9.8 years lower for men and 6.6 years lower for women in the most deprived areas than in the least deprived areas. Cancer contributes to 13% (for males) and 20% (for females) of the life expectancy gap. Lung cancer alone contributes to 6.7% (for males) and 5.7% (for females) of the life expectancy gap.¹⁵

2.5 Risk factors

Many forms of cancer result from modifiable risk factors, for example smoking, alcohol, obesity, diet and physical inactivity. Addressing these risk factors, will help to prevent cancer and reduce mortality; more than four in ten cases of cancer and around one in three cancer deaths could be prevented by avoiding such risk factors. It is estimated that smoking, for example, causes 86% of lung cancers.¹⁶

Current estimates suggest that 15.9% of the population in North Somerset smoke, 23.6% have increasing or high risk drinking behaviour and 25.2% are classified as obese.¹⁷ As part of the new Public Health Outcomes Framework⁹, an attempt has been made to estimate how many deaths from cancer might be preventable. For 2009-11, the under 75 mortality rate for North Somerset was 134.5 per 100,000 population; for the same time period, the under 75 mortality rate from cancer considered preventable was 77.3 per 100,000.¹⁸ Therefore, although people in North Somerset have lower risk factors for cancer, over half of all cancer deaths in North Somerset were of preventable forms of cancers such as lung, breast and cervical cancers. This equates to around 440 deaths across the three year period.

2.6 Prevention

Cancer prevention is defined as active measures to decrease the risk of cancer. The vast majority of cancer cases are due to environmental risk factors, and many, but not all, of these environmental factors are modifiable risks, as discussed in the previous section (e.g. smoking and alcohol). Many dietary recommendations have been proposed to reduce the risk of cancer, however the evidence to support them is not definitive. The primary dietary factors that increase risk are obesity and alcohol consumption; with a diet low in fruits and vegetables and high in red meat being implicated. Studies have linked consumption of red or processed meat to an increased risk of breast cancer, colon cancer, and pancreatic cancer, a phenomenon which could be due to the presence of carcinogens in meats cooked at high temperatures. Dietary recommendations for cancer prevention typically include an emphasis on vegetables, fruit, whole grains, and fish, and an avoidance of processed and red meat (beef, pork, lamb), animal fats, and refined carbohydrates.

Vaccination is an important prevention method and some vaccines have been developed that impact on the risk of developing cancer, such as the human papillomavirus (HPV) vaccine, which decreases the risk of developing cervical cancer; and hepatitis B vaccine, which decrease the risk of liver cancer.

Importantly, not all environmental causes are controllable, such as naturally occurring background radiation, and other cases of cancer are caused through hereditary genetic disorders, and thus it is not possible to prevent all cases of cancer.

