7. ADULTS

7.3. Cancer

Cancer is a condition where our body cells uncontrollably grow and reproduce. These are cancerous cells, which can invade and destroy surrounding healthy tissue, including organs. Cancer is becoming a very common condition. One in three people or more will develop some form of cancer during their lifetime. However, number of cancers are largely preventable or can be detectable early to improve the health & wellbeing of the population.

7.3.1. The impact of cancer

In 2013, 352,197 people in the UK were newly diagnosed with cancer. In the UK, the four most common types of cancer are: breast, lung, prostate and bowel cancer and these accounted for over half (53% in 2011) of all new cases[1].

Around 163,000 people died of cancer in the UK (2014). Lung, bowel, breast and prostate cancers together accounted for almost half (46%) of all these cancer deaths1.

In Buckinghamshire, 2,764 people were diagnosed with cancer in 2013. In 2014 there were 1,170 deaths from cancer, which is more than 1 in 4 (29%) of all deaths (4,014) in Buckinghamshire. Cancer mortality rates in Buckinghamshire (239 /100,000) are lower than in the South East (258/100,000) and England averages (273/100,000) in 2014.

Cancer is the second largest contributor to the life expectancy gap for males and females in Buckinghamshire (13.5% and 23.1% respectively) (2010-12, PHE Segment Tool).

This chapter discuss some basic information, as well as inequalities related to cancer incidence and mortality. Cancer screening, lifestyle risks for cancer such as smoking, obesity in adults and children, Physical activity, alcohol and End of Life Care are considered in separate chapters.

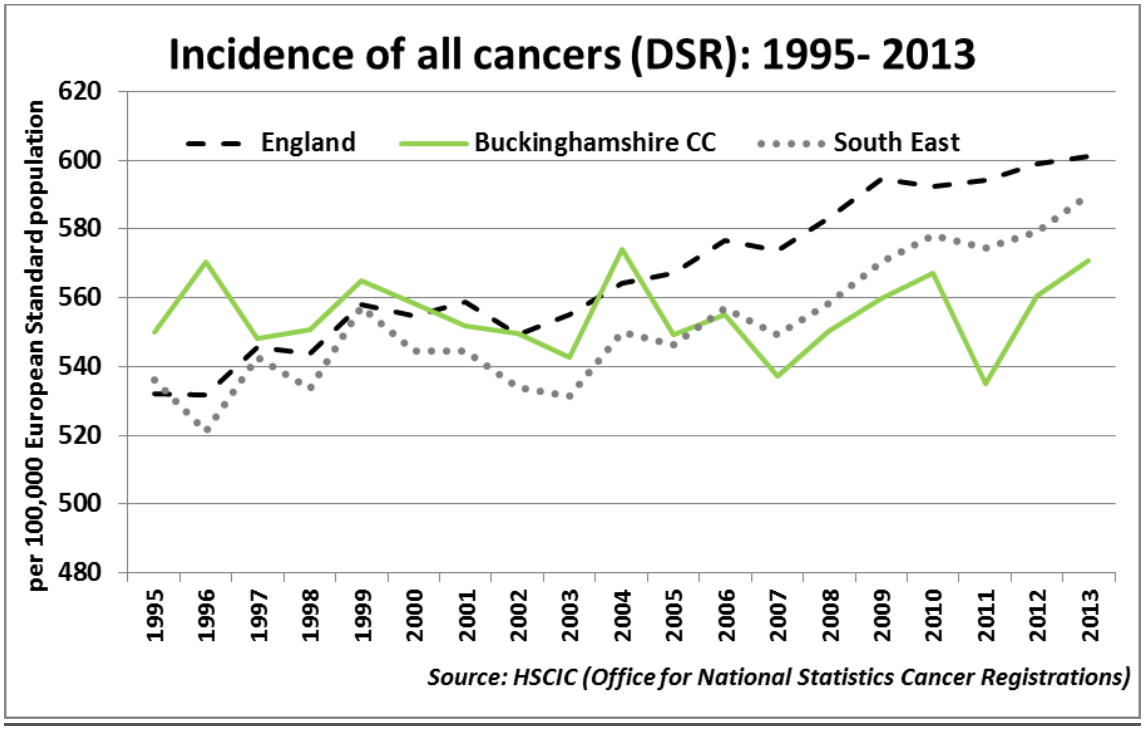
7.3.2. Cancer Information in Buckinghamshire

7.3.2.1. Incidence

Incidence is the number /rate of new cancers in a given time period. In 2013, the directly age standardised incidence rate of all types of cancers (excluding non-melanoma skin) in Buckinghamshire (571 per 100,000 population) is lower than that

for the South East (590 per 100,000 population) and England averages (601 per 100,000). However, the rates are fluctuating widely since 1995.

Figure 1 Directly age standardised incidence rate of all types of cancers in Buckinghamshire compared to South East & England. 1995 - 2013



Note: Incidence of all cancers (ICD9 140-208 exc 173, ICD10 C00-C97 exc C44)

Figure 2 Directly age standardised incidence rate of lung cancer in Buckinghamshire compared to South East & England. 1995 - 2013

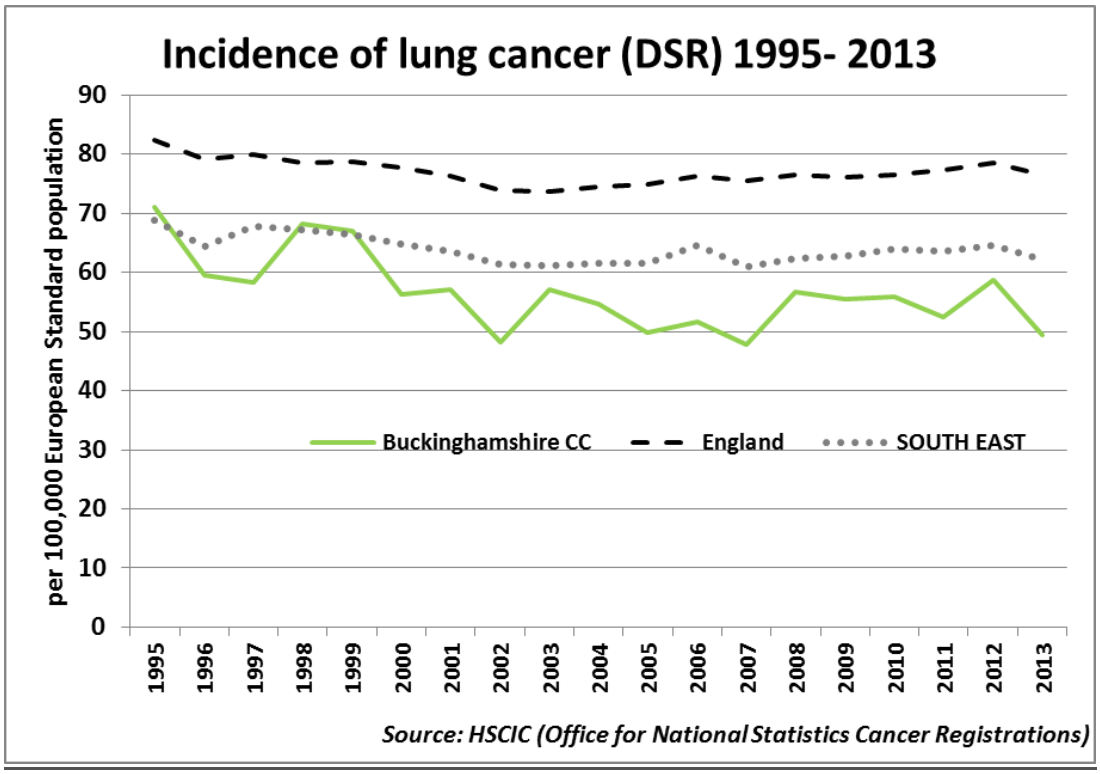


Figure 3 Directly age standardised incidence rate of breast cancer in Buckinghamshire compared to South East & England. 1995 – 2013

