CANCER IN HEREFORDSHIRE

Version 1.0

Herefordshire Council Strategic Intelligence Team

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SUMMARY - KEY MESSAGES

Prevalence

In 2015/16 the prevalence of all cancers in Herefordshire was 3.2 per cent of patients registered with GP practices. Since 2009/10 all cancer prevalence in Herefordshire has increased steadily has been consistently higher than figures for England and the West Midlands.

In 2015/16 relatively low prevalence was recorded at GP practices in Hereford with higher levels generally recorded in rural and semirural areas.

Prevalence of all cancers has increased at all GP practices between 2009/10 and 2015/16.

Incidence

The five year rolling average crude incidence rate of all cancers in Herefordshire has shown a consistent increase from 494 new cases per 100,000 population in 2001-04 to 610 per 100,000 population in 2010-14 and was consistently higher than national and regional figures.

The age standardised all cancer incidence rate for Herefordshire rate has increased from 495 per 100,000 population in 2001-05 to 564 per 100,000 population in 2010-14. Throughout this period the Herefordshire age standardised rate was significantly lower than those for England and West Midlands reflecting the higher proportion of elderly residents in the county compared with England and the West Midlands.

The age standardised all cancer incidence rates for males in Herefordshire has consistently been higher than that for females, a pattern reflected in national and regional incidence rates.

In Herefordshire the standardised incidence rates for cervical and lung are significantly lower than both the rates for England and the West Midlands. For other cancers the Herefordshire rates are close to the national and regional rates.

Between 2001/2005 and 2010/2014 the Herefordshire standardised incidence rates for colorectal, prostate, skin, breast and lung cancers have shown increasing trends, while stomach cancer incidence rate fell over the same period. Similar patterns were observed nationally and regionally.

Route of Presentation

Between 2009/10 and 2015/16 the total number of cancer presentations in Herefordshire showed an increasing trend rising from 900 to 1,068.

The directly standardised rate for emergency presentation in Herefordshire has showed an increase from 78 per 100,000 individuals in 2009/10 to 101 per 100,000 population in 2015/16.

Two Week Wait Referrals

Between 2009/10 and 2015/16 the local crude rate for two week wait (TWW) increased from 1685 per 100,000 population to 3353 per 100,000 in 2015/16, a proportional increase of 99 per cent.

Since 2014/15 the local crude rate for TWW has been significantly higher than the national rate, before which it was either close to or less than the national figure.

In line with increasing referral rates the number of TWW referrals resulting in a diagnosis of cancer has also increased in Herefordshire with the number rising from 429 to 581 between 2009/10 and 2014/15 which represents a 35 per cent increase.

Screening

In 2015/16 the proportion of women in Herefordshire aged between 50 and 70 who underwent a **breast cancer** scan within the last 36 months was 73.7 per cent, a figure marginally higher than the previous year, although significantly lower than all years between 2009/10 and 2013/14.

The rate of uptake of breast cancer screening the women in Herefordshire aged between 50 and 70 within 6 months of receiving an invitation has shown a decline since 2010/11 with 75 per cent recorded in 2015/16; since 2009/10 the local rate has been consistently been higher than the figures for England and the West Midlands.

Between 2009/10 and 2014/15 the proportion of woman in Herefordshire aged 25 to 69 who underwent **cervical** screening within the relevant target periods has declined from 78 to 75 per cent, while both the national and regional rates have also fallen, although at slower rates. Throughout this period the Herefordshire rate has been consistently higher than these two rates.

Since 2009/10 the proportion of individuals aged between 60 and 69 being screened for **bowel cancer** within six months of invitation remained relatively consistent in Herefordshire, varying between 59.5 and 61.6 per cent. Throughout this period the Herefordshire figure was higher than those for England and the West Midland.

Early Detection

Between 2013 and 2014 the proportion of major cancers detected early increased in Herefordshire.

Mortality

In 2014 there were 537 cancer specific deaths in Herefordshire.

Between 1995 and 2014 the directly standardised cancer specific mortality rate in Herefordshire showed a general downward trend falling from 304 per 100,000 population to 245 per 100,000 population. Similar temporal patterns were evident nationally and in the West Midlands, although throughout this period the Herefordshire rate was below both the England and the West Midland figures.

Male cancer mortality rates were consistently higher than those for females in Herefordshire, nationally and regionally.

Between 2001/2005 and 2010/2014 the Herefordshire standardised all person rate for **liver cancer** has shown an increasing trend.

Breast, stomach and prostate cancer mortality rates have shown a downward temporal trends between 2001/2005 and 2010/2014.

In 2014 there were 230 cancer specific premature deaths in Herefordshire.

Between 1995 and 2014 the directly standardised cancer specific premature mortality rate in Herefordshire showed a general downward trend. Similar patterns were evident nationally and in the West Midlands, although throughout this period the Herefordshire rate was below the England and the West Midland figures.

Of the cancer specific premature deaths in Herefordshire the most common cause was lung cancer which contributed 19.4 per cent of all cancer specific premature mortality, while upper and lower gastrointestinal cancers contributed 15.5 and 12.4 per cent respectively.

In 2012-14 the number of Years Lost to Life (YLL) in Herefordshire was 19,691 of which 7,122 were cancer related representing 36.2 per cent of all YLL. The local directly standardised rate of 134.5 per 10,000 population is lower than both the national and regional rates.

In Herefordshire lung cancer was responsible for the greatest YLL in 2012-14 representing 16.5 per cent of the county total for all cancers; other important local causes of cancer related YLL were upper gastrointestinal (14.5 per cent), breast (12.4 per cent) and lower gastrointestinal (11.3 per cent). Similar patterns in the proportion of cancer specific YLL were observed both nationally and regionally.

Survival

In Herefordshire, for individuals aged between 15 and 99 the rate of those surviving for one year following diagnosis for all cancers has increased steadily from 62.0 in 1999 to 69.8 per cent in 2014.

For individuals aged between 55 and 64 the one year survival ratio for Herefordshire also increased between 1999 and 2014 from 70.0 to 75.9 per cent.

For individuals aged between 75 and 99 the one year survival ratio for Herefordshire also increased between 1999 and 2014 from 49.8 to 59.2 per cent.

For site specific cancer in Herefordshire the one year survival rates in individuals aged between 15 and 99 for breast, colorectal lung cancers have increased between 1999 and 2014.

INTRODUCTION

There are over 200 different types of cancer, each with its own methods of diagnosis and treatment. Apart from infectious diseases, most illnesses (including cancer) are multifactorial. This means that there are many factors involved, in other words and there is no single cause for any one type of cancer. Some of the known causes of cancer include alcohol, asbestos, diet, being overweight, natural and manmade radiation, smoking, ultraviolet light (including sun exposure and use of sun beds) and viruses such as human papilloma virus (HPV).

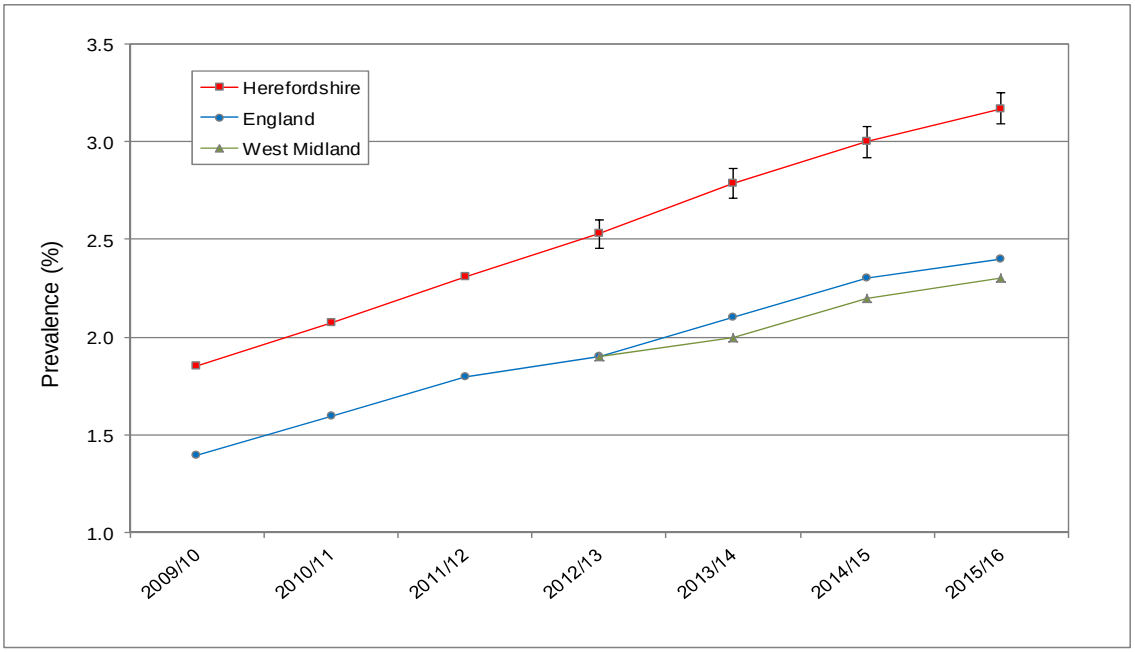
This paper provides an overview of cancer statistics for NHS Herefordshire Clinical Commissioning Group (CCG). Primary data sources are NHS CancerStats, PHE GP Profiles, PHE Cancer Services unless otherwise stated. Where data describes "all cancers" this includes any invasive cancer excluding non-melanoma skin cancer (i.e. ICD10 C00 – C97, excluding C44)

PREVALENCE

Prevalence is the proportion of a population who have (or had) a specific characteristic in a given time period.

The latest cancer prevalence data comes from the Quality and Outcomes Framework (QoF), which provides the proportion of patients on GP practice lists with a diagnosis of cancer (excluding non-melanotic skin cancers) covering the financial year 2015 - 2016. Between 2009/10 and 2015/16 the prevalence across the Herefordshire showed a consistent year on year increase from 1.9 to 3.2 per cent (Figure 1). Where data is available for England and the West Midlands (West Midlands data only available for 2012/13 to 20015/16) both rates showed increases over time, although the local rate was consistently higher than both these figures.

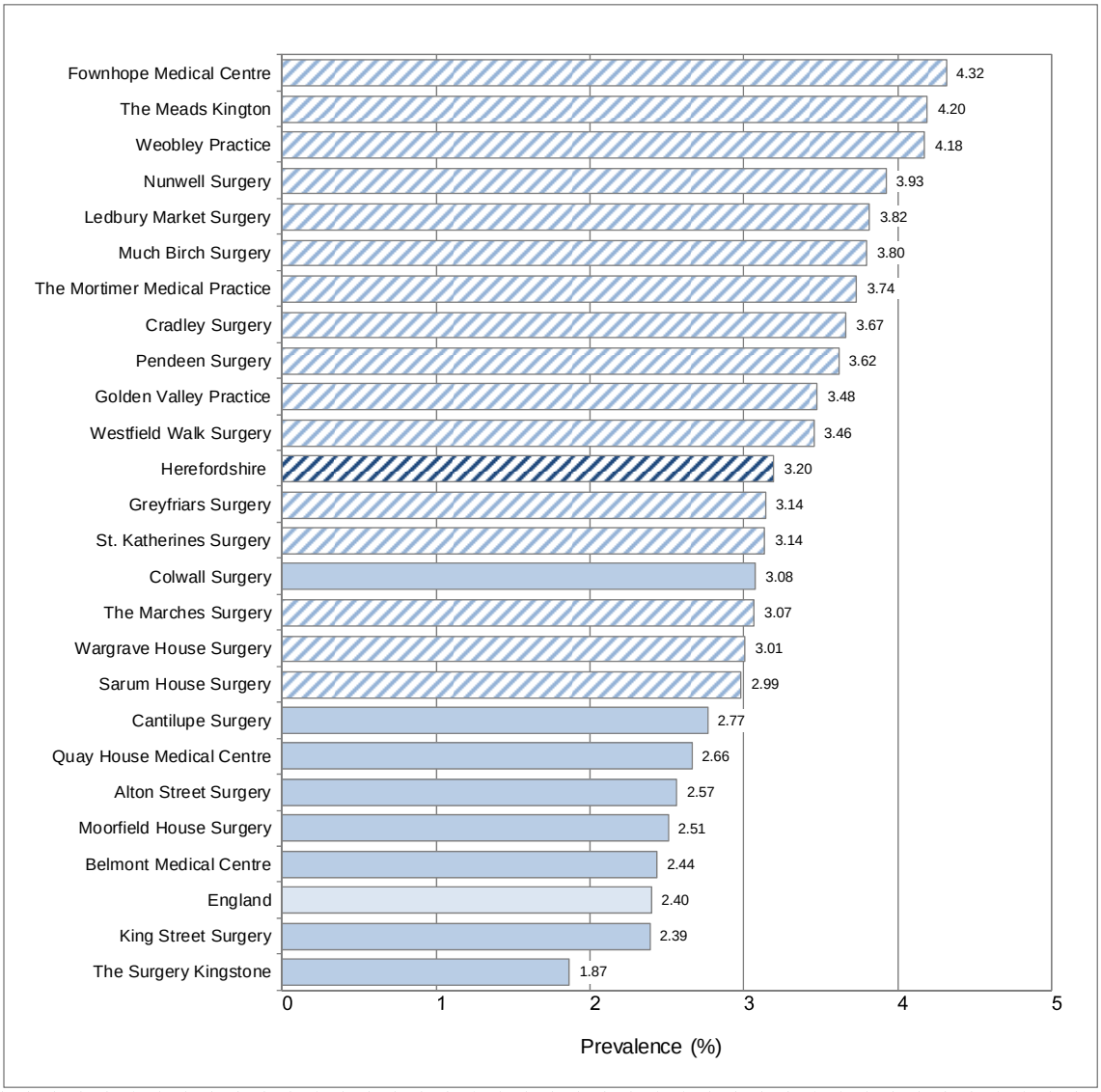
Figure 1: Prevalence of all cancers in patients of all ages in Herefordshire, 2009/10 to 2015/16.