2.7 Cancer screening

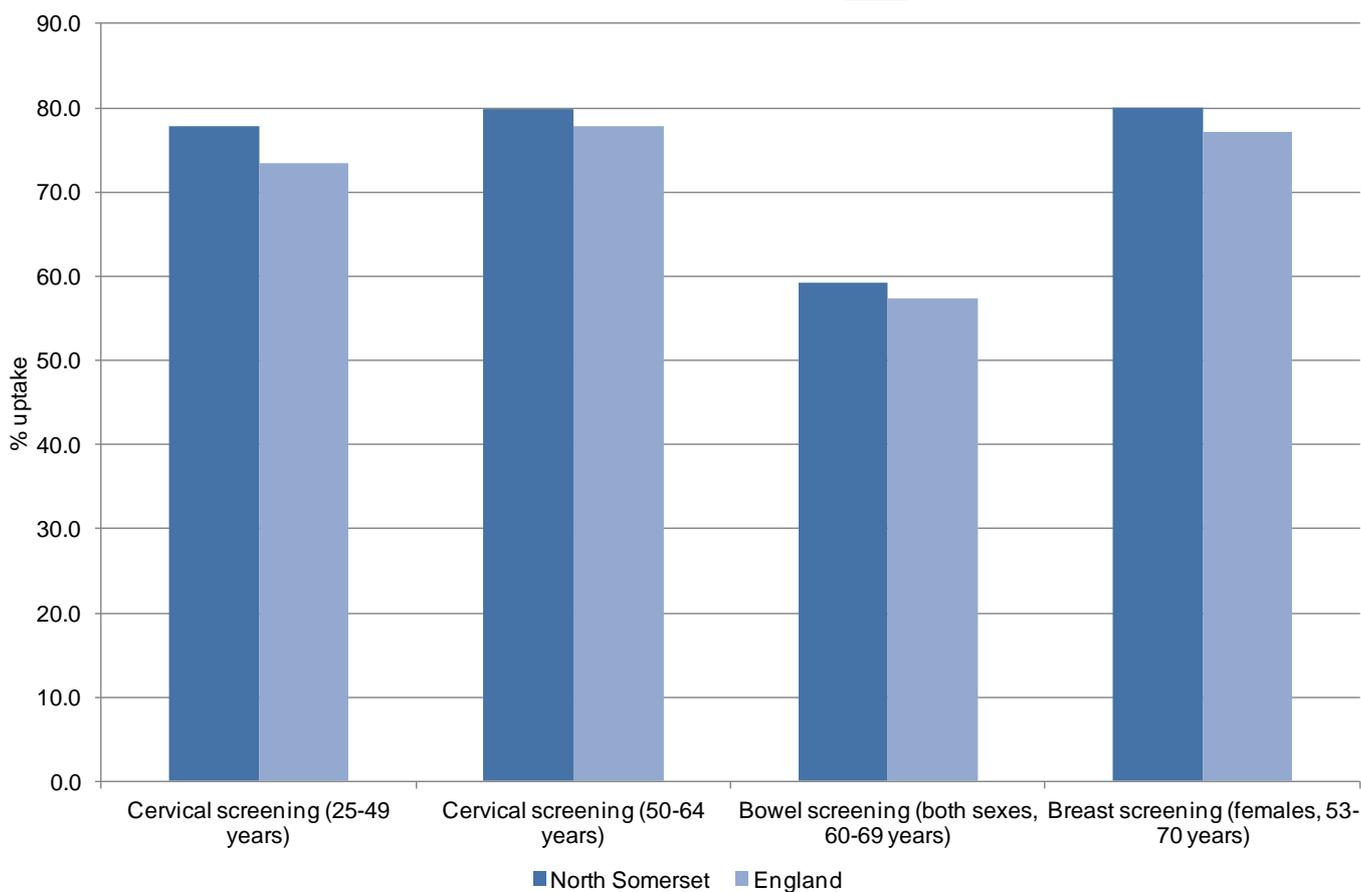
There are, currently, three population based cancer screening programmes in North Somerset, in line with the National NHS Cancer Screening Programmes: cervical screening, breast screening and bowel screening. Cervical screening is vital for spotting cervical cancer earlier and preventing it from developing. Breast and bowel screening facilitates early detection of cancer and patients are more likely to survive if it is diagnosed at an earlier stage.

The cervical and breast screening programmes are organised and delivered as Avon-wide programmes, with much of the commissioning priorities and policies developed Avon -wide. These programmes have been in place since 1964 and 1989, respectively.

The local bowel screening programme, organised through the Bristol and Weston Bowel Cancer Screening Programme, was implemented in December 2008.

Figure 6 presents the proportion of individuals who take up screening in North Somerset compared to the English average. North Somerset's uptake is consistently higher in all screening programs compared to England overall, however there remains room for improvement, particularly for bowel screening which has an uptake rate of less than 60%.

Figure 6: Percentage uptake of screening in North Somerset for cervical, bowel and breast screening programmes, compared to England



All screening results are a proportion of the above stated population

Data source: Cancer Research UK

2.8 Diagnosis

2.8.1 Emergency diagnosis

Diagnosing cancer as an emergency presentation is associated with worse outcomes and lower survival as it may indicate late diagnosis. In 2008/9 in the Avon, Somerset and Wiltshire Cancer Network (ASWCN), colorectal, lung and upper gastrointestinal cancers were the most frequently diagnosed cancers via emergency presentation, ranging from 17% to 21% of all cancer diagnosis, respectively.

A recent national study¹⁹ revealed that approximately 23% of cancer patients in England were first diagnosed via emergency presentations. It also showed an age association, with the very youngest (<24s) and the very oldest (75+) being the most prominent as well as an association with deprivation and that emergency presentation is strongly associated with poorer survival.