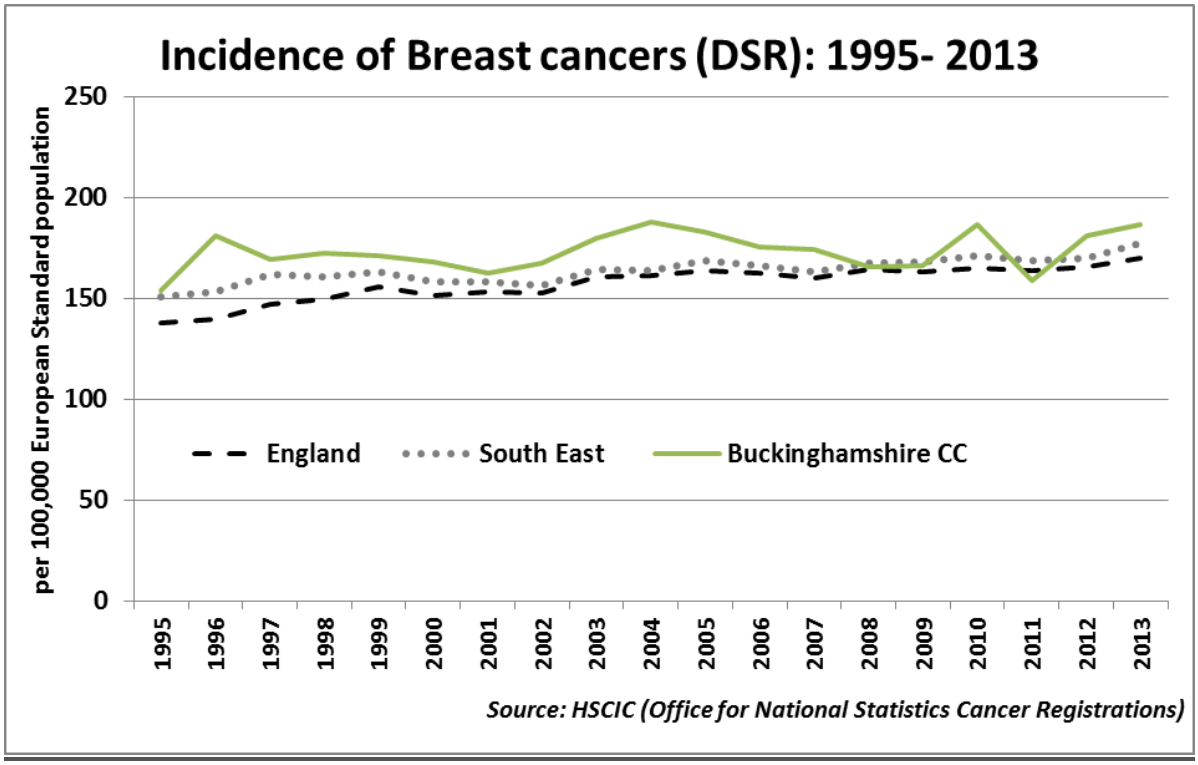


Figure 4 Directly age standardised incidence rate of colorectal (bowel) cancer in Buckinghamshire compared to South East & England. 1995 - 2013

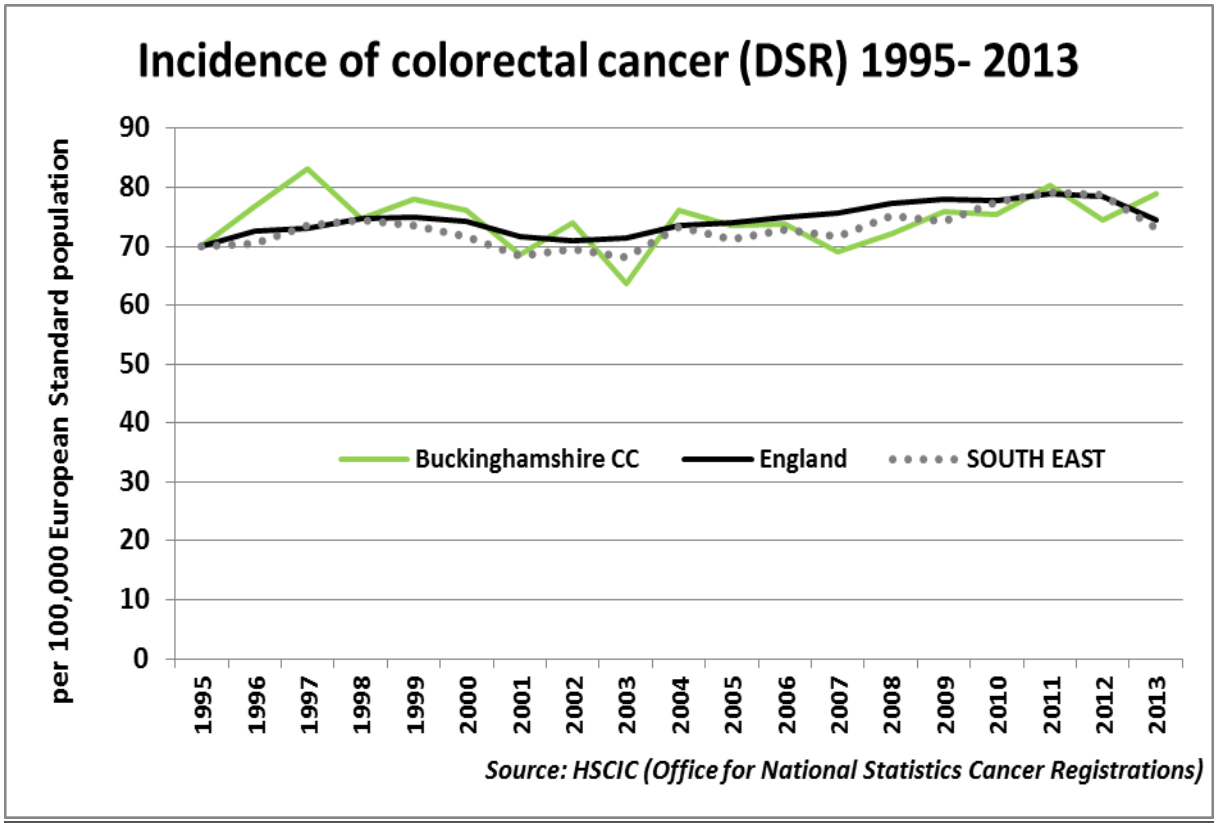
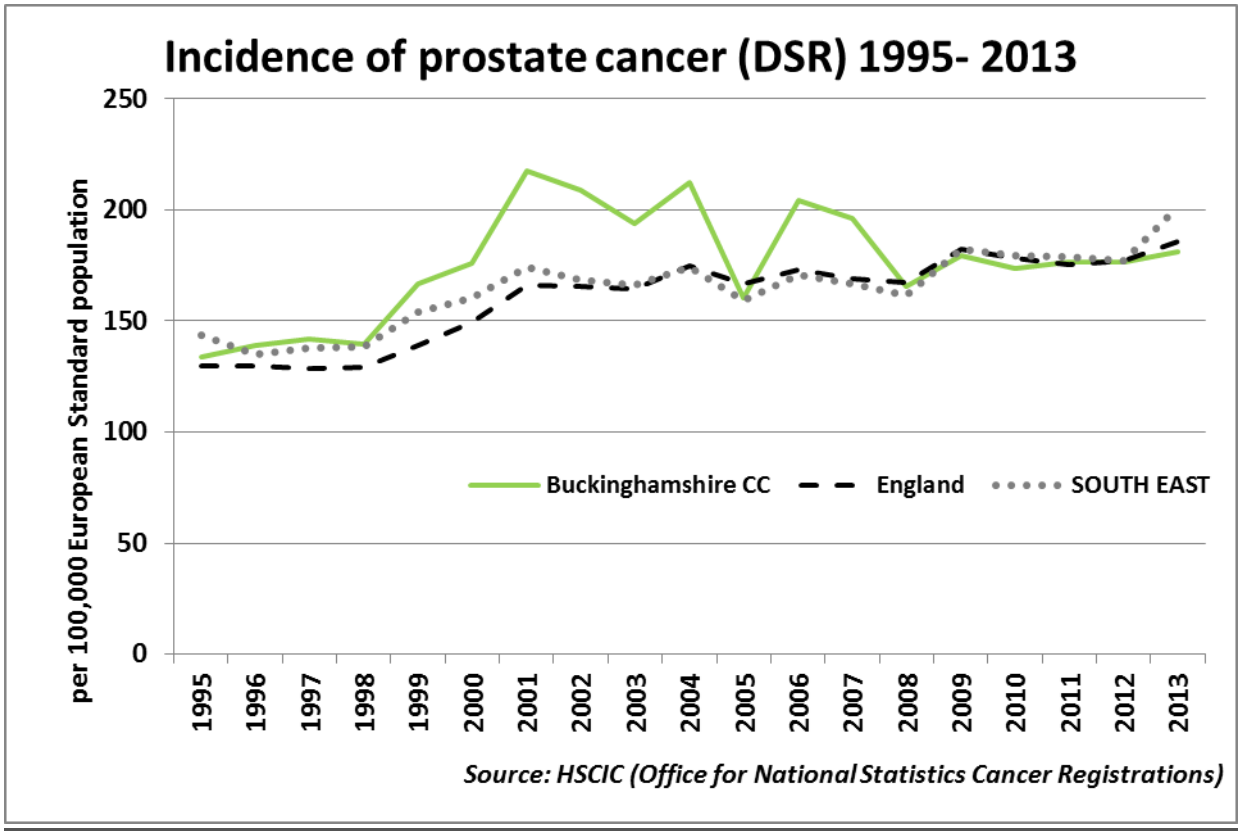


Figure 5 Directly age standardised incidence rate of prostate cancer in Buckinghamshire compared to South East & England. 1995 - 2013



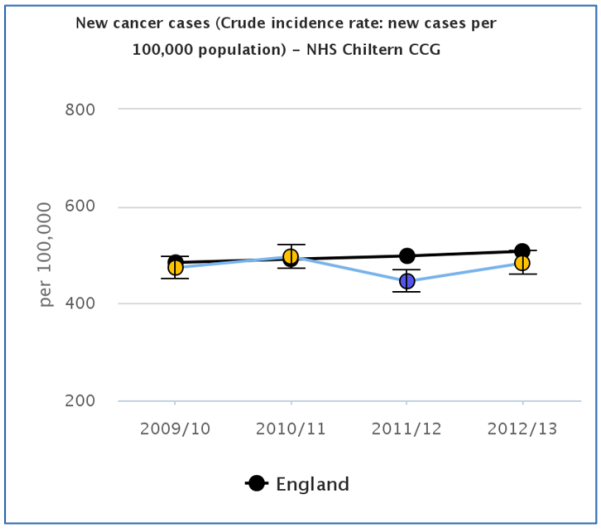
Figures 2 to 6 shows the trends in incidence rates for individual cancers (Lung, Breast, Bowel and Prostate) between 1995 and 2013. The incidence rates for all of them showed year on year fluctuations. Incidence rate trends for lung cancers were consistently lower in Bucks than South East and England averages throughout this period. Even though, the rates for breast and prostate cancers were higher for majority of the years, all three cancers rates were in line with South East and England averages.