Source: Quality of Outcomes Framework

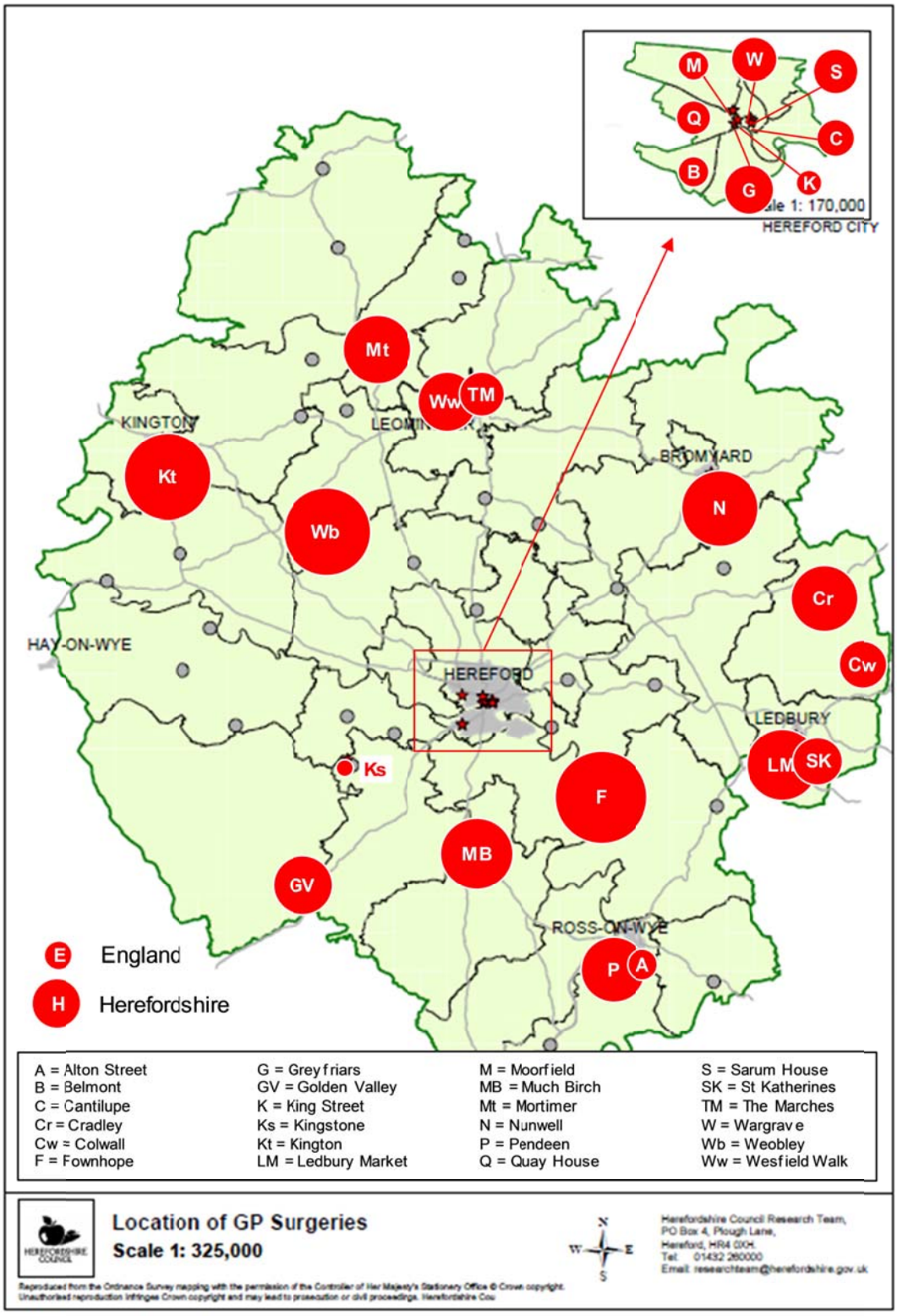
In 2015/16 the prevalence of cancer across Herefordshire GP practices ranged from 1.9 per cent at Kingstone to 4.3 per cent at Fownhope with a county average of 3.2 per cent (Figure 2). Compared to the England average of 2.4 per cent all but one (Kingstone) of the 24 practices in Herefordshire had cancer prevalence higher than the national level with two thirds being statistically significantly higher. When looking at cancer prevalence across Herefordshire in 2015/16 it is evident that the lowest levels occur in and around Hereford where all eight city surgeries report cancer prevalence lower than the county average, although three surgeries reported a prevalence significantly higher than the national figure (Figure 3). When plotting the prevalence at each practice geographically the pattern described above is evident with low levels occurring in Hereford with higher level generally recorded in rural and semirural areas (Figure 4).

Figure 2: Prevalence of cancer in patients registered in Herefordshire GP practices, 2015 - 2016 (shaded bars = significantly different from England prevalence).



Source: Quality of Outcomes Framework

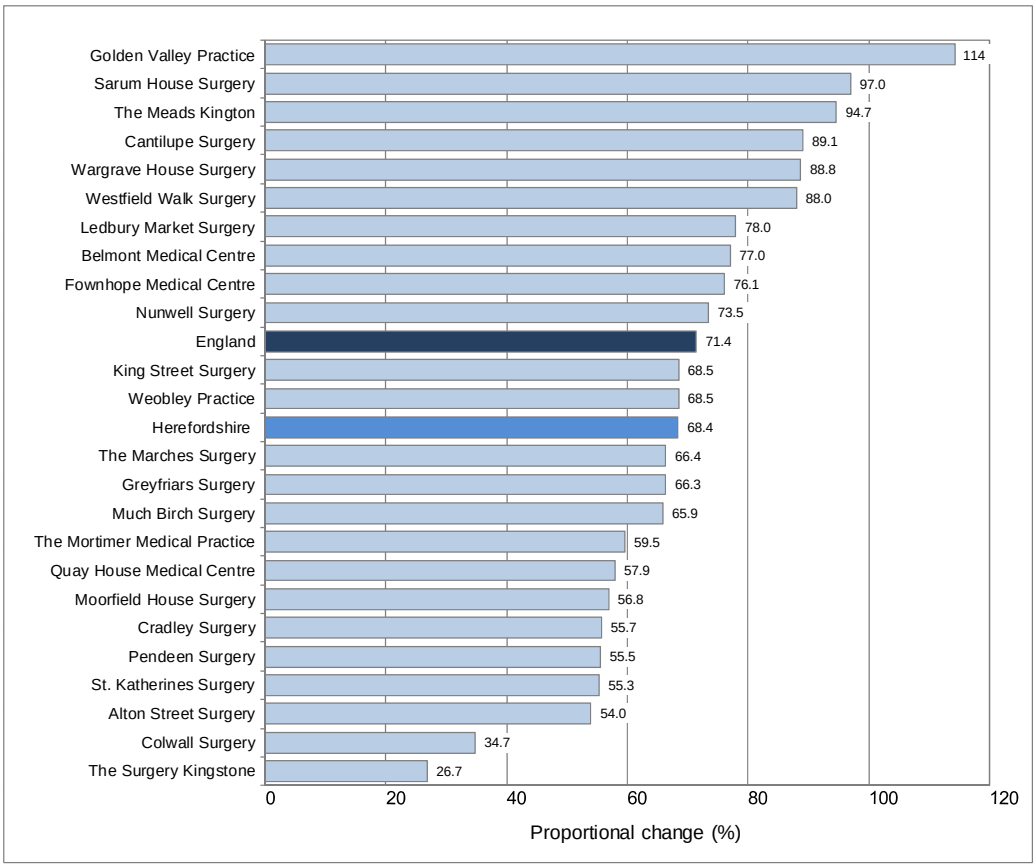
Figure 3: Spatial distribution of prevalence of cancer in patients of all ages registered in Herefordshire GP practices, 2015 - 2016 (circle size proportional to prevalence).



Source: Quality of Outcomes Framework

The prevalence of cancer in all Herefordshire GP practices increased between 2009/10 and 2015/16 with the highest proportional increase recoded at Golden Valley where the rate more than doubled, while over this period the lowest change was observed at Kingstone where prevalence increase by one quarter. A 71 per cent increase in cancer prevalence was also observed nationally, while over Herefordshire as a whole the increase was 68 per cent (Figure 4).

Figure 4: Proportional change in cancer prevalence between 2009/10 and 2015/16 in patients of all ages registered in Herefordshire GP practices.