2.8.2 GP visits

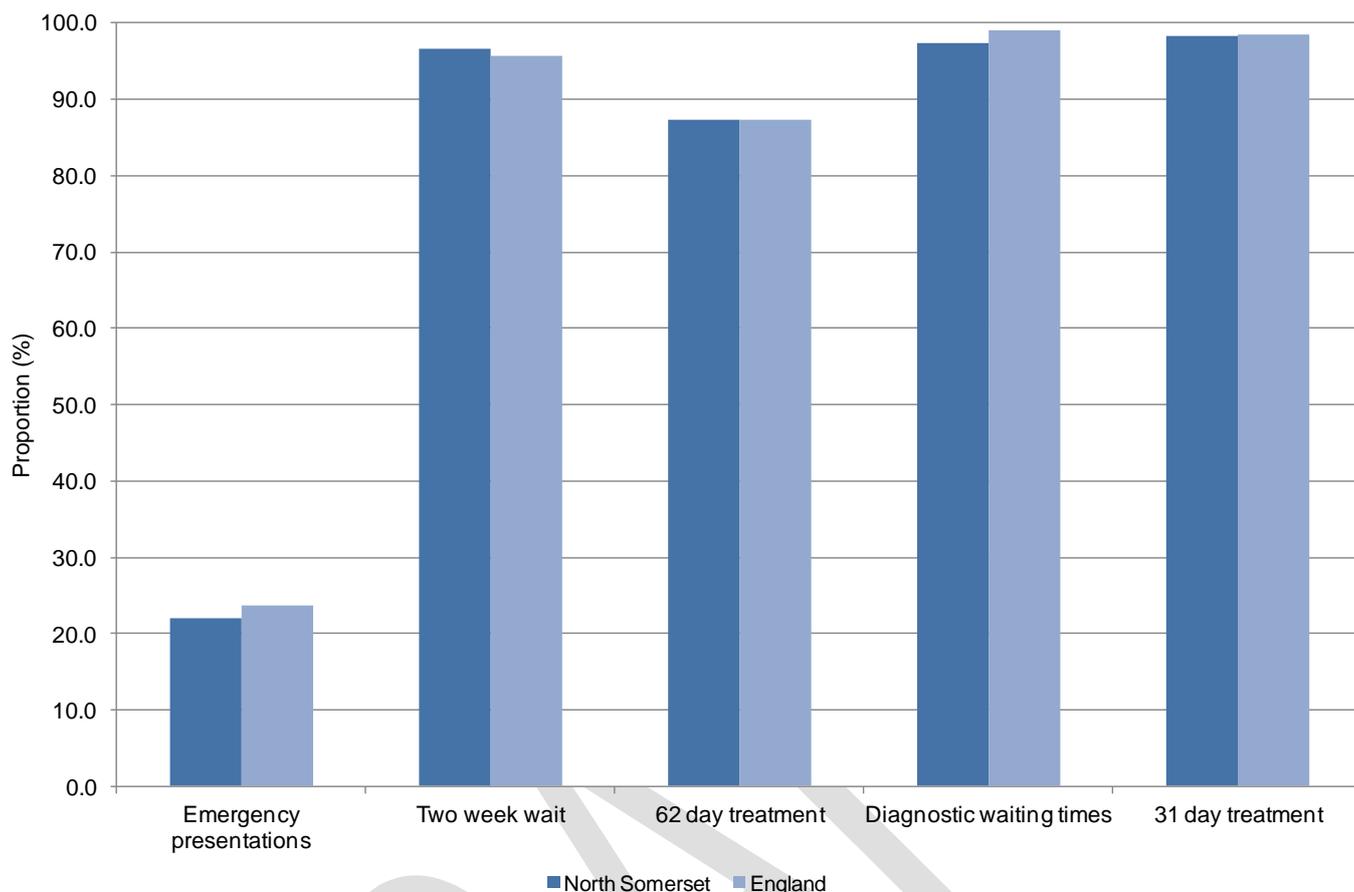
The number of GP attendances for the same group of symptoms before a diagnosis of cancer is also an indicator of delayed diagnosis. On average, 20% of patients in North Somerset had three or more GP visits before being referred with a suspected cancer diagnosis. This is indicative of a potentially delayed diagnosis.

In North Somerset in 2010/11, 2,541 urgent GP referrals (two-week wait) per 100,000 population were made, which is higher than the national rate (around 1,900 urgent referrals per 100,000 population; range: 920 to 2957).²⁰ The high rates are likely due to the high proportion of elderly residents within North Somerset.

2.8.3 Cancer waiting times

NHS England collects data on the number of people who were seen within two weeks of an urgent cancer referral by their GP and the number of cancer patients who started treatment within 62 days. In 2012, 96.6% of urgent referrals were seen within two weeks, which is higher than the national average (95.7%) and 87.3% of cancer patients received their first treatment within 62 days of an urgent GP referral (compared to England average of 87.3%). Figure 7 shows how North Somerset is performing compared with the rest of England.

Figure 7: Early diagnosis in North Somerset compared to England



Notes/definitions:

- Emergency presentations: proportion of patients who are diagnosed with cancer through emergency routes;
- Two week wait: proportion of patients who see a specialist within two weeks;
- 62 day treatment: proportion of cancer patients who receive their first treatment within 62 days of an urgent GP referral;
- Diagnostic waiting times: proportion of patients who wait no more than 6 weeks for a diagnostic test for cancer;
- 31 day treatment: proportion of cancer patients who receive treatment within 31 days of a decision to treat.