Incidence rates for all cancers by two CCGs in Buckinghamshire (i.e. Chiltern and Aylesbury Vale) showed some variations between 2009/10 and 2012/13. Figure 6 shows the trend in crude incidence rates for all cancers for both Buckinghamshire CCGs, which were little lower, but comparable with England average between 2009/10 to 2012/13. The rate for Chiltern CCG in 2011/12 was significantly lower than England average.

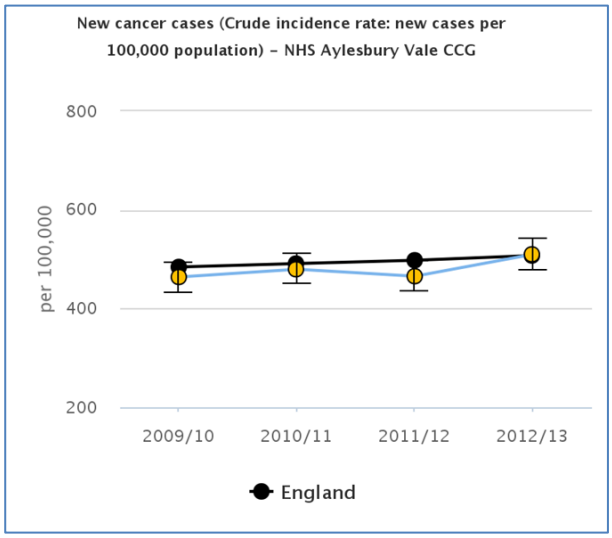
Table 1 shows the three year average age standardised (European 2013 population) incidence rate per 100,000 population per year for the period 2011 – 2013 for all cancers and for major individual cancers. Aylesbury Vale CCG had significantly lower lung and cervical cancer incidence rate and Children CCG had lower all cancer incidence rate compared to England average (2011-13). The incidence rates for all others in the table are comparable with England average rates.

Figure 6 Trends in incidence (crude rate) of all cancers in Buckinghamshire by CCGs, 2009/10 – 2012/13

Chiltern CCG



Aylesbury Vale CCG



Source: PHE fingertips

Table 1 Average European 2013 age standardised incidence rate per 100,000 populations per year for the period 2011 - 2013

Cancer type	England average	Chiltern CCG	Chiltern CCG Compared to England average	Aylesbury Vale CCG	AV CCG Compared to England average
All cancers (combined)*	606.7	550.6	Lower	588.8	similar
Lung cancer	79.3	50.2	similar	62.6	Lower
Breast Cancer	165.9	177.1	similar	177.7	similar
Bowel cancer	74.1	75	similar	77.6	similar
Prostate cancer	177.7	177.8	similar	174.7	similar
Cervix cancer	9.6	8.6	similar	5.6	Lower

*Source: http://www.cancerresearchuk.org. *All cancers, excluding non-melanoma skin cancer (ICD-10 C00-C97 exc C44*).

7.3.2.2. Prevalence

Prevalence is the proportion of a population that has a disease in a specified time period. In 2014/15, 13,272 people in Buckinghamshire were registered with their GP as having a cancer diagnosis. This equates to a prevalence of 2.5% of the GP registered population. The prevalence rate (2014/15) in Chiltern CCG was significantly higher compared to Aylesbury vale or Bucks average rate. Table 2 shows the prevalence rate for all cancers by CCGs in Buckinghamshire compared to South East and England averages for the last 2 years (2013/14 &2014/15). The annual increase in the prevalence rate between 2013/14 and 2014/15 was also

higher in Chiltern CCG and lower in Aylesbury Vale CCG compared to Bucks, South East and England averages for the same period.

Figure 7 shows the trends in prevalence of all cancers in Bucks by CCGs from 2009/10 to 2014/15 compared to England average. Overall, the prevalence is increasing year on year over the years. Aylesbury Vale CCG prevalence rate is similar to England average but Chiltern CCG prevalence rates were significantly higher compared to England average in the last three years. Figure 8 shows the prevalence rate of all cancers for Bucks CCGs compared to CIPFA peer CCGs in 2014/15.

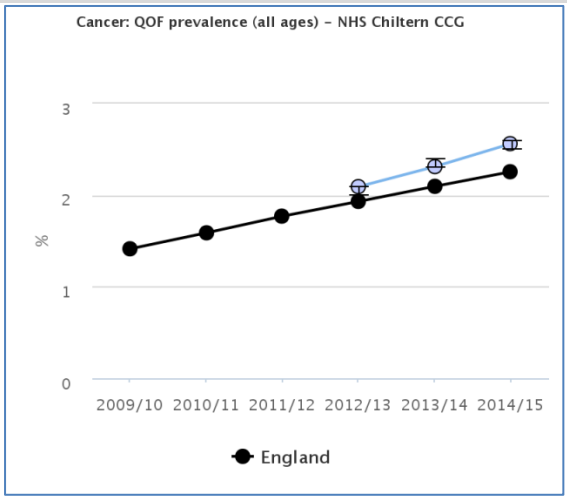
Table 2 Prevalence of all cancer by CCG compared to South East and England averages for the last 2 years (2013/14 &2014/15)

CCG Name	2013-14			2014-15			Year on Year Change (%)
	GP registered Population	Number of patients with cancers	Prevalence (%)	GP registered Population	Number of patients with cancers	Prevalence (%)	
AV CCG	202,600	4,421	2.2%	205,153	4,759	2.3%	**6.3%**
Chiltern CCG	330,028	7,630	2.3%	332,229	8,513	2.6%	**10.8%**
Bucks	532,628	12,051	2.3%	537,382	13,272	2.5%	**9.2%**
South East			2.2%			2.4%	**9.1%**
England			2.1%			2.3%	**9.5%**