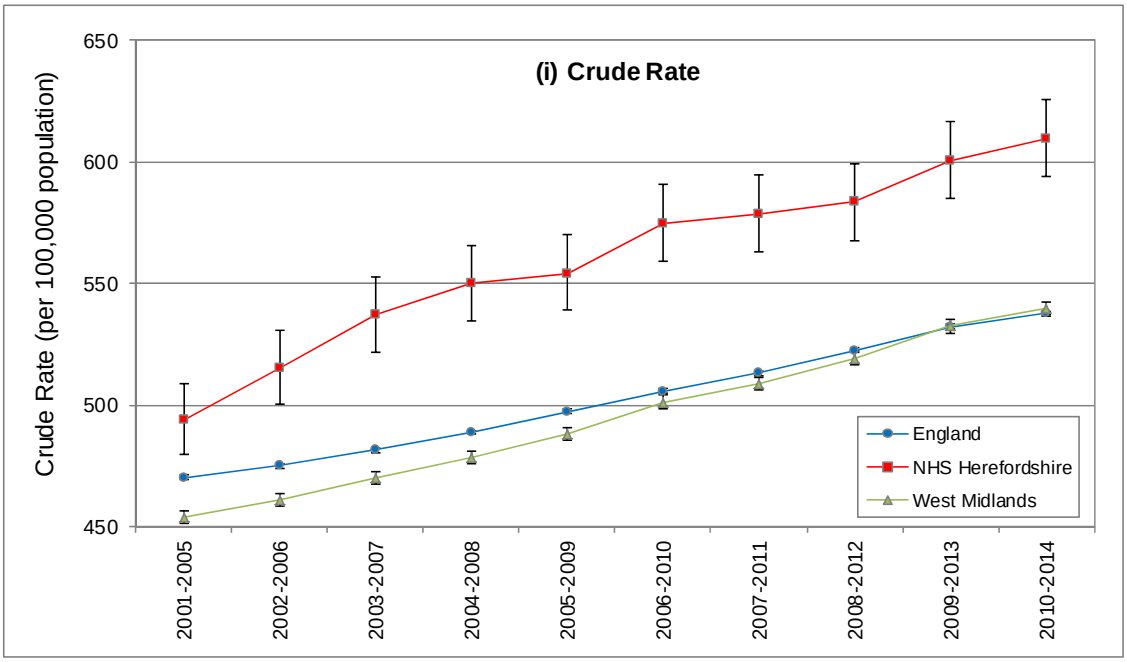
Source: Quality of Outcomes Framework

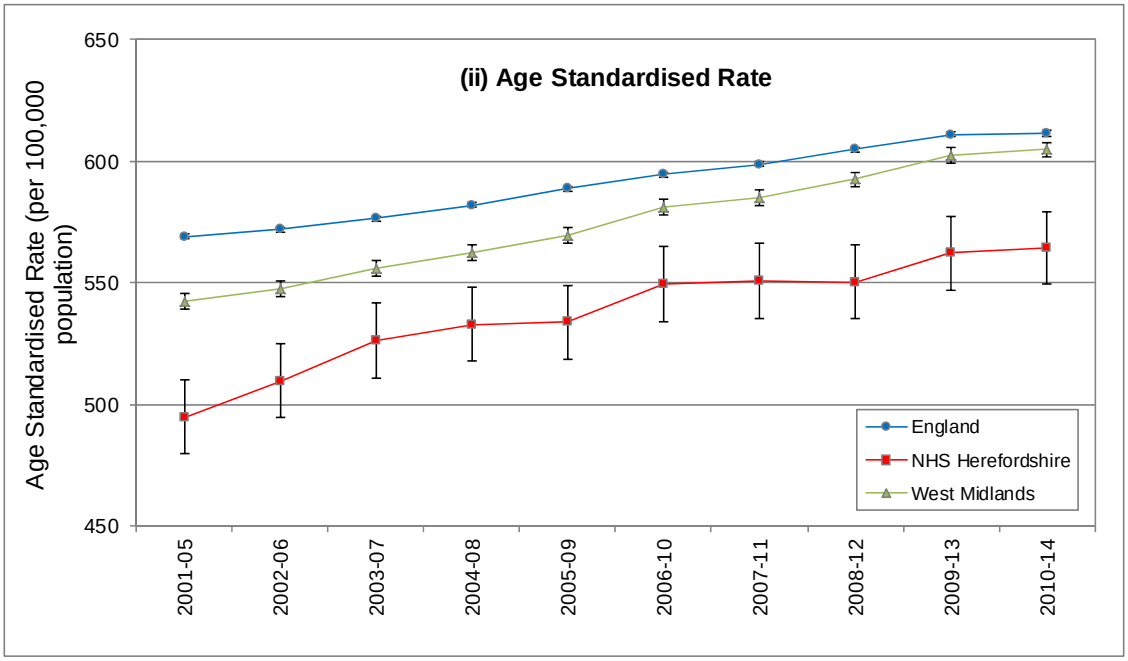
INCIDENCE

Incidence is the number of instances of illness commencing, or of persons becoming ill during a given period in a specified population.

Since 2001 the five year rolling average crude incidence rate of all cancers in Herefordshire has shown a consistent increase from 494 new cases per 100,000 population to 610 per 100,000 population recorded in 2010-14, which represents a proportional increase of 23 per cent over this period (Figure 5). Over this period incidence rates for both England and the West Midlands showed increasing temporal trends with proportional increases of 19 and 14 per cent respectively. However, the local crude incidence rate was consistently significantly higher than both the national and regional rates throughout this period. In 2014 the crude incidence rate of all cancers in Herefordshire was 607 per 100,000 population which was significantly higher than the rates for England and the West Midlands which were 546 and 547 per 100,000 population respectively.

Figure 5: Crude and age standardised incidence rates of new cases of all cancer cases in Herefordshire, England and the West Midlands (five year rolling average), 2001-05 to 2010-14.





PHE – CancerStats

When looking at the age standardised all cancer incidence rates, the Herefordshire rate shows an upward trend increasing from 495 per 100,000 population in 2001-05 to 564 per 100,000 population in 2010-14, a proportional rise of 14 per cent (Figure 5). However, throughout this period the Herefordshire age standardised rate was significantly lower than those for England and West Midlands. The differing patterns between the crude and standardised rates for Herefordshire in relation to the relevant national and regional rates reflect the aging population in the county which has a proportionally greater elderly residents compared with England and the West Midlands and highlights the link between age and risk of cancer.

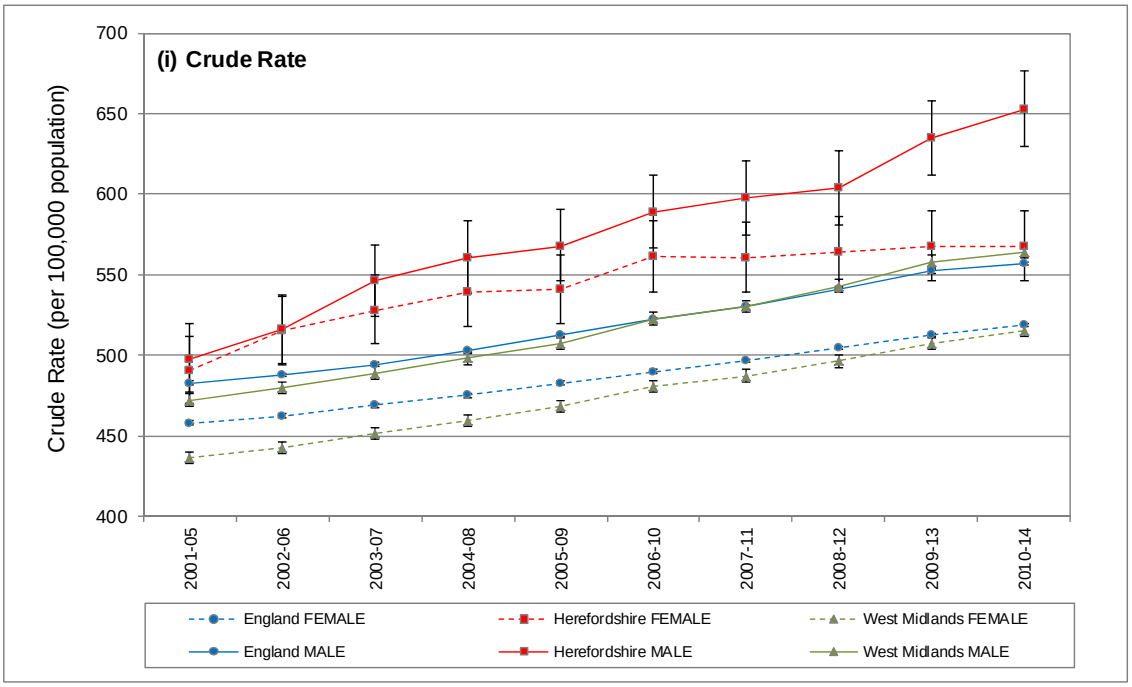
Since 2001 the crude incidence rate of cancer in males in Herefordshire has been significantly higher than that in females, a pattern evident for England and the West Midlands (Figure 6). For males, with the exception of the period 2001-05, the local crude incidence rate has consistently been significantly higher than both the national regional rates. Similarly, for females, the Herefordshire all cancer incidence has been significantly higher than the incidence for England. In 2014, for males in Herefordshire, the crude incidence rate of all cancers was 652 per 100,000 population which was significantly higher than the national and regional rates. For females, the crude incidence rate of all cancers in Herefordshire in 2014 was 562 per 100,000 population, a figure which was significantly higher than the rates for England and the West Midlands which were 530 and 59 per 100,000 population respectively.

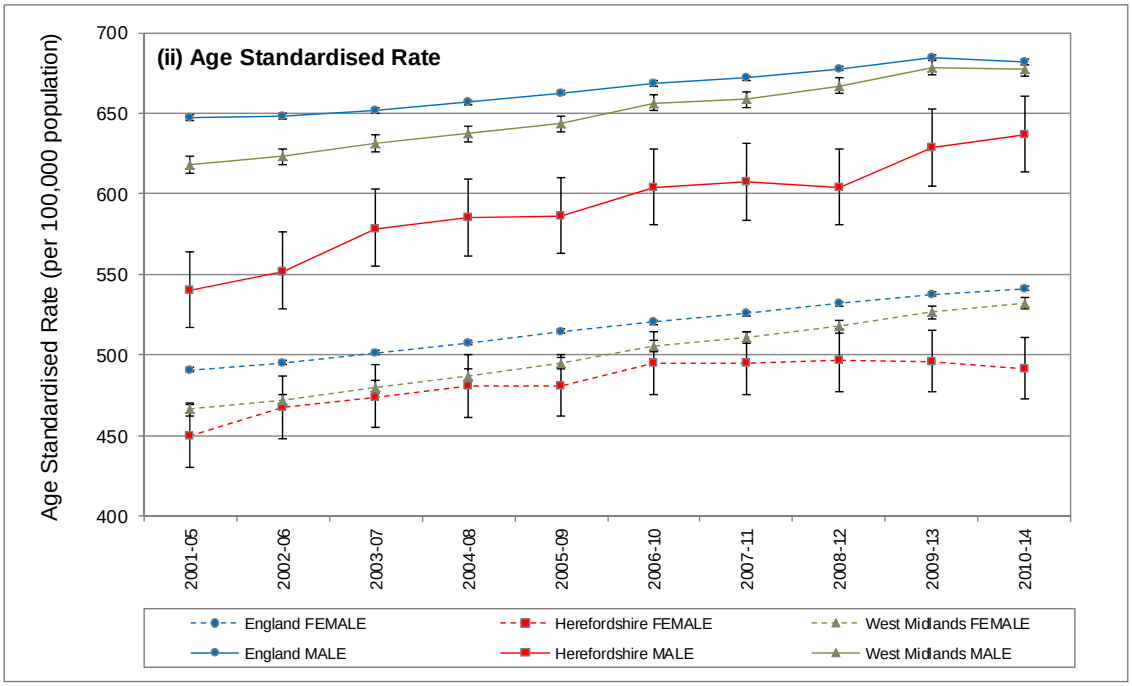
When looking at the crude incidence of all cancers for males and females similar patterns are observed with incidence for both genders increasing between 2001-05 and 2010-14, with similar patterns evident nationally and regionally (Figure 6). However, for males the proportional increase of 18 per cent was higher than those recorded in England and the West Midlands which were 5 per cent and 10 per cent respectively. For females the local increase was 10 per cent which was the same as the national rate but lower than the regional rate of 14 per cent.

When looking the age standardised all cancer incidence rates for males, the Herefordshire rate shows an upward trend increasing from 540 per 100,000 population in 2001-05 to 637 per 100,000 population in 2010-14, a proportional rise of 18 per cent (Figure 6). For females the Herefordshire standardised rate increased proportionally by 9 per cent over the same period, from 450 to 492 per 100,000 population. Throughout this period both Herefordshire standardised rates were significantly lower than the national and regional rates indicating the influence of the aging population in both males and females

Despite the clear temporal pattern in the incidence of cancer across Herefordshire as a whole no such patterns are evident in the incidence crude rate reported by each GP practice across the county. In 2013/14 the crude incidence of all cancers across Herefordshire GP practices ranged from 367 per 100,000 population at Belmont to 828 per 100,000 population at Cradley (Figure 7). The overall county crude rate was 610 per 100,000 compared to the England rate of 515 per 100,000. Although the majority of cancer crude incidence rates in Herefordshire practices were higher than the rate for England, only the rate recorded at Nunwell Surgery in Bromyard was significantly higher than the national figure. It should be noted that while the overall figure for Herefordshire as a whole has shown a rising temporal trend within each GP practice, there is no consistent pattern over time.