Data source: Department of Health and NCIN, January-December 2012.

2.8.4 Audit of cancer diagnoses among GP practices in North Somerset, 2012-13

Early diagnosis of cancer is vital to maximise treatment options and chances of recovery, as identified by the National Awareness and Early Diagnosis Initiative (NAEDI), which is a partnership led by NHS England, Department of Health, Public Health England and Cancer Research UK and involves a range of other public and third sector organisations.

An audit was carried out across 23 GP practices in North Somerset covering the 12 month period from April 2011 to March 2012 and the results compared to data from the National Audit of Cancer

Diagnosis in Primary Care 2009/10.²¹ The audit found a lower percentage of patients were referred after one or two consultations (compared to the national audit), suggesting there was further work to be done to improve earlier diagnosis of cancer. There was also a suggestion that there is a need for improvements in early diagnosis of bowel cancer.

2.9 Variations in hospital management of cancer

The NHS Atlas of variation 2009/10²⁰ shows that:

- Number of emergency bed-days per cancer registration for North Somerset is in the lowest quintile nationally (9.61; national range from 7.13 to 18.16).
- The average length of stay for elective breast surgery in North Somerset was 1.73 days, which was again in the lowest quintile nationally (national range: 0.84 to 5.12). BNSSG (Bristol, North Somerset and South Gloucestershire) CCGs have commissioned for the second year now an intraoperative diagnostic technique (OSNA) for breast cancer which should facilitate 24hr breast surgery and thus reduce the length of hospital stay for this cancer.

2.10 Treatment services

In the years 2007-2011 only 37% of cancer diagnoses (3,411 cases out of a total 9,126 cancer diagnoses) were diagnosed at Weston Area NHS Trust. The majority were diagnosed at trusts centred around Bristol with the remainder, less than 3%, being diagnosed at other trusts around the country. While there were 9,126 diagnoses of cancer in residents of North Somerset in the years 2007-2011, there were 44,144 total admissions over the same period for North Somerset residents.

The majority of all admissions (74%) were dealt with as a day case (no overnight admission needed). All of the Bristol trusts and Weston General had a similar distribution of length of stay.

2.11 Palliative Care

Palliative care will formally not be part of this cancer JSNA but we would refer you to the following document: *Avon Palliative Care Strategy Group: Strategy for children and young people's palliative care 2012-2015* (published Nov 2012).

3 What works?

- Preventing cancer is how as a society we will cut the number of deaths each year. While prevention was covered above, the cancer charity Cancer Research UK does have a good review of cancer prevention here: <http://www.cancerresearchuk.org/cancer-help/about-cancer/causes-symptoms/preventing-cancer>
- Screening is also an extremely effective method of detecting cancers before they become a problem. A summary can be found here: <http://www.cancerresearchuk.org/cancer-help/about-cancer/causes-symptoms/>
- Knowing the symptoms of cancer, e.g. sudden unexplained weight loss, passing blood in urine or your stool, coughing or vomiting blood, any long term cough or any new lumps, bumps or growths. Or if you have any other unexplained symptoms or concerns. All of which should be checked by your GP as soon as possible. A summary of the possible symptoms of cancer can be found here: <http://www.cancerresearchuk.org/cancer-help/about-cancer/causes-symptoms/possible-symptoms-of-cancer>
- There are many guidelines regarding cancer published by the National Institute for Health and Care Excellence. Some of the guidance can be complex to understand and is used by medical teams across the UK. Guidance can be found here: <http://www.nice.org.uk/guidance/index.jsp?action=byTopic&o=7165>

4 Challenges for consideration

- Modifying risk factors e.g. smoking, alcohol misuse, improving healthy eating and physical activity (obesity control) to further improve the outcomes of cancer (i.e. a reduction in premature mortality and increase in the rate of survival as well as improved quality of life when diagnosed with cancer). To include consideration of risk factors for melanoma skin cancer (e.g. sun exposure);
- North Somerset has a higher proportion of older people compared to the national average and this is set to increase. Consideration should be given to the impact of an ageing population on services in the area.

- Prioritisation and investment in early diagnosis e.g. initiatives on improving awareness and early diagnoses;
- Prioritise reducing inequalities in cancer by focusing on improving access to earlier diagnosis for the less advantaged groups of population;
- Ensure a prompt adherence to the NICE guidelines on diagnosis and treatment of cancers;
- Support GPs in reducing time from first presentation of symptoms to a cancer diagnosis;
- Improve cancer screening uptake, especially colorectal cancer.

5 References & data

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