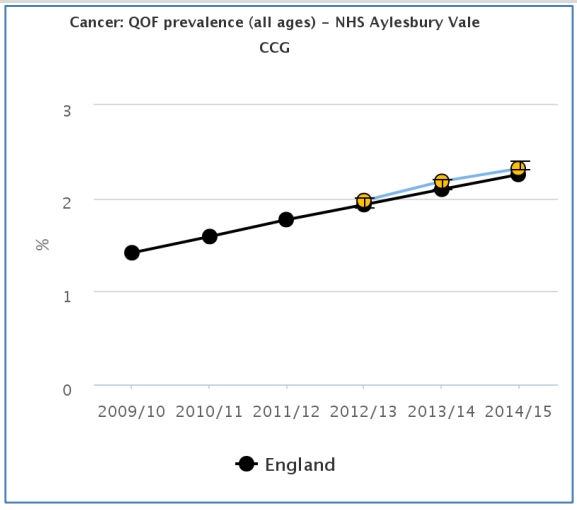
Source: PHE fingertips

Figure 7 Trends in prevalence of all cancers in Bucks by CCGs, 2009/10 – 2014/15

Chiltern CCG

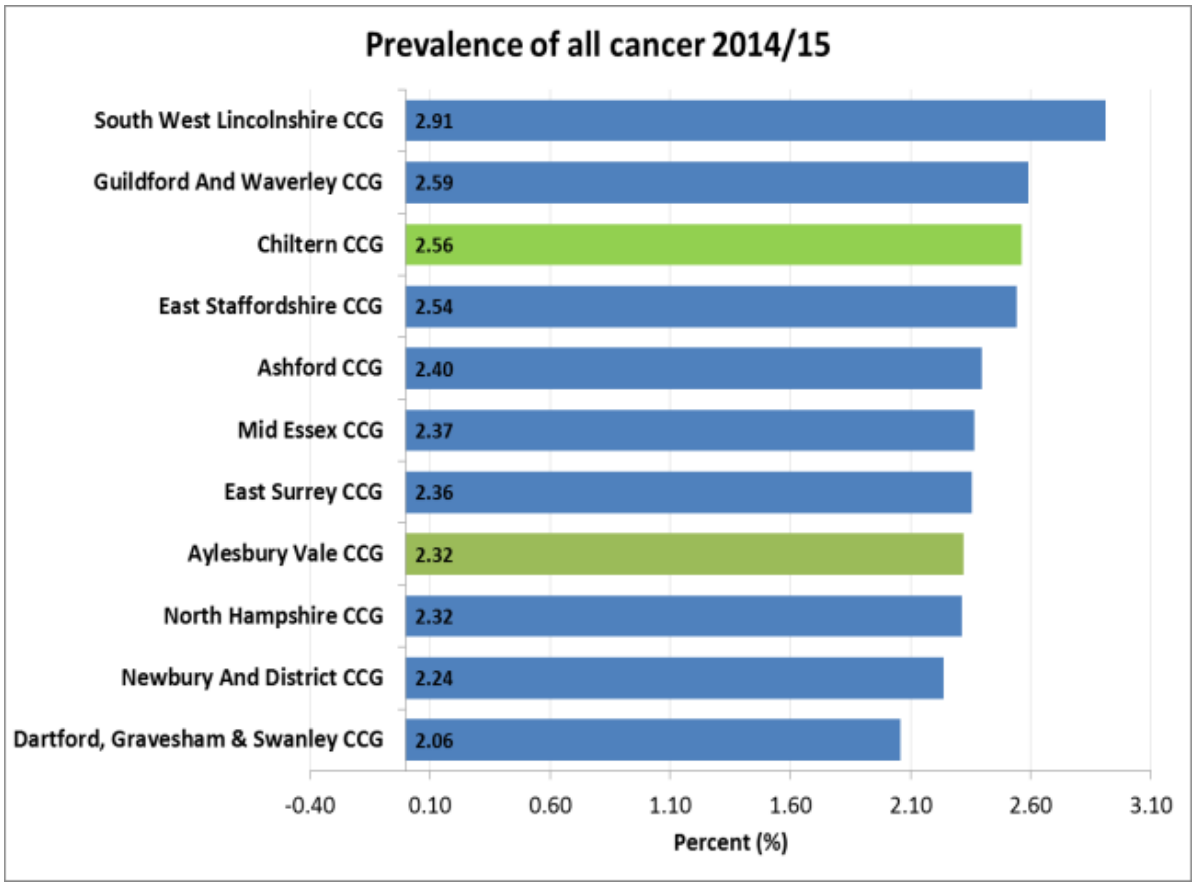


A V CCG



Source: PHE fingertips

Figure 8 Prevalence rate of all cancers in Buckinghamshire CCGs compared to CIPFA peer CCGs, 2014/15



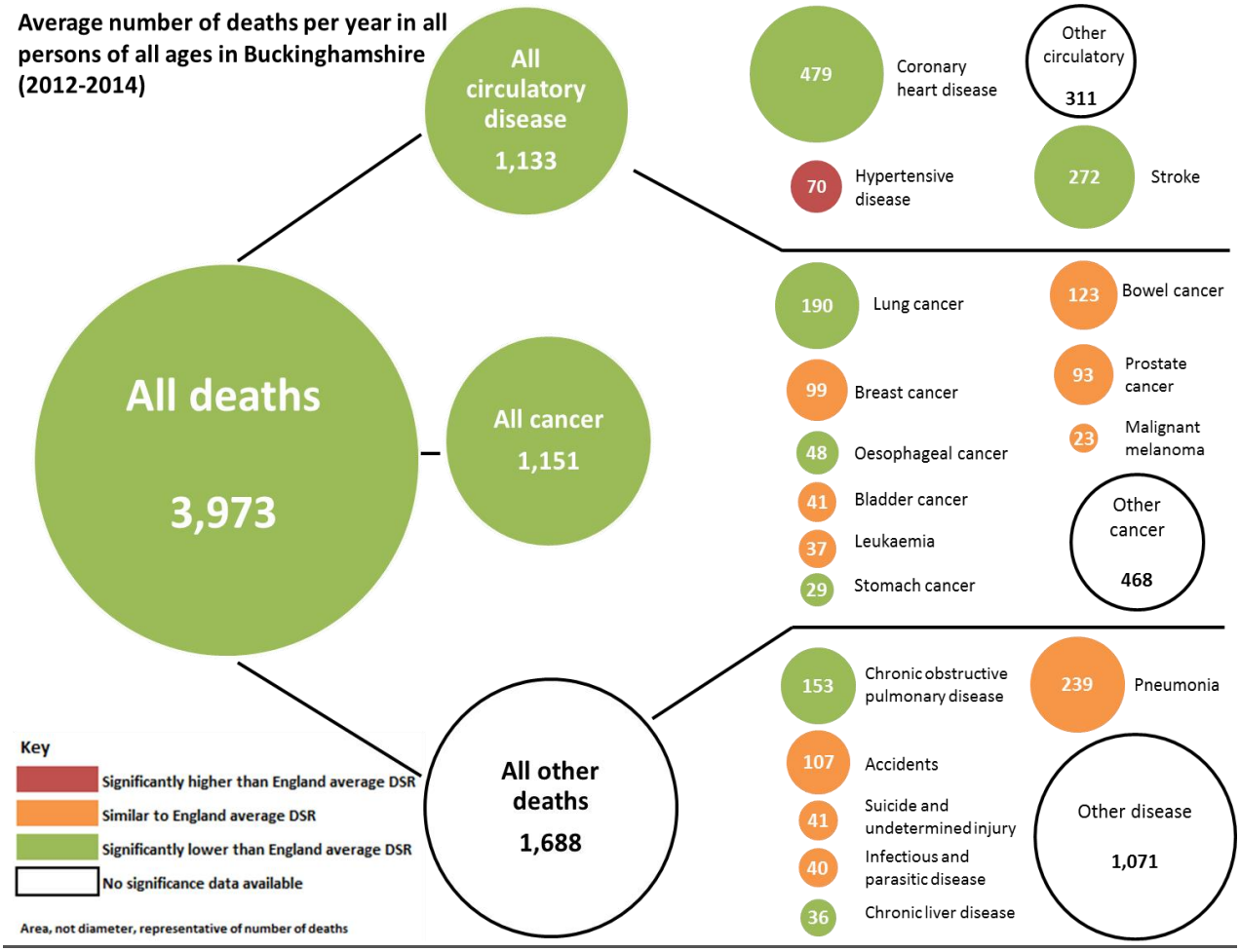
Source: PHE fingertips

7.3.2.3 Mortality

Figure 9 shows the average total number of deaths between 2012 and 2014 by cause of death. On average, 3,973 people (all age) died in Bucks every year over the last three years (2012-14). Among them, 1,151 died of cancers. Of which, 190 died of lung cancer, 123 of bowel cancer, 99 breast and 93 due to prostate cancer. Overall, more than 1 in 4 (29%) died of cancer.

The trend in all cancer mortality (Directly age-standardised- DSR) rate (all ages) in Buckinghamshire have declined since 1995 and continues to be lower than South East and national rates. The trend in premature (<75 yrs) cancer mortality (Directly age-standardised- DSR) rates due to all cancers in Buckinghamshire have also declined since 1995 and continues to be lower than South East and national rates (figure 10,11). This decline was seen among both genders in Bucks, but the rates were higher among males compared to females throughout this period. Figure 13 shows the premature mortality (<75 years) cancer mortality (Directly age-standardised- DSR) rates due to all cancers in Bucks compared to CIPFA averages (2014). In 2014, the premature mortality(<75 years) cancer mortality (Directly age-standardised- DSR) rates for all cancers was lower than all CIPFA peers, South East average and almost a quarter (23.7%) lower than England average.

Figure 9 Annual average number of deaths in all persons all ages in Bucks, 2012-14



Source: HSCIC

Figure 10 Trend in mortality (Directly age-standardised- DSR) rates due to all cancers all ages in Bucks compared to regional and national averages 1995 – 2014

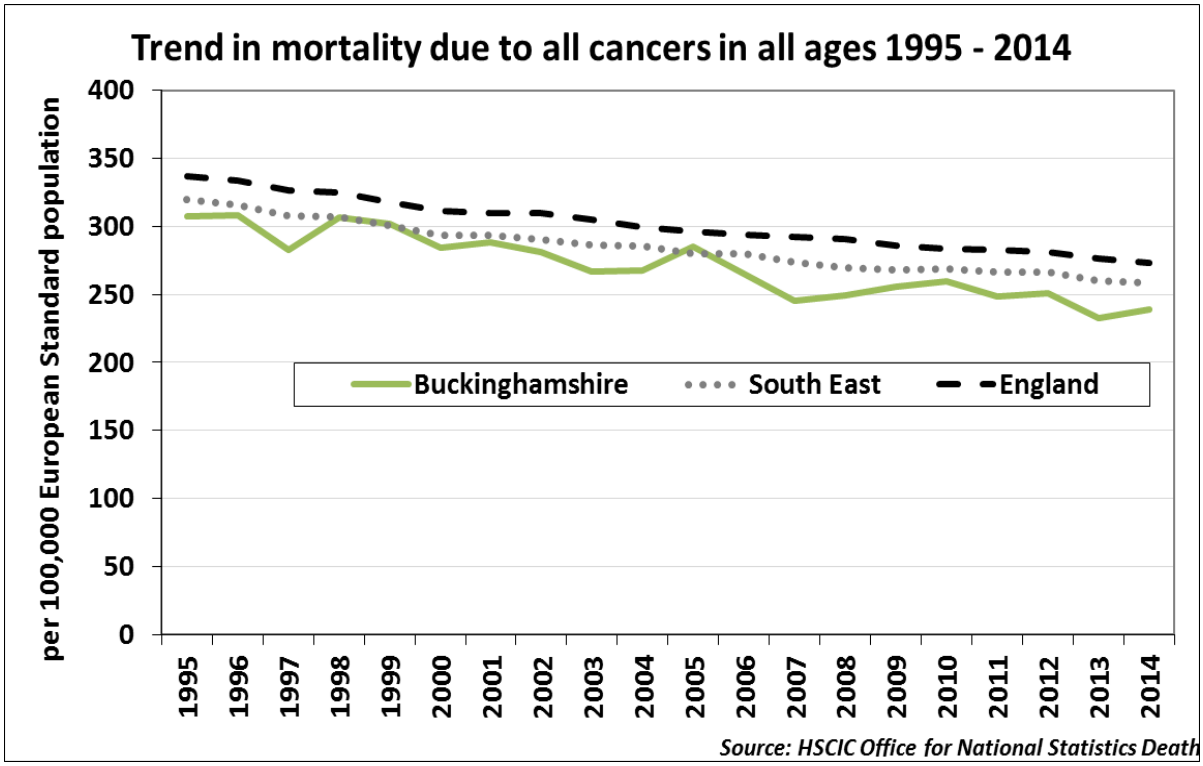


Figure 11 Trend in premature (<75 yrs) cancer mortality (Directly age-standardised- DSR) rates due to all cancers in Bucks compared to regional and national averages, 1995-2014