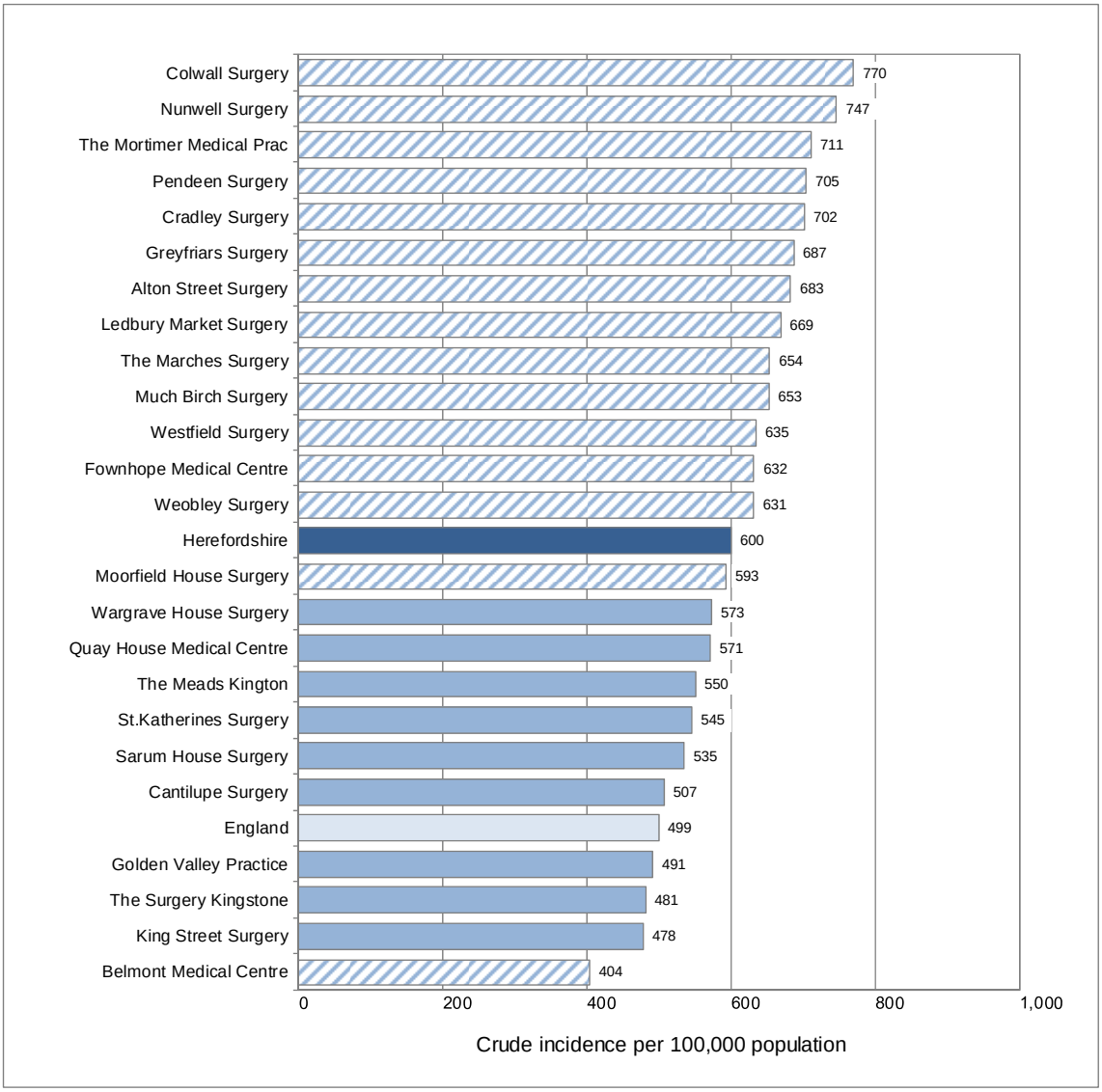
Figure 6: Crude and age standardised incidence rates of new cases of all cancer cases in males and females in Herefordshire, England and the West Midlands (five year rolling average) by gender, 2001-05 to 2010-14.





PHE – CancerStats

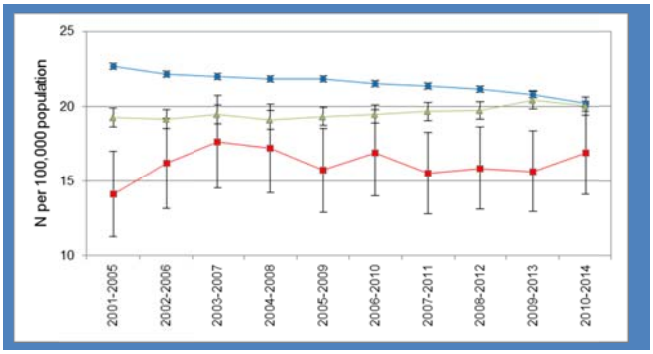
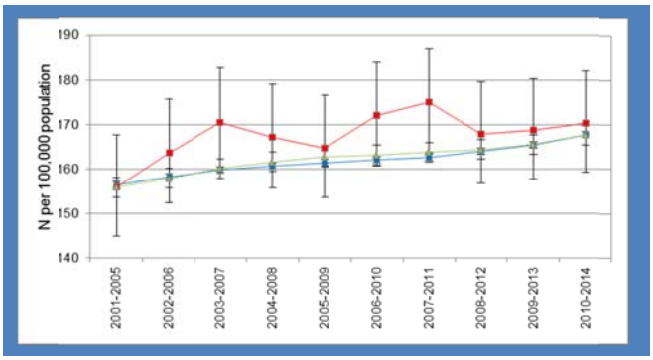
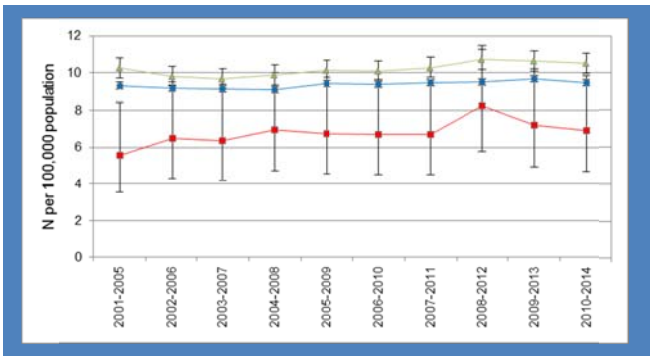
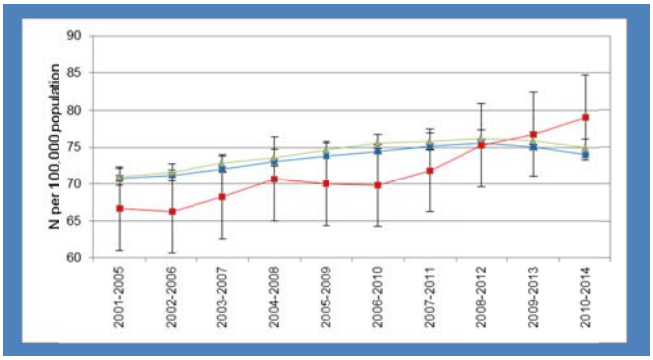
Figure 7: Crude incidence rate of new cases of all cancer cases in Herefordshire, 2013/14 (shaded bars = significantly different from England rate).

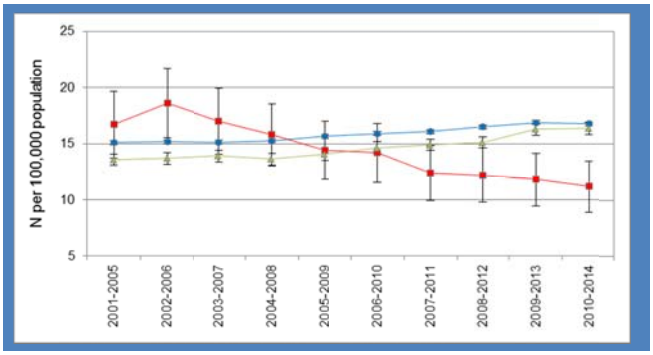
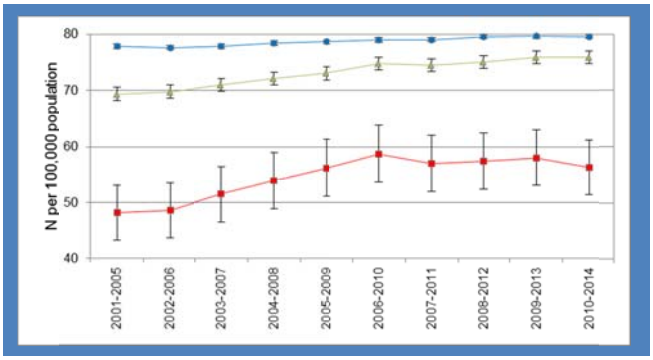
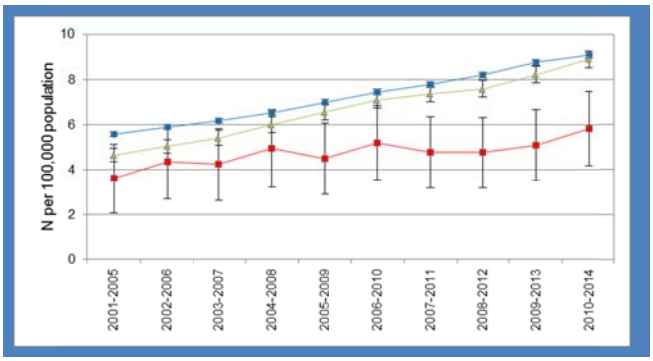
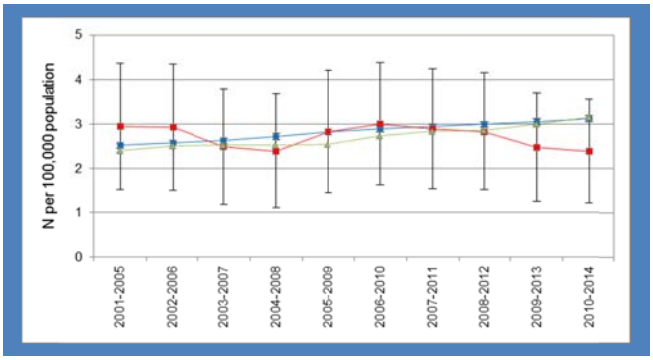


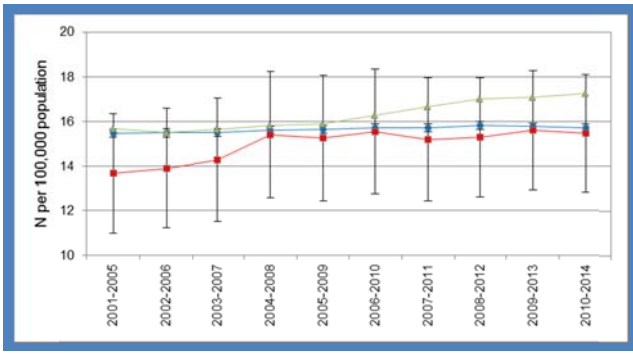
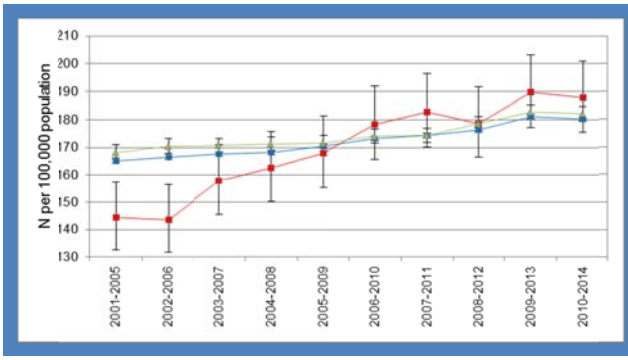
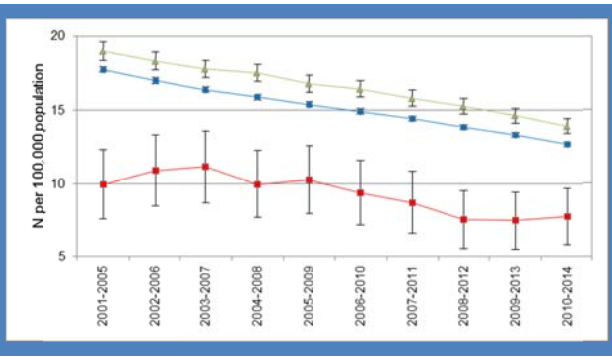
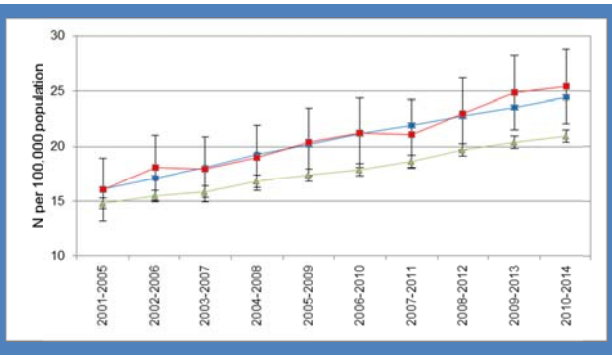
Source: Herefordshire Council SIT

Examining specific cancers in Herefordshire between 2001/2005 and 2010/2014 the standardised incidence rates for bladder, lung and stomach cancers were significantly lower than both the rates for England and the West Midlands, as were local rates for cervical and lung cancer (Table 1). The Herefordshire rate for liver cancer was below both national and regional rates throughout this period, although only since 2007/2011 were the differences significant. The local rate for breast cancer was consistently above both the national and regional rates, although not significantly so. For other cancers the Herefordshire rates were close to, or varied around the national and regional rates.