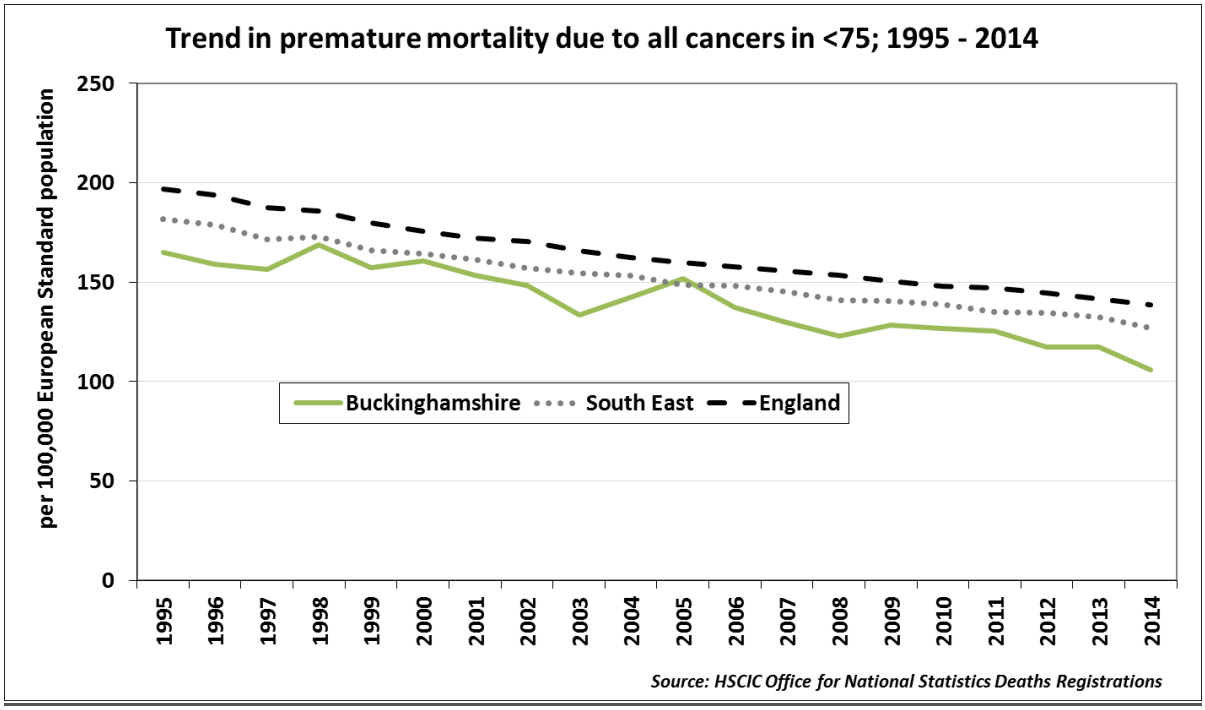


Figure 12 Trend in premature (<75 years) cancer mortality (Directly age-standardised- DSR) rates due to all cancers in Bucks by gender and Bucks averages, 1995-2014

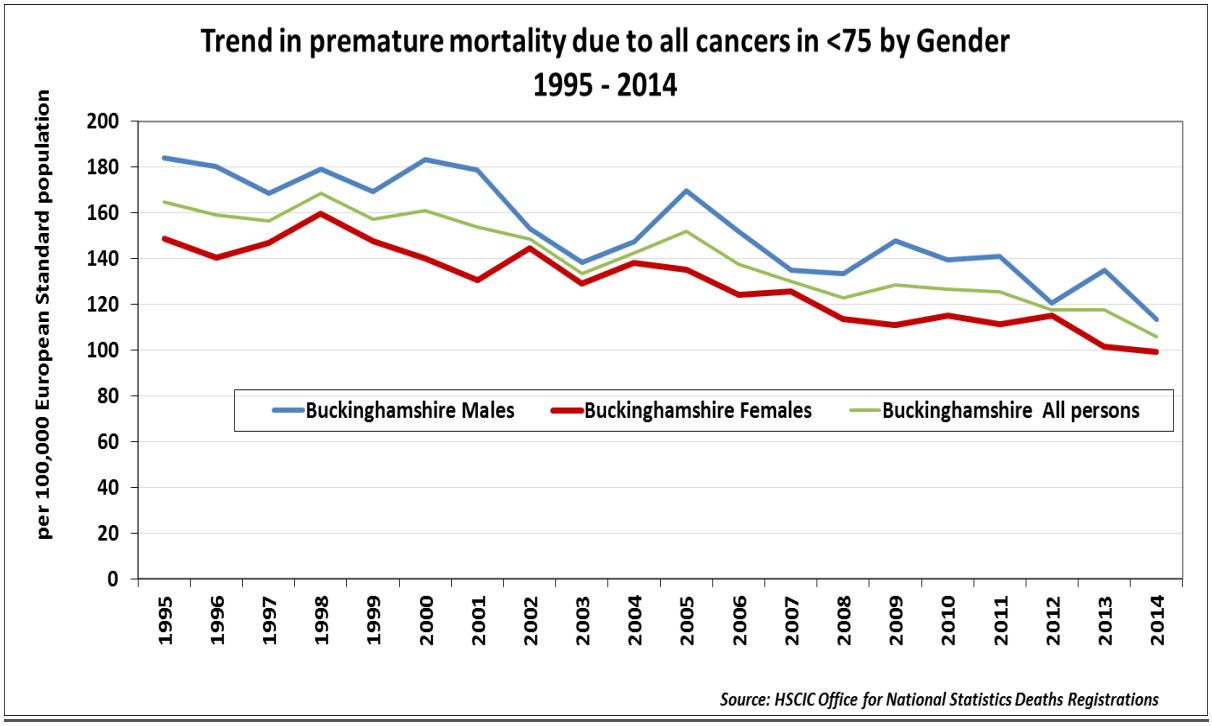
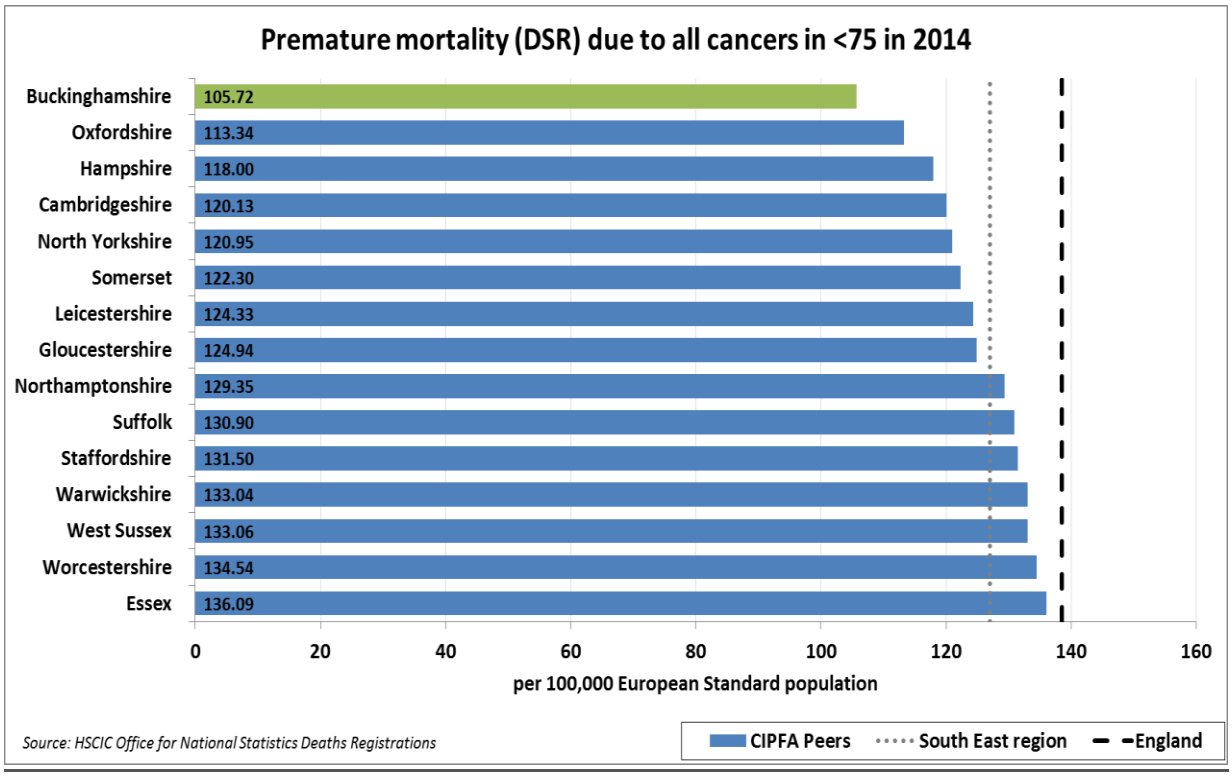


Figure 13 Premature mortality (<75 years) cancer mortality (Directly age-standardised- DSR) rates due to all cancers in Bucks compared to by CIPFA local authority averages, 2014



7.3.2.4. Survival

Cancer survival rates or survival statistics is the percentage of people who survive a certain type of cancer for a specific period of time. Cancer statistics often use an overall one or five-year survival rate. The table below shows the percentage of patients diagnosed in 2013 who survived their cancer disease for at least one year after diagnosis (followed up to 2014). Data for all cancers were used excluding non-melanoma skin cancer and prostate cancer (ICD-10 C00-C97 exc C44 and C61) and for individual three major cancers (Breast, Bowel, and Lung).

Overall, one year survival rates for those diagnosed with cancer diagnosis in 2013 in Buckinghamshire are comparable or better for all cancers, breast, bowel and lung in both CCGs (Table 3). One year cancer survival of all cancer combined in Chiltern CCG (72.5%) is significantly higher and Aylesbury Vale CCG (70.6%) is similar compared to England average (70.2%). One year breast cancer survival in Chiltern CCG (97.7%) is higher and in Aylesbury Vale CCG (96.3%) is similar compared to the English average (96.7%). One year bowel cancer survival in Chiltern CCG (79.8%) and Aylesbury Vale CCG (83.5%) are higher than the English average (77.7%). One year lung cancer survival in Chiltern CCG (35.8%) and Aylesbury Vale CCG (34.9%) are similar to the English average (35.4%). One year survival is a good indicator of whether cancer is being diagnosed early and access to optimal treatment is available.

Table 3 One year survival of people diagnosis between Jan – Dec 2013 followed up until 31/12/2014, for all cancers, Breast, Bowel and Lung cancers By CCGs in Bucks compared to England

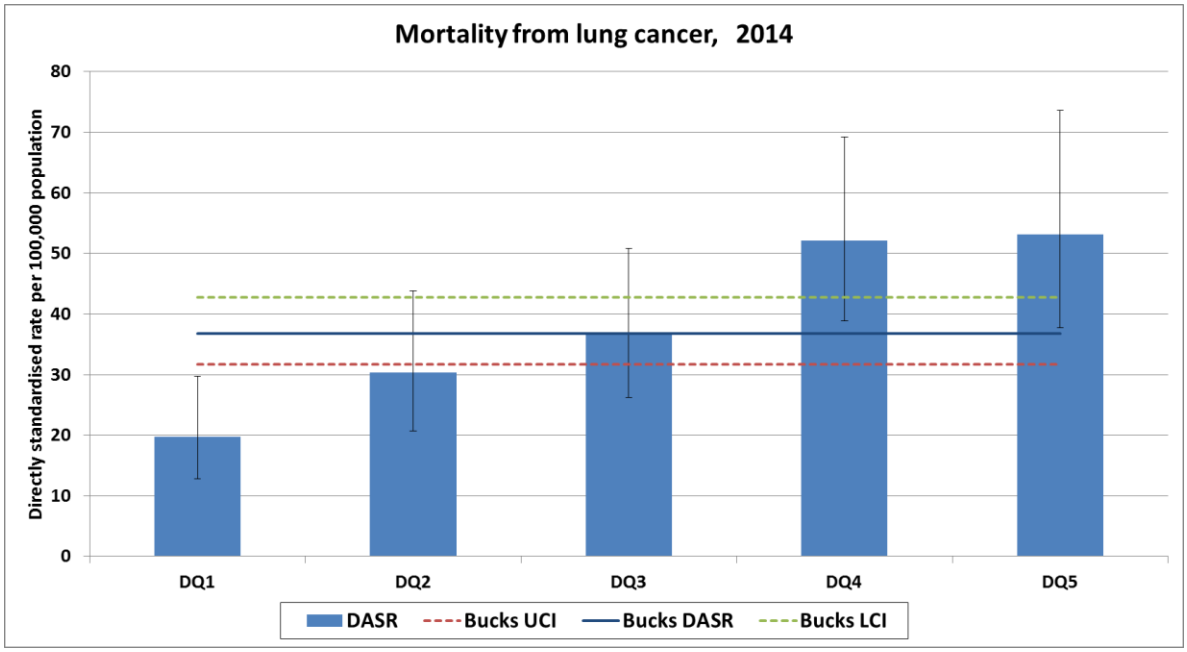
Cancer type	CCGs		England
	Chiltern CCG	AV CCG	
All cancers	72.5%	70.6%	70.2%
Breast cancer	97.7%	96.3%	96.7%
Bowel Cancer	79.8%	83.5%	77.7%
Lung cancer	35.8%	34.9%	35.4%

Source: ONS, Statistical Bulletin: A Cancer Survival Index for Clinical Commissioning Groups

7.3.3 Socioeconomic differences

Mortality due to cancer is more common in more socioeconomically deprived areas. Figures 14 to 18 shows the mortality rate for four major cancers in Buckinghamshire by deprivation quintile (DQ1 to DQ5). The crude mortality rate for lung cancer in the most deprived quintile (DQ5) was significantly higher than in least deprived in 2014 (DQ1, figure14). This may be due to the factors associated with deprivation such as higher number of smokers, late diagnosis and poor access to treatment in most deprived. Trend chart (figure 15) shows that this inequality gap is seen for lung cancer mortality since 2003. However, for all other three cancers (Breast, Bowel and Prostate) the morality rates are comparable between deprivation quintiles in 2014.

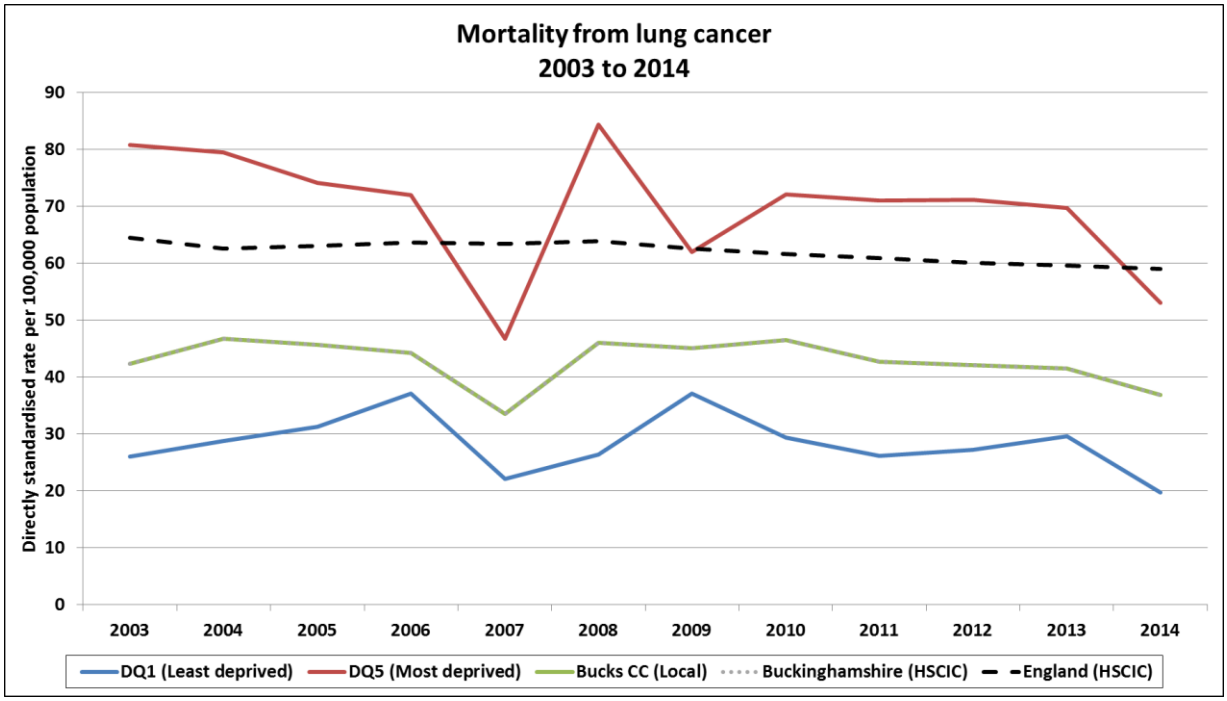
Figure 14 Lung Cancer Mortality rate (Direct standardised / 100,000 population) by deprivation quintile (DQ1 to DQ5*) in Buckinghamshire, 2014



*DQ1: least deprived; DQ5: most deprived; Mortality from lung cancer (ICD9 162 adjusted, ICD10 C33-C34).