Table 1: Directly Standardised Incidence Rates for cancers for Herefordshire, England and West Midlands in 2014 and temporal trends for 2001 – 2014 (5 year rolling mean).

Site		2010-2014			Temporal Trend - Persons (red line = Herefordshire; blue line = England; green line = West Midlands)
		Hereford-shire	England	West Midlands	
Bladder (IDM10 C67)	Males (95 per cent CI)	32.5 (22.1-47.1)	29.1 (28.3-29.8)	28.8 (26.6-31.2)	
	Females (95 per cent CI)	6.3 (2.7-13.9)	8.2 (7.9-8.6)	7.4 (6.4-8.4)	
	Persons (95 per cent CI)	19.4 (12.6-26.2)	18.6 (18.2-19.1)	18.1 (16.8-19.3)	
Breast (ICD10 C50)	Males (95 per cent CI)	-	-	-	
	Females (95 per cent CI)	169 (145-196)	173 (172-175)	172 (167-177)	
	Persons (95 per cent CI)	-	-	-	
Cervical (ICD10 C53)	Males (95 per cent CI)	-	-	-	
	Females (95 per cent CI)	4.4 (1.2-12.1)	9.5 (9.1-9.9)	10.7 (9.5-12.0)	
	Persons (95 per cent CI)	-	-	-	
Colorectal (ICD10 C18-C20)	Males (95 per cent CI)	97.2 (78.3-120.1)	84.5 (83.3-85.7)	88.1 (84.3-92.0)	
	Females (95 per cent CI)	60.4 46.8-77.5	56.4 (55.5-57.3)	56.8 (54.1-59.7)	
	Persons (95 per cent CI)	78.8 (65.8-91.8)	70.4 (69.7-71.2)	72.5 (70.1-74.8)	

Site		2010-2014			Temporal Trend - Persons (red line = Herefordshire; blue line = England; green line = West Midlands)
		Hereford-shire	England	West Midlands	
Leukaemia (ICD91 - 95)	Males (95 per cent CI)	14.4 (7.8-25.6)	21.4 (20.8-22.0)	21.2 (19.4-23.2)	
	Females (95 per cent CI)	5.3 (1.9-12.9)	11.9 (11.5-2.3)	11.5 (10.3-12.9)	
	Persons (95 per cent CI)	9.9 (4.6-15.1)	16.6 (16.3-17.0)	16.4 (15.2-17.5)	
Trachea, Bronchus and Lung (ICD10 C33-C34)	Males (95 per cent CI)	60.0 (45.8-78.1)	91.5 (90.2-92.8)	89.9 (86.1-93.9)	
	Females (95 per cent CI)	41.0 (30.0-55.5)	65.2 (64.2-66.1)	60.5 (57.6-63.4)	
	Persons (95 per cent CI)	50.5 (40.2-60.8)	78.3 (77.5-79.1)	75.2 (72.8-77.6)	
Liver And Intrahepatic Bile Ducts (ICD10 C22)	Males (95 per cent CI)	5.1 (1.6-13.4)	13.4 (12.9-13.9)	13.9 (12.4-15.5)	
	Females (95 per cent CI)	9.0 (4.4-17.4)	5.8 (5.5-6.1)	7.4 (6.5-8.5)	
	Persons (95 per cent CI)	7.0 (2.6-11.4)	9.6 (9.3-9.9)	106 (9.7-11.6)	
Lymphoma (Hodgkin's Disease) (ICD10 C81)	Males (95 per cent CI)	4.4 (1.2-12.7)	4.0 (3.7-4.2)	4.2 (3.4-5.1)	
	Females (95 per cent CI)	4.4 (1.2-12.1)	2.8 (2.6-3.0)	3.0 (2.4-3.7)	
	Persons (95 per cent CI)	4.4 (0.4-8.3)	3.4 (3.2-3.5)	3.6 (3.1-4.1)	

Site		2010-2014			Temporal Trend - Persons (red line = Herefordshire; blue line = England; green line = West Midlands)
		Hereford-shire	England	West Midlands	
Oesophagus (IDM10 C15)	Males (95 per cent CI)	20.4 (12.4-32.9)	21.9 (21.3-22.6)	24.3 (22.3-26.4)	
	Females (95 per cent CI)	8.0 (3.8-16.1)	8.8 (8.4-9.1)	10.2 (9.0-11.4)	
	Persons (95 per cent CI)	14.2 (8.3-20.2)	15.3 (15.0-15.7)	17.2 (16.0-18.4)	
Prostate (ICD10 C61)	Males (95 per cent CI)	178 (152-208)	178 (176-179)	175 (170-180)	
	Females (95 per cent CI)	-	-	-	
	Persons (95 per cent CI)	-	-	-	
Stomach (ICD10 C16)	Males (95 per cent CI)	14.8 (8.3-25.7)	16.0 (15.4-16.5)	17.2 (15.6-19.0)	
	Females (95 per cent CI)	3.8 (1.2-10.6)	6.7 (6.4-7.0)	6.8 (5.9-7.9)	
	Persons (95 per cent CI)	9.3 (4.4-14.3)	11.3 (1.0-11.6)	12.0 (11.0-13.0)	
Melanoma of Skin (ICD10 C43)	Males (95 per cent CI)	29.9 (20.0-44.1)	28.0 (27.4-28.7)	23.7 (21.8-25.7)	
	Females (95 per cent CI)	20.6 (12.6-32.5)	24.4 (23.8-25.0)	19.9 (18.3-21.6)	
	Persons (95 per cent CI)	25.3 (17.5-33.1)	26.2 (25.8-26.7)	21.8 (20.5-23.1)	

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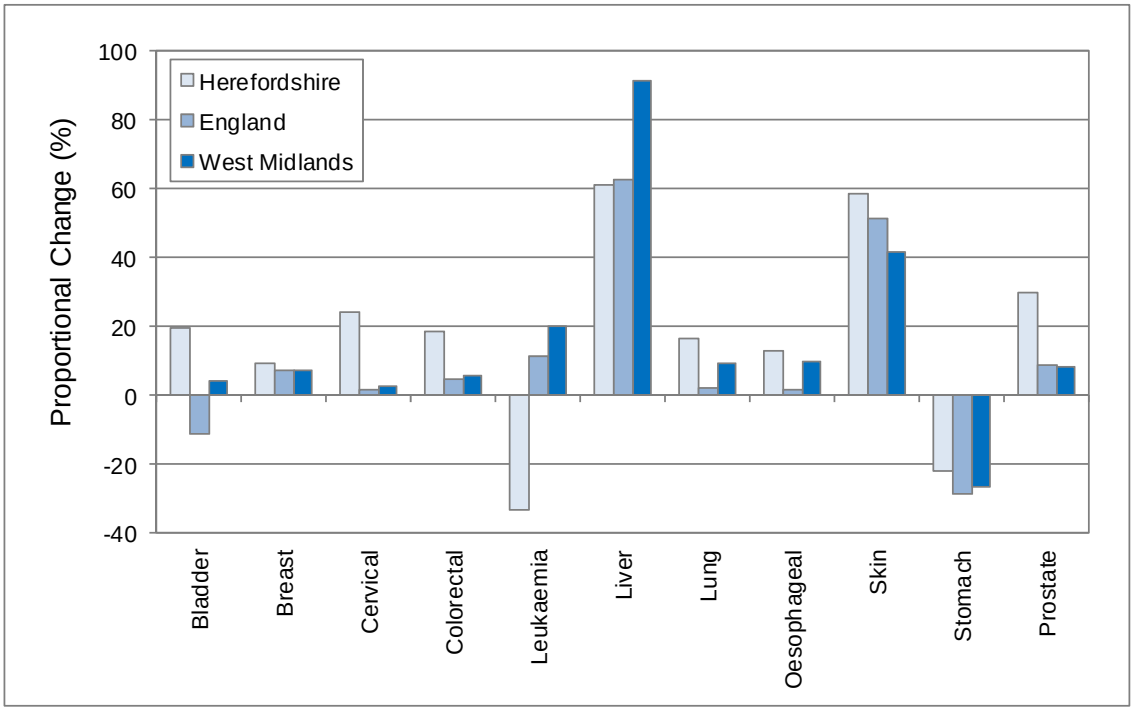
Between 2001/2005 and 2010/2014 the standardised incidence rates for colorectal, prostate and skin cancers have shown increasing trends with the 2010/2014 rates significantly higher than those recorded in 2001/2005 (Table 1). Similar temporal trends were observed across England and the West Midlands, although the proportional rate of increase was higher in Herefordshire compared to these headline rates (Figure 8). Breast and lung and cancers also showed upward trends, although the rates in 2010/2014 were not significantly higher than in 2001/2005 despite increasing by 9 and 17 per cent respectively. The incidence of liver cancer increased by over 60 per cent over this time period, although the difference between 2001/2005 and 2010/2014 was not significant; appreciable proportional increases were also observed across England and the West Midlands during this period.

The stomach cancer incidence rate fell over time locally, nationally and by similar proportions, although the Herefordshire fall was not significant. The incidence of leukaemia in Herefordshire fell by 33 per cent while the national and regional rates increased by 11 and 20 per cent respectively.

Incidence rates for bladder, cervical and oesophageal cancers and Hodgkin's disease showed some variability, although no distinct patterns were evident despite increases between 2001/2005 and 20010/2014 being evident. Similar temporal patterns were observed in the incidence rates of these cancers across England and the West Midlands.

Figure 8: Proportional change in the directly standardised incidence rates of cancers between 2001/2005 and 2010/2014 in Herefordshire, England and the West Midlands.



Source: Herefordshire Council SIT

ROUTE OF PRESENTATION

Between 2009/10 and 2015/16 the total number of cancer presentations in Herefordshire showed an increasing trend rising from 900 to 1,068 (although the 2014/15 figure was marginally higher at 1,111) which represents a 23 per cent increase over this period, (Figure 9). Over this period the proportion of the annual totals represented by emergency presentations showed some variability between 15.4 per cent in 2011/12 and 2014/15 and 18.1 per cent in 2012/13, although these inter-annual differences were not significant. Nationally, over this period, the number of emergency presentations fell by 4.9 per cent, while the overall presentations increased by 9.8 per cent.

The directly standardised rate for emergency presentation in Herefordshire has showed an increase from 78 per 100,000 individuals in 2009/10 to 101 per 100,000 population in 2015/16 (Figure 10). Over this period the national rate for emergency presentation has shown a steady decline from 98 to 90 per 100,000 population. In 2009/10 the Herefordshire rate was significantly lower than that recorded for England, although in subsequent years no significant differences were evident between the local and national rates. Over this period as a whole national rate for other presentations showed annual increases, although the local rate was consistently significantly higher than the national figure.

Figure 9: Number of emergency and other presentations of cancer patients (primary axis) and proportion of presentations represented by emergency cases (secondary axis) in Herefordshire, 2009/10 to 2014/15.