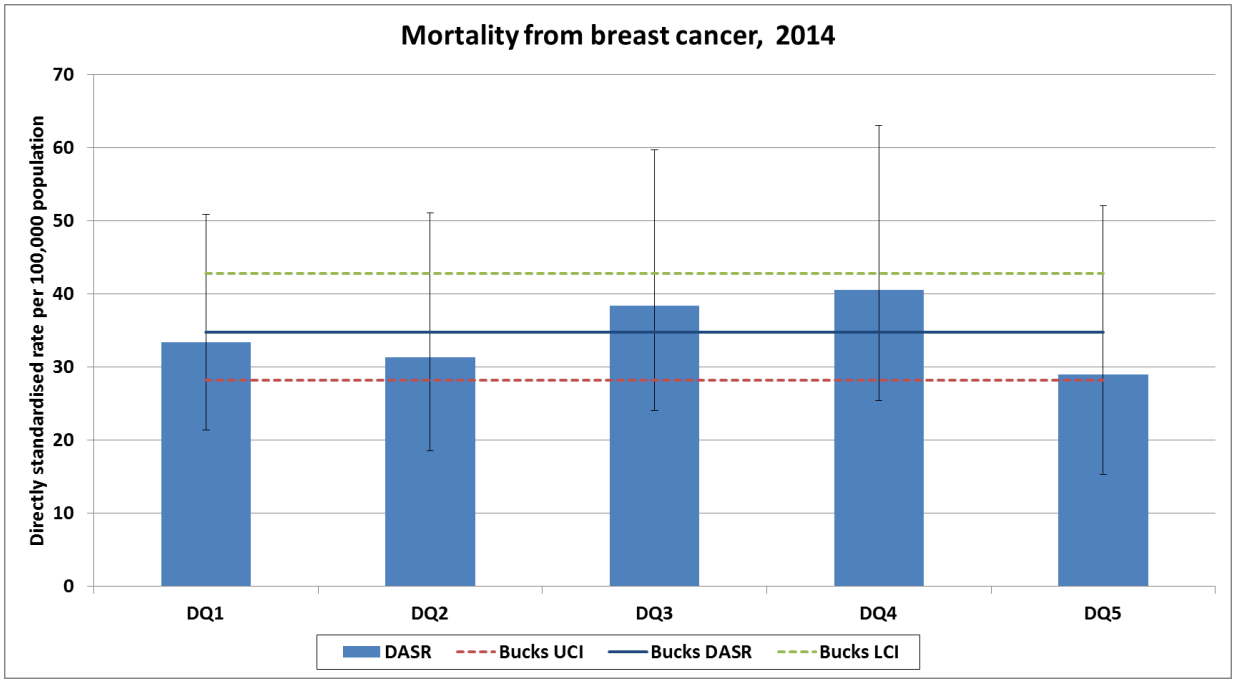
Source: Deaths: Primary Care Mortality Database (PCMD); Population data: ONS Small Area Population Estimates (SAPE)

Figure 15 Trends in Lung Cancer Mortality rate (Direct standardised / 100,000 population) by deprivation quintile (DQ1 - DQ5*) in Buckinghamshire, 2003-14



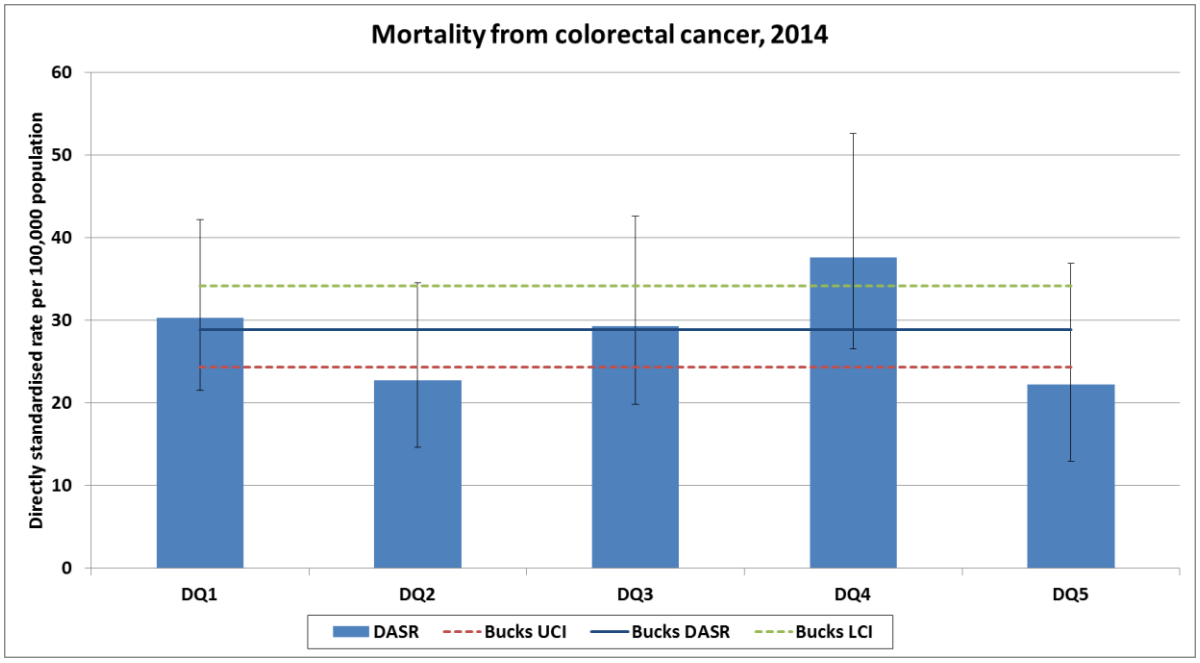
*DQ1: least deprived DQ5: most deprived; Mortality from lung cancer (ICD9 162 adjusted, ICD10 C33-C34). Source: Deaths: ONS Annual District Death Extract, 2001-2011, Primary Care Mortality Database (PCMD); Population data: ONS Small Area Population Estimates (SAPE)

Figure 16 Breast Cancer Mortality rate (Direct standardised / 100,000 population) by deprivation quintile (DQ1 to DQ5*) in Buckinghamshire, 2014



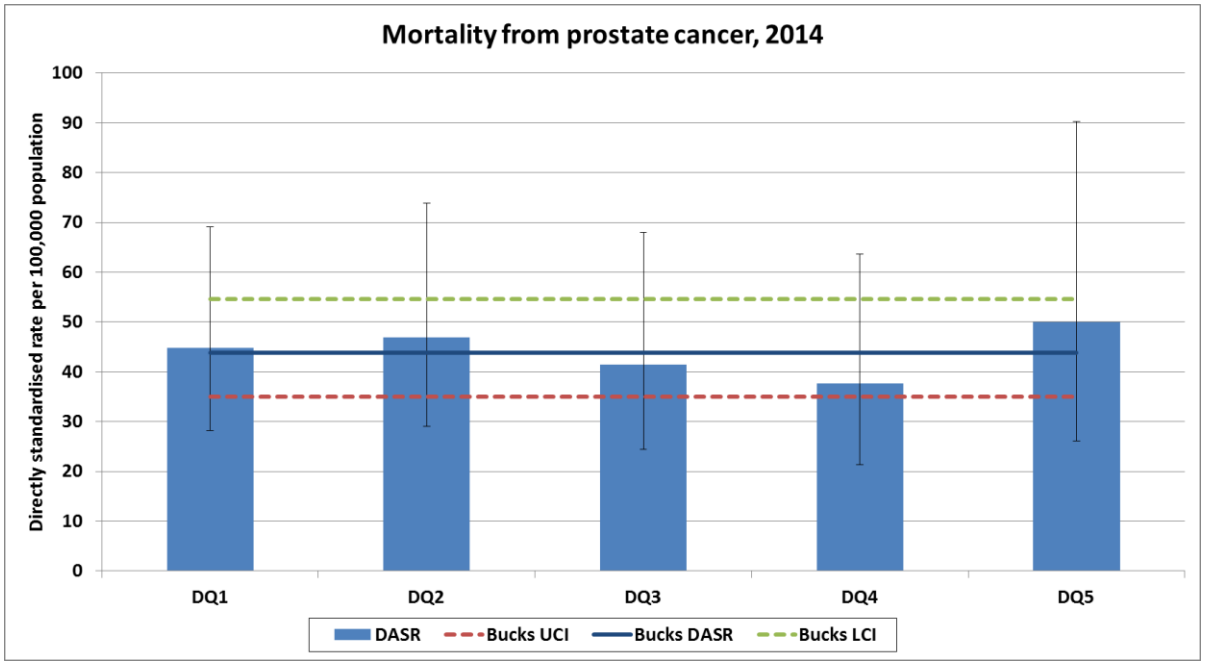
*DQ1: least deprived; DQ5: most deprived; Mortality from breast cancer (ICD9 174 adjusted, ICD10 C50) Source: Deaths: Primary Care Mortality Database (PCMD); Population data: ONS Small Area Population Estimates (SAPE)

Figure 17 Bowel Cancer Mortality rate (Direct standardised / 100,000 population) by deprivation quintile (DQ1 to DQ5*) in Buckinghamshire, 2014



*DQ1: least deprived; DQ5: most deprived; Colorectal cancer: ICD9 152-154 adjusted, ICD10 C17-C21. Source: Deaths: Primary Care Mortality Database (PCMD); Population data: ONS Small Area Population Estimates (SAPE)

Figure 18 Prostate Cancer Mortality rate (Direct standardised / 100,000 population) by deprivation quintile (DQ1 to DQ5*) in Buckinghamshire, 2014



*DQ1: least deprived- DQ5: most deprived; prostate cancer (ICD9 185 adjusted, ICD10 C61): Source: Deaths: Primary Care Mortality Database (PCMD); Population data: ONS Small Area Population Estimates (SAPE)

7.3.4 Early Diagnosis

The Government published the report, "Improving Outcomes- a Strategy for Cancer", which sets out the Government plans to improve cancer outcomes, including improving survival rates through tackling late diagnosis of cancer. Diagnosis at an early stage of the cancer's development significantly improves survival chances. Specific public health interventions, such as screening programmes and information/education campaigns aim to improve rates of early diagnosis. An indicator on the proportion of cancers diagnosed at an early stage is therefore a useful proxy for assessing improvements in cancer survival rates.

An experimental statistics was introduced to look at the crude proportion of invasive malignancies of breast, prostate, colorectal, lung, bladder, kidney, ovary and uterus, non-Hodgkin lymphomas, and melanomas of skin, diagnosed at stage 1 or 2. This is the number of new cancer cases (for the specified site, morphology and behaviour) diagnosed at stage 1 and 2 as the proportion of the total number of new cancer cases (for the specified site, morphology and behaviour) in the same area. Cancers where the stage is not recorded are included in the denominator, so a low proportion of cases with staging data will lead to the indicator showing a low proportion of cases diagnosed at stage 1 or 2.

In 2014, there were 1003 new diagnosis of invasive malignancies of breast, prostate, colorectal, lung, bladder, kidney, ovary and uterus, non-Hodgkin lymphomas, and melanomas of skin in Buckinghamshire. The proportion of them diagnosed at stage 1 or 2 was 49.9% in Buckinghamshire and is comparable to most of the local authorities in South East, regional and England averages. However, the proportion is significantly lower in South Bucks District compared to Chiltern District in Buckinghamshire and England average in 2014 (figure 5).

Table 4 Proportion (%) of cancer diagnosed early (stage1,2) in Buckinghamshire compared to Local Authorities in South East (experimental statistics), 2014

Area	Count	Value	95% Lower CI	95% Upper CI
England	107,979	50.7	50.4	50.9
South East region	17,736	48.9	48.3	49.4
Wokingham	329	55.0	51.0	59.0
Isle of Wight	404	54.7	51.1	58.2
Portsmouth	365	53.8	50.1	57.6
Reading	225	53.2	48.4	57.9
Oxfordshire	1,314	52.6	50.6	54.5
Hampshire	3,104	52.3	51.0	53.5
West Sussex	2,026	50.5	48.9	52.0
Buckinghamshire	1,003	49.9	47.7	52.1
Kent	3,226	48.6	47.4	49.8
Milton Keynes	404	47.8	44.5	51.2
West Berkshire	274	47.7	43.7	51.8
Brighton and Hove	437	47.3	44.1	50.5
Bracknell Forest	176	47.2	42.2	52.3
Southampton	363	46.1	42.6	49.6
Surrey	2,158	46.0	44.6	47.5
Medway	413	44.6	41.4	47.8
Windsor and Maidenhead	271	43.2	39.3	47.1
East Sussex	1,119	41.9	40.0	43.8
Slough	125	36.3	31.4	41.5

Source: National Cancer Registry

Proportion of Invasive malignancies of breast, prostate, colorectal, lung, bladder, kidney, ovary and uterus, non-Hodgkin lymphomas, and melanomas of skin, diagnosed at stage 1 or 2

Table 5 Proportion (%) of cancer diagnosed early (stage1, 2) in Buckinghamshire by District Council compared to England average (experimental statistics), 2014

Area	Count	Value	95% Lower CI	95% Upper CI
England	107,979	50.7	50.4	50.9
Buckinghamshire	1,003	49.9	47.7	52.1
Chiltern	228	55.6	50.8	60.3
Aylesbury Vale	355	51.5	47.8	55.2
Wycombe	294	48.8	44.9	52.8
South Bucks	126	40.8	35.4	46.3

Source: National Cancer Registry

Proportion of Invasive malignancies of breast, prostate, colorectal, lung, bladder, kidney, ovary and uterus, non-Hodgkin lymphomas, and melanomas of skin, diagnosed at stage 1 or 2

Two early diagnosis indicators are shown in table 6 by CCGs in Buckinghamshire compared to England average. The proportion of staged cancers that are diagnosed early (at stage 1 and 2) in Chiltern CCG (58.0%) is higher and Aylesbury Vale CCG (56.8%) is similar compared to the England average (54.3%) in 2013/14. The proportion of patients diagnosed with cancer through emergency presentations (as a proportion of patients diagnosed through all routes) in Chiltern CCG was 15.9% and in Aylesbury Vale CCG was 19.7% in 2014/15. They are lower in Chiltern CCG and similar in Aylesbury Vale CCG compared to the England average (20.1%).

Table 6 Early Diagnosis indicators (%) by CCGs in Buckinghamshire compared to England average

Cancer type	England average	Chiltern CCG	Chiltern CCG Compared to England average	Aylesbury Vale CCG	AV CCG Compared to England average
*Early Diagnosis (stage 1,2) %, 2013/14	54.3	58	higher	56.8	similar
**Emergency Presentations %, 2014/15	20.1	15.9	Lower	19.7	similar

Source: http://www.cancerresearchuk.org. ** the proportion of cancers diagnosed early (at stage 1 and 2) of those where stage at diagnosis is known, 2013/14; ** Number of patients diagnosed in 2014/15 with cancer through emergency presentations as a proportion of patients diagnosed through all routes.*

7.3.5. Demand

Life expectancy in Buckinghamshire is higher and is increasing year on year[2]. Age is one of the greatest risk factor for developing cancer[3]. In Buckinghamshire, people are living longer and so the chances of being diagnosed with cancer.

One in three deaths was due to cancer (1,190 deaths in 2014) in Buckinghamshire and there is a 22% reduction in cancer mortality rate over past 10 years compared to the national reduction of 19%. So, it is expected that the number of people living with cancer would increase in future.

Evidence shows that many types of cancer are more common in people who are overweight or obese, including 2 of the most common types of cancer (breast and bowel cancers) and 3 of the hardest to treat (pancreatic, oesophageal and gallbladder cancers). In Bucks, it is estimated that 3 in 5 adults have excess weight, and hence the chances of diagnosed with cancer in future.

7.3.6. Horizon scanning

Numbers of lifestyle risk factors are linked to the development of cancer. Making some simple changes to lifestyle can significantly reduce the risk of developing cancer. For example, healthy eating, taking regular exercise and not smoking will help lower the risk. Earlier diagnosis of cancer increases the chance of more effective treatment options and improves their chances of surviving from cancer.

7.3.7. Conclusions

The number of newly diagnosed cancer cases (incidence) in Buckinghamshire is lower than England average and fluctuated widely since 1995. Currently, 1000 people are newly diagnosed with cancer on average every year in Bucks. In 2014/15, 13,272 people in Buckinghamshire were registered with their GP as having a cancer diagnosis with a prevalence of 2.5% of the GP registered population. The prevalence rate in Chiltern CCG was significantly higher compared to Aylesbury vale or Bucks average rate in the last three years.

On average, 3,973 people (all age) died in Bucks every year over the last three years (2012-14). Among them, 1,151 (29%) died of cancers. Of which, 190 died of lung cancer, 123 of bowel cancer, 99 breast and 93 due to prostate cancer. The trend in all cancer mortality (all ages) and premature (<75 yrs) cancer mortality (Directly age-standardised- DSR) rate in Buckinghamshire have declined since 1995 and continues to be lower than South East and England rates. Overall, one year survival rates for those diagnosed with cancer diagnosis in 2013 in Buckinghamshire are comparable or better than England averages for all cancers, breast, bowel and lung in both CCGs. The crude mortality rate for lung cancer (2014) in the most deprived quintile (DQ5) was significantly higher than in least deprived (DQ1) in Buckinghamshire and this inequality gap is seen since 2003.

In 2014, there were 1,003 new diagnoses of invasive malignancies (breast, prostate, colorectal, lung, bladder, kidney, ovary and uterus, non-Hodgkin lymphomas, and melanomas of skin) in Buckinghamshire. Of which, 49.9% were diagnosed at early stage (1 or 2) and is comparable to most of the local authorities in South East, regional and England averages. However, within Bucks, this is significantly lower in South Bucks District compared to Chiltern District in Buckinghamshire and England average in 2014. Two early diagnosis indicators (Early Diagnosis (stage 1,2) and Emergency Presentations) were better in Chiltern CCG compared to England average and in Aylesbury Vale CCG it is comparable to England average.

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