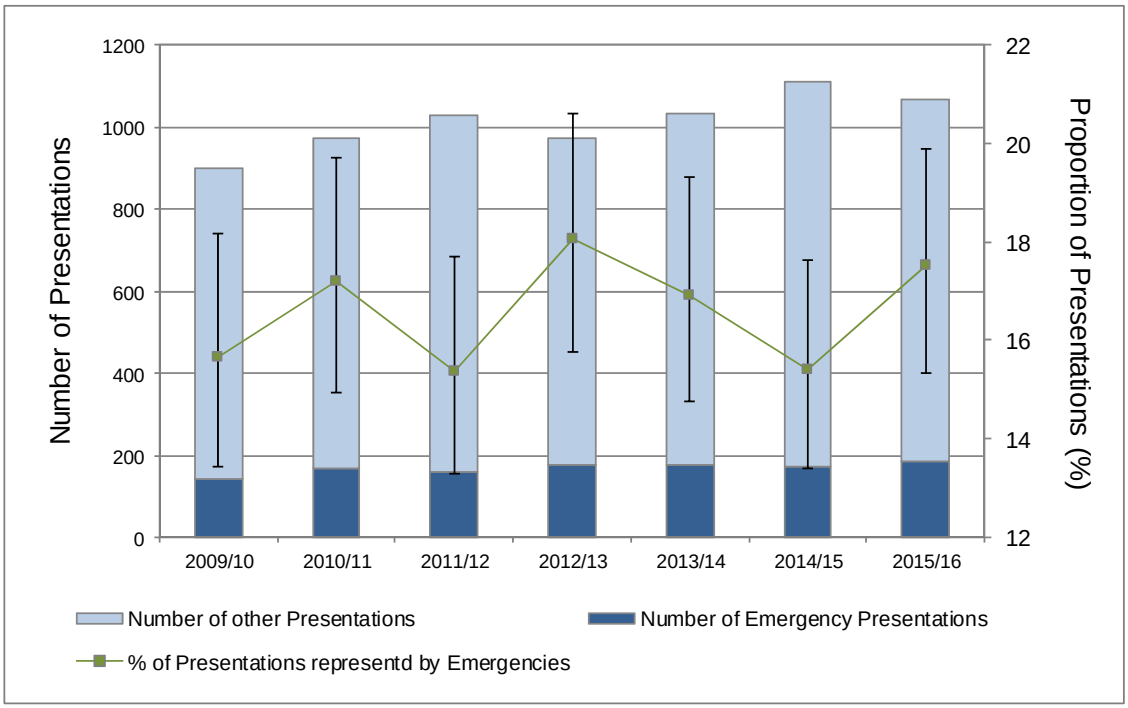


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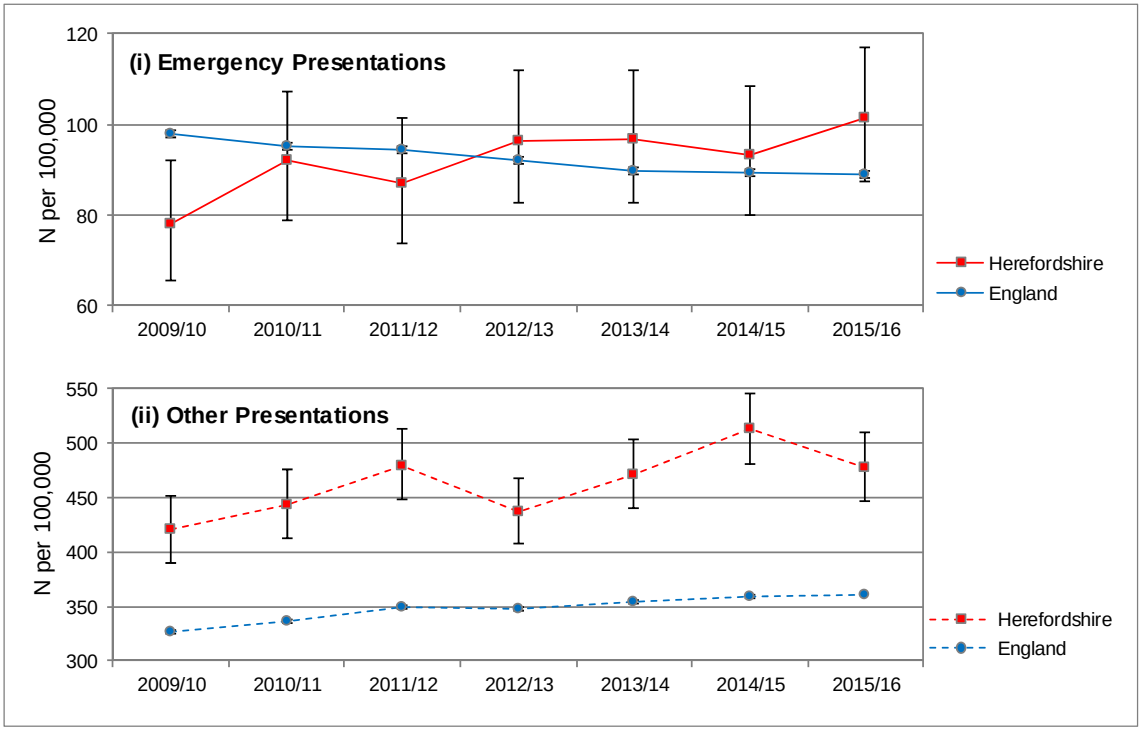
Figure 10: Directly Standardised emergency and other presentation rates in Herefordshire and England, 2009/10 to 2014/15.



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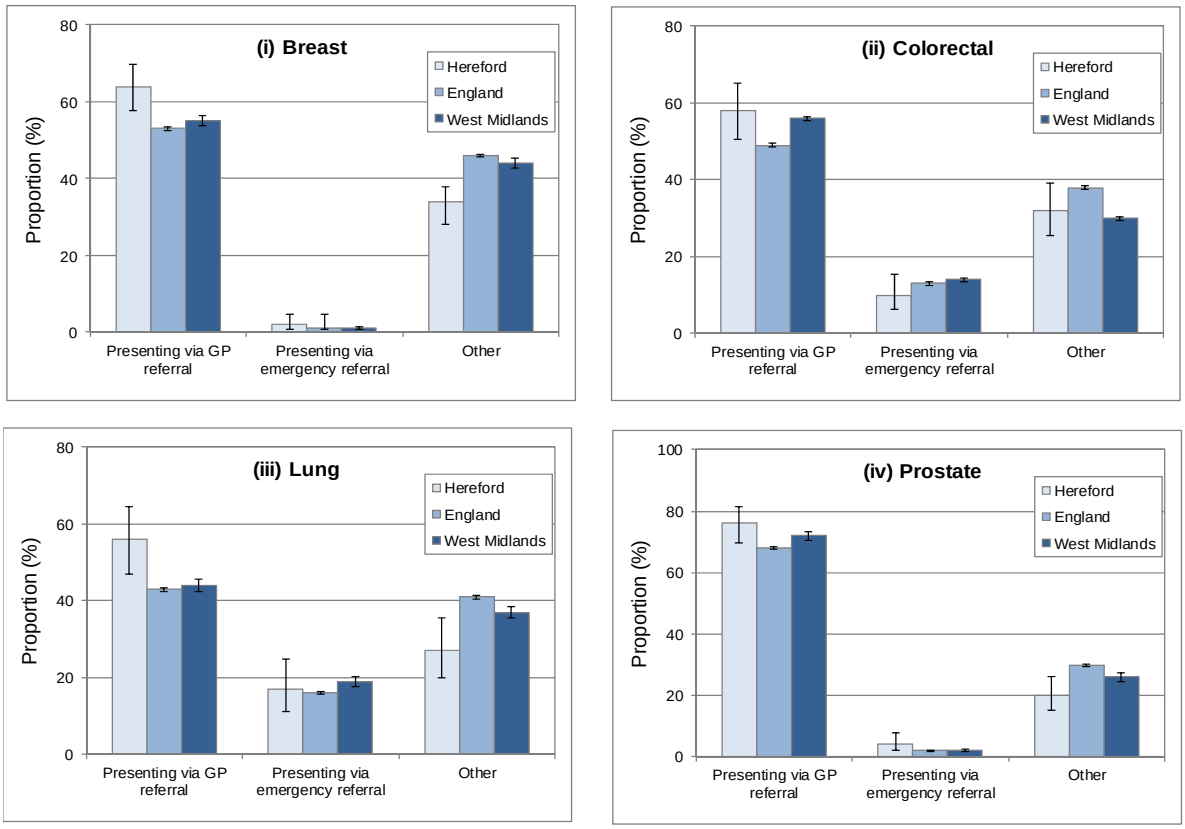
The referral route by which patients are presented with a diagnosis of different cancers in 2014 are given in Figure 11. For the cancers considered the highest proportions of presentations are via GP referral, a pattern evident both across England and the West Midlands. The proportions of total referrals represented by GP referrals in Herefordshire were significantly higher than the figures for England, while those for breast and lung cancer were also significantly higher than the West Midlands figures. For Herefordshire, England and the West Midlands the lowest proportions of presentations were via emergency referrals, although there were no significant spatial differences in the proportions reported in the cancers considered.

Figure 11: Proportions of presentations via different referral routes in Herefordshire, England and the West Midlands, 2014.



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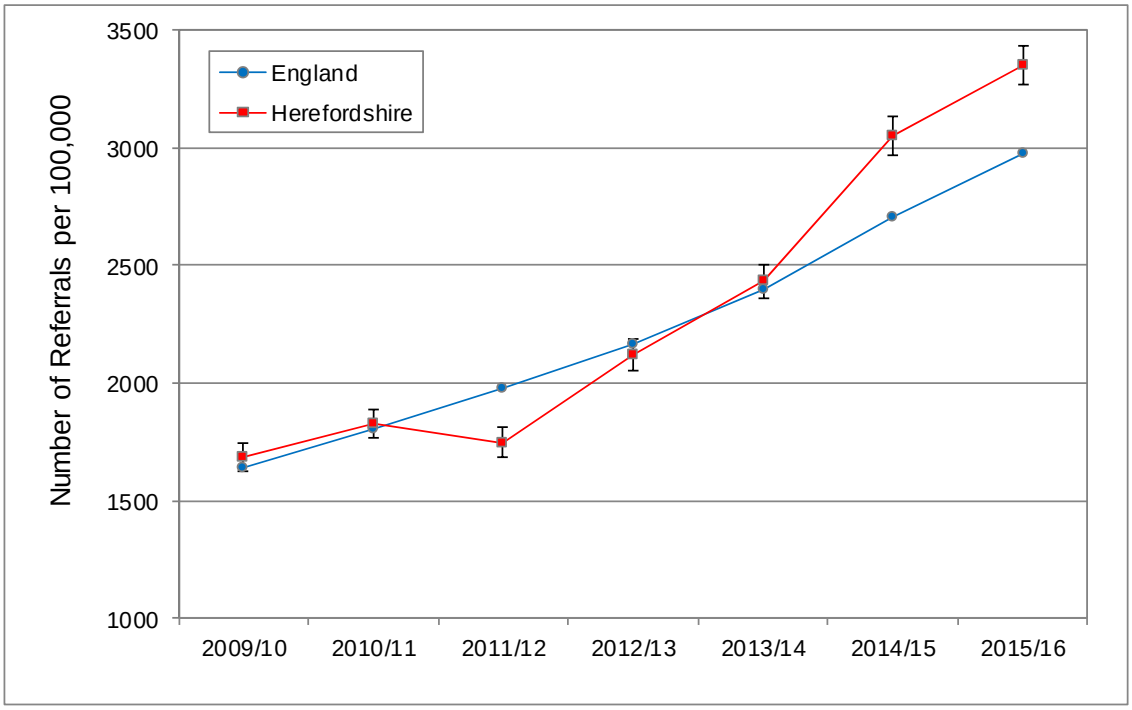
TWO WEEK WAIT REFFERALS

The NHS Cancer Referral Guidelines from NICE aim to help GPs and other health professionals know when to refer people to specialists if they have symptoms that could be due to a cancer. The guidelines refer to immediate referral (seen within a few hours), urgent referral (within 2 weeks) and non-urgent referral (seen under locally agreed referral systems). The Herefordshire crude rate for two week wait (TWW) referrals for all cancers has shown a general upward trend since 2011/12, prior to which the rate remained relatively stable. Between 2009/10 and 2015/16 the local crude rate increased from 1685 per 100,000 population to 3353 per 100,000 in 2015/16, a proportional increase of 99 per cent (Figure 12). The national crude rate showed a consistent year on year increase over this period with a proportional increase was 81 per cent. Since 2014/15 the local crude rate has been significantly higher than the national rate, before which it was either close to or less than the national figure.

The referral data was also examined using indirectly age-sex standardised referral ratios (SRR), which compare the observed practice referral rate to the referral rate that is expected if the population had the same age-specific TWW referral rates as England overall. A value for the ratio greater than 100 per cent indicates higher than expected referral levels, while those lower than 100 per cent have lower than expected referral levels. Where data is available the Herefordshire SRR shows an increasing trend although it was consistently lower than the national TWW rate (Figure 13). When comparing the SSR pattern with the crude rate it seems likely that the aging population in Herefordshire is inflating

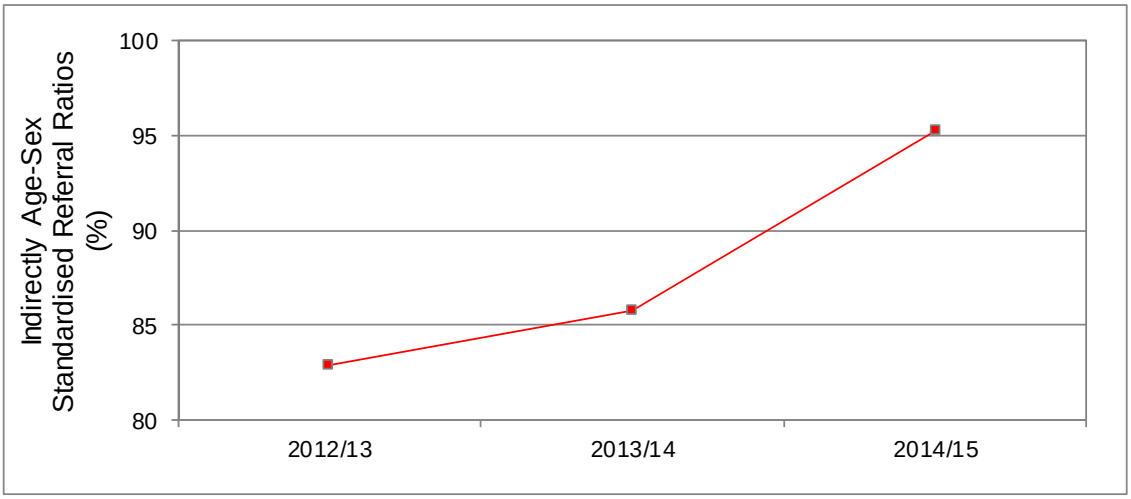
the crude referral rate which will result in greater pressure on the cancer services available in the county.

Figure 12: Crude two week wait referral rate for all cancers in Herefordshire and England, 2009/10 to 2015/16.



Source: NHS England Cancer Waiting Times Database

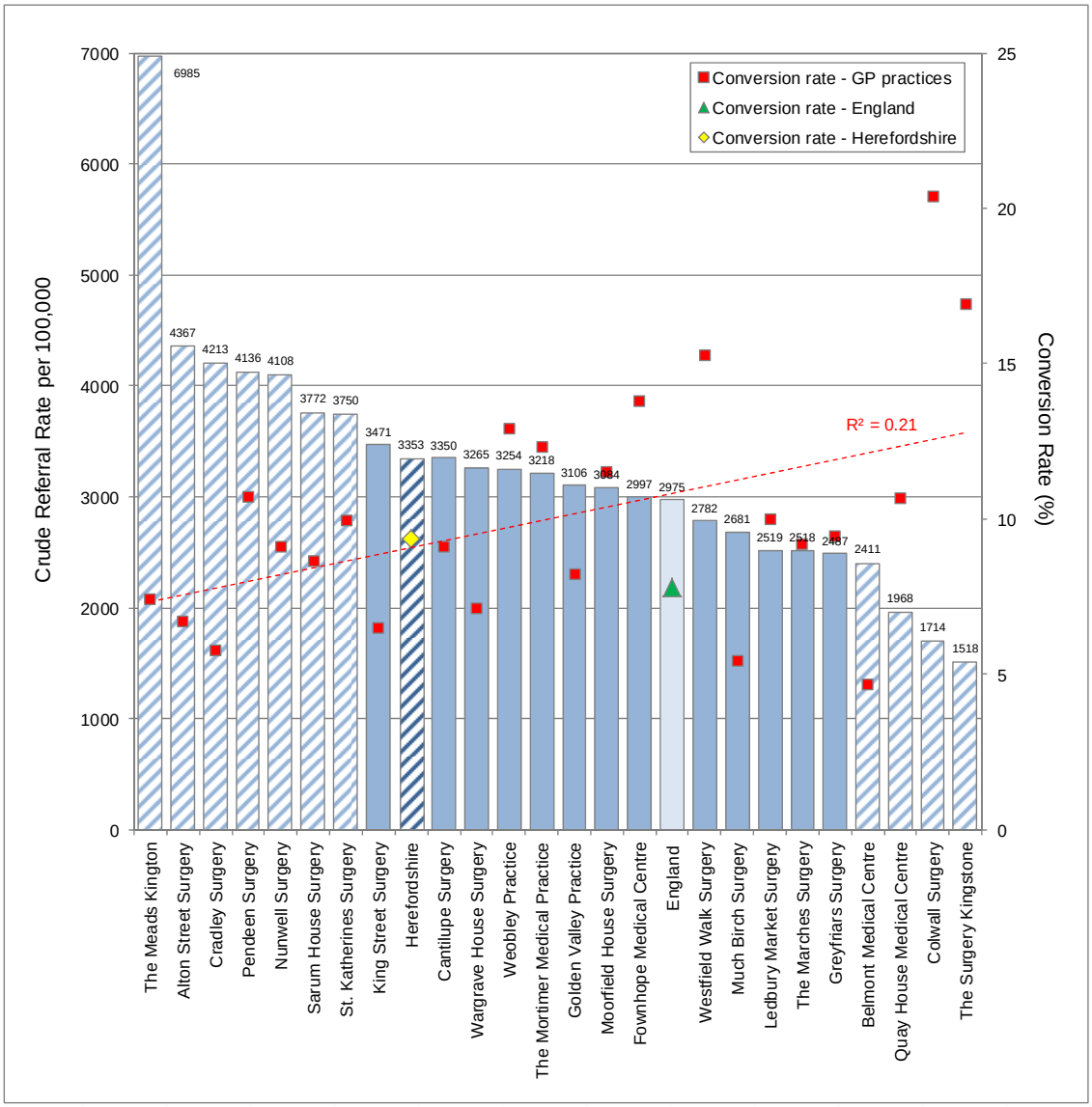
Figure 13: Crude two week wait referral rate for all cancers in Herefordshire, 2009/10 to 2015/16.



Source: NHS England Cancer Waiting Times Database

Between 2009/10 and 2015/16 the crude TWW referral rate for all cancers at each Herefordshire GP surgery followed trends similar to that for the county overall with rates remaining relatively consistent up to 2011/12, after which all practices reported increasing rates. In 2015/16 the highest crude TWW referral rate was almost 7,000 per 100,000 population recorded at Kington, a figure 60 per cent greater than the next highest crude rate (4,367 – Alton Street) – Figure 14; it is interesting to note that Kington recorded the highest crude TWW referral rate every year since 2009/10. In 2015/16 seven Herefordshire surgeries reported crude referral rates significantly higher than the England rate, while four reported figures significantly lower than the national rate. The lowest crude TWW rate in 2015/16 was recorded at Kingstone (1518 per 100,000) which was little over one fifth of the figure reported at Kington.

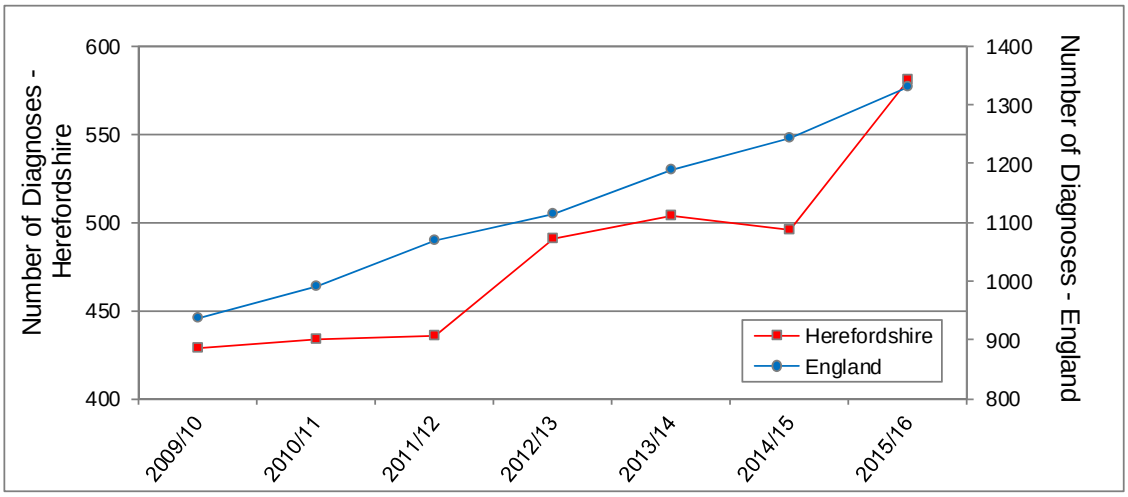
Figure 14: Crude two week referral rate for all cancers (bars - primary axis) and conversion rate of referrals to diagnoses of cancer (points - secondary axis) by Herefordshire GP surgeries, 2015/16 (shaded bars = significantly different from England rate, line = trend line for conversion rate – regression co-efficient shown).



Source: NHS England Cancer Waiting Times Database

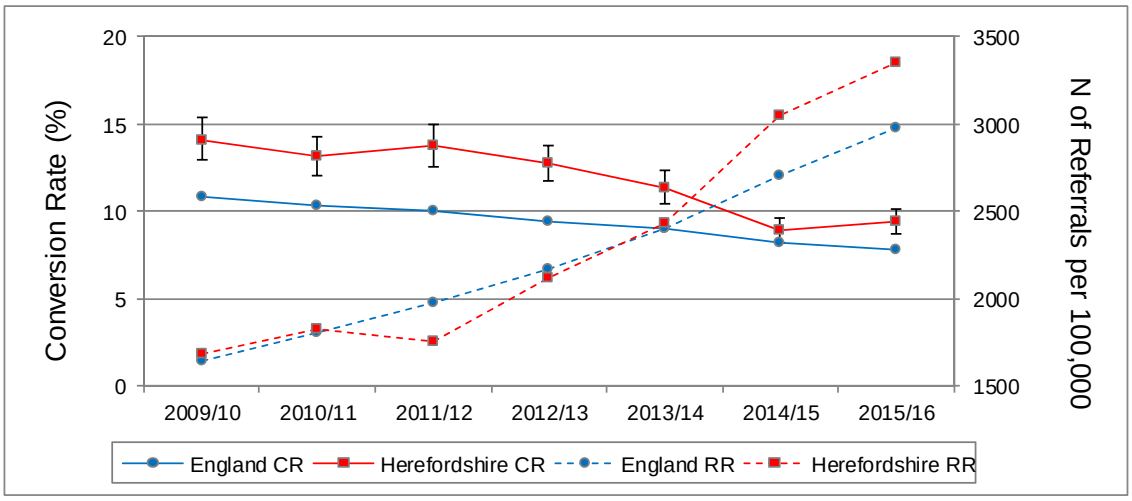
In line with increasing referral rates the number of TWW referrals resulting in a diagnosis of cancer has also increased in Herefordshire with the number rising from 429 to 581 between 2009/10 and 2014/15 which represents a 35 per cent increase (Figure 15). Over this period the number of TWW referrals resulting in a diagnosis of cancer in England rose by 42 per cent. Although the actual number of TWW referrals resulting in diagnoses of cancer has increased locally, the conversion rate of referrals resulting in a diagnosis of cancer has fallen by one third from 14.1 per cent in 2009/10 to 9.4 per cent in 2015/16 (Figure 16); over the same period the national conversion rate fell from 10.8 to 7.8 per cent, a proportional fall of 28 per cent. It is evident that for both Herefordshire and England the conversion rate of referrals to diagnosis of cancer falls as the crude referral rate increases (Figure 16). A similar pattern is evident within Herefordshire where there is a negative correlation between the number of referrals and diagnoses of cancer within each of the GP practices (Figure 14).

Figure 15: Number of diagnoses of cancer resulting from two week wait referrals in Hereford (primary axis) and England (secondary axis), 2009/10 to 2015/16.



Source: NHS England Cancer Waiting Times Database

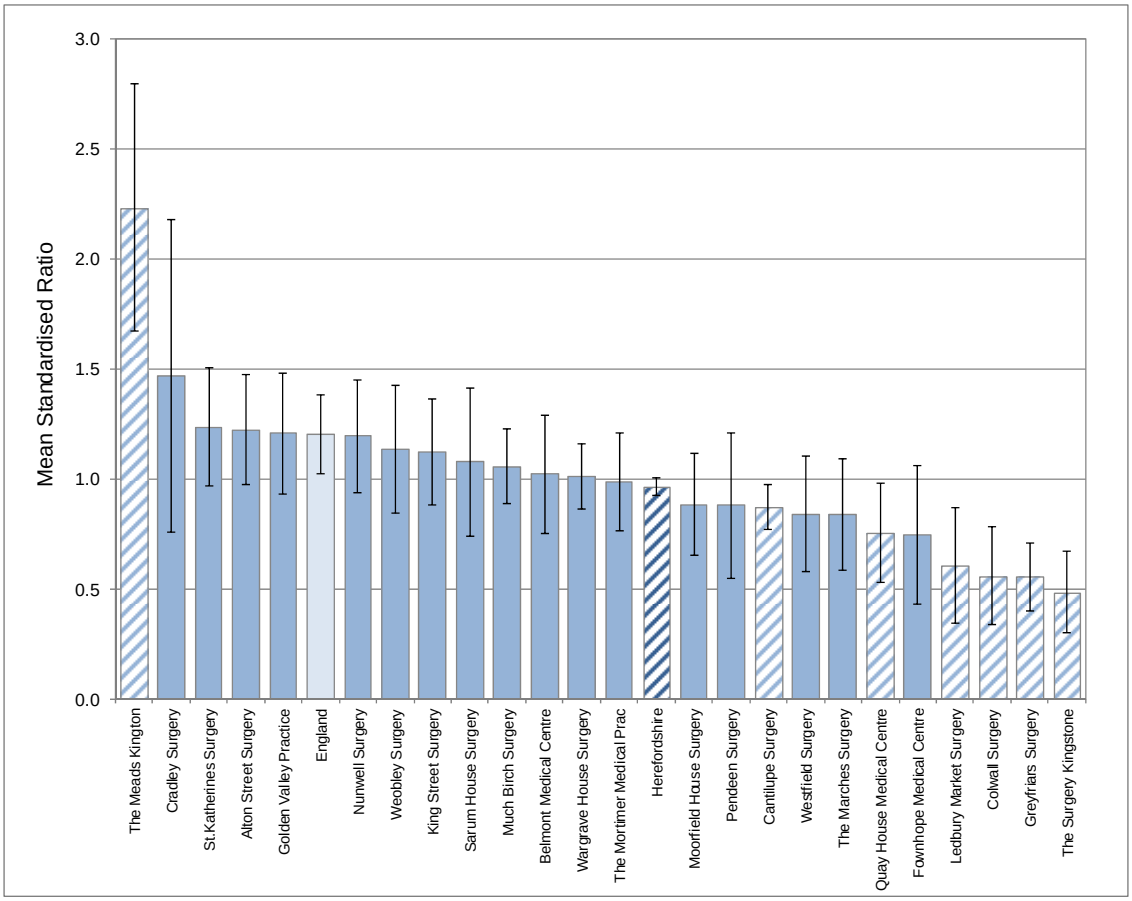
Figure 16: Conversion rate of TWW referrals resulting in diagnoses of cancer (primary axis) resulting and number of referrals (secondary axis) in Hereford and England, 2009/10 to 2015/16.



Source: NHS England Cancer Waiting Times Database

Unusually high or low referral and conversion rates may merit further investigation. A high referral rate combined with a low conversion rate may indicate a possible element of inappropriate referral. For instance, in 2015/16 the highest crude referral rate of 6,985 per 100,000 was reported at Kington which corresponded to a conversion rate of 7.4 per cent, whereas across the county as a whole the referral rate was less than that reported at Kington while the conversion rate was a third higher than the Kington rate. Conversely, the lowest referral rate of 1518 per 100,000 recorded at Kingstone was less than half of the county figure while the conversion rate was reported referral rate was almost twice the Herefordshire rate. This would indicate that some investigation into the referral criteria at these two practices is warranted, although any such indications need to be considered in line with temporal patterns. For instance, since 2009/10 Kington has reported consistently high referral and relatively low conversion rates whereas King Street Surgery in Hereford has reported moderate referral rates but similar conversions rates to Kington. Similarly, over the same period the referral rate at Kingstone has remained relatively low while the conversion rate has been consistently high, compared to Westfield walk in Leominster where referral rates have remained moderate while conversion rates similarly as high as those at Westfield walk. In order to take the variation of both rates into account and to give a time integrated measure for each GP practice, for each year the ratio between referral and conversion rates at each practice was determined, the values of which were standardised against the countywide mean of the ratio for that year. The mean of the standardised ratio between 2009/10 and 2015/16 was then calculated for each practice to give the Mean Standardised Ratio (MSR). Similar measures were also calculated for Herefordshire and England. The highest MSR value occurred at Kington (2.23) was one and a half times greater than the next highest recorded at Cradley (1.47) – Figure 17. The lowest MSR was recorded at Kingstone. Kington was the only practice to record an MSR significantly higher than the value for England (1.20), while values at four practices (Kingstone, Greyfriars, Colwall and Ledbury) were significantly lower than the national figure. Considering the other practices discussed above the MSRs for King Street and Westfield Walk were not significantly different from either the national of county MSR.

Figure 17: The mean standard ratio (MSR) for GP practices in Herefordshire (shaded bars = significantly different from England average).



Source: Herefordshire Council SIT

SCREENING

Breast Cancer

In 2015/16 the proportion of women in Herefordshire aged between 50 and 70 who underwent a breast cancer scan within the last 36 months was 73.7 per cent, a figure marginally higher than the previous year, although significantly lower than all years between 2009/10 and 2013/14 (Figure 18). Throughout this period the county figure was higher than both the national and regional rates.

Between 2012/13 and 2015/16 there were no consistent patterns in the proportion of 50 – 70 year olds at each Herefordshire GP practice having undergone breast screening in the last three years. When combining the data over these four years it is evident that the majority of Herefordshire practices have rates significantly higher than the rate for England (72.3 per cent), while only the rate at Belmont (66.5 per cent) is significantly lower than the national figure (Figure 19).

Figure 18: Rate of breast cancer screening in 50 – 70 year olds within last 36 months in Herefordshire, England and the West Midlands between 2009/10 and 2015/16.

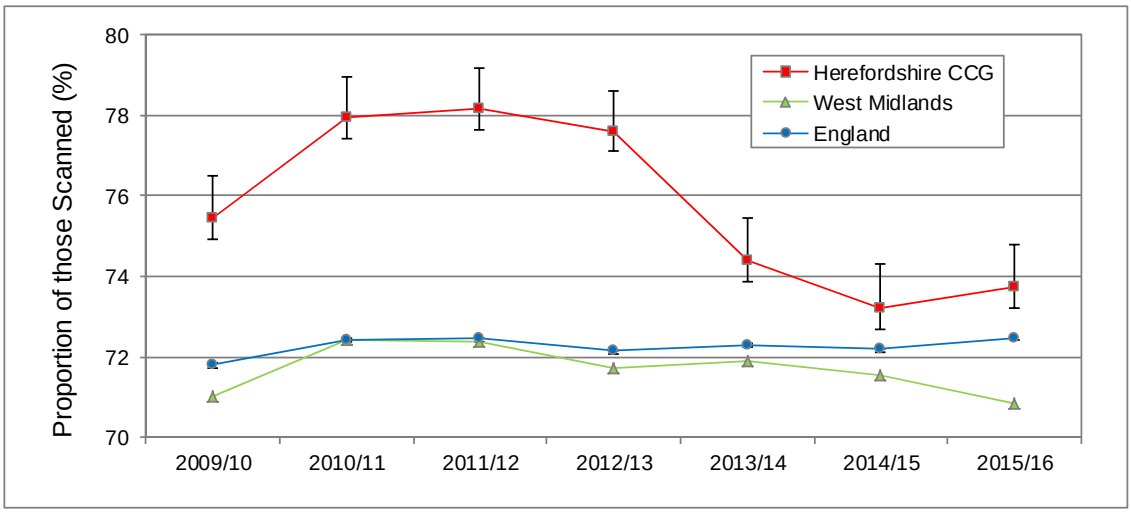


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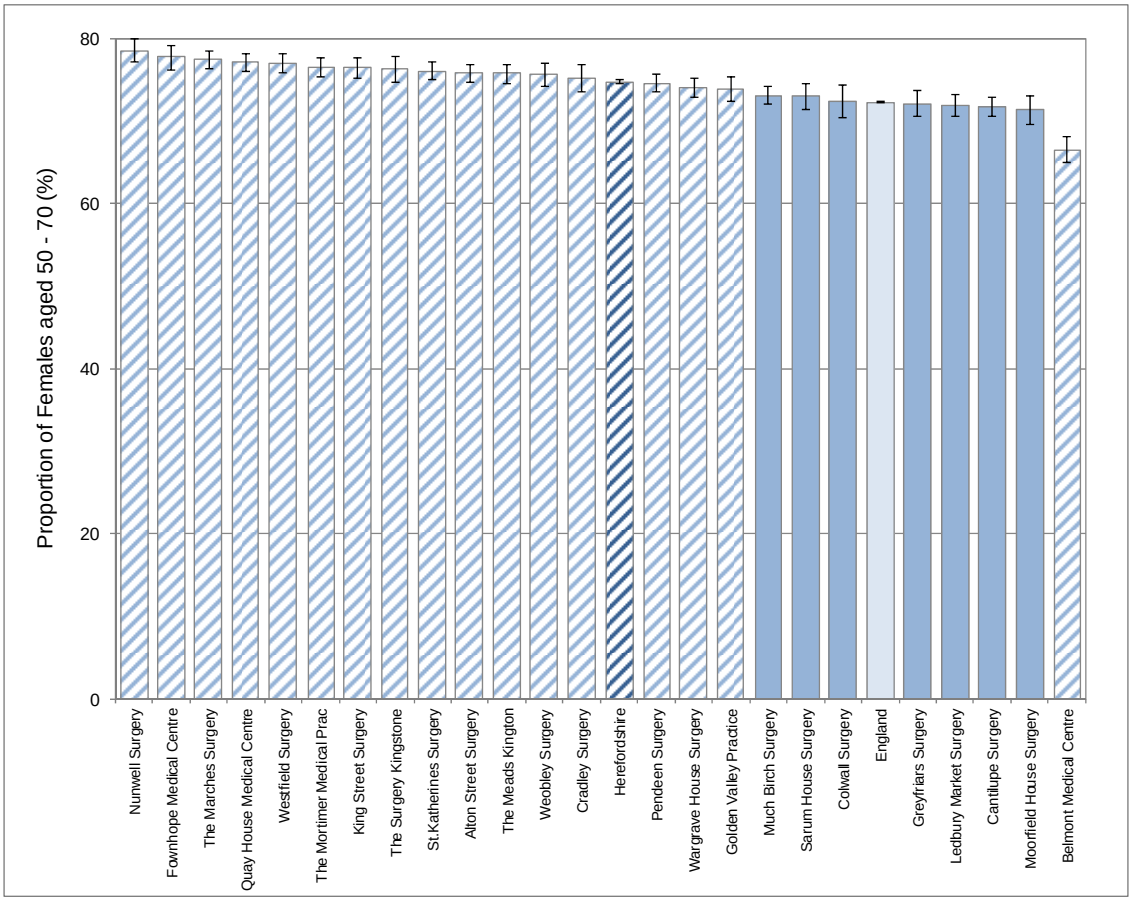
Figure 19: Rate of breast cancer screening in 50 – 70 year olds within last 36 months across in Herefordshire GP practices 20012/13 to 2015/16 pooled data. (shaded bars = significantly different from England average).



Source: Herefordshire Council SIT

Since 2009/10 the rate of uptake of breast cancer screening the women in Herefordshire aged between 50 and 70 within 6 months of receiving an invitation has consistently been higher than the figures for England and the West Midlands(Figure 20). However, since 2010, while the national and regional rates have declined proportionally by 1.5 and 2.8 per cent respectively, the local rate has declined by 7.4 per cent.

Between 2012/13 and 2015/16 there were no consistent patterns in the proportion of 50 – 70 year old women at each Herefordshire GP practice having undergone breast screening within 6 months of receiving an invitation. When combining the data over these four years all Herefordshire practices have rates significantly higher than the rate for England of 73.3 per cent, with the Herefordshire overall figure also significantly higher at 77.1 per cent (Figure 21).

Figure 20: Rate of uptake of breast cancer screening within 6 months of invitation in 50 – 70 year olds, 2009/10 - 2015/16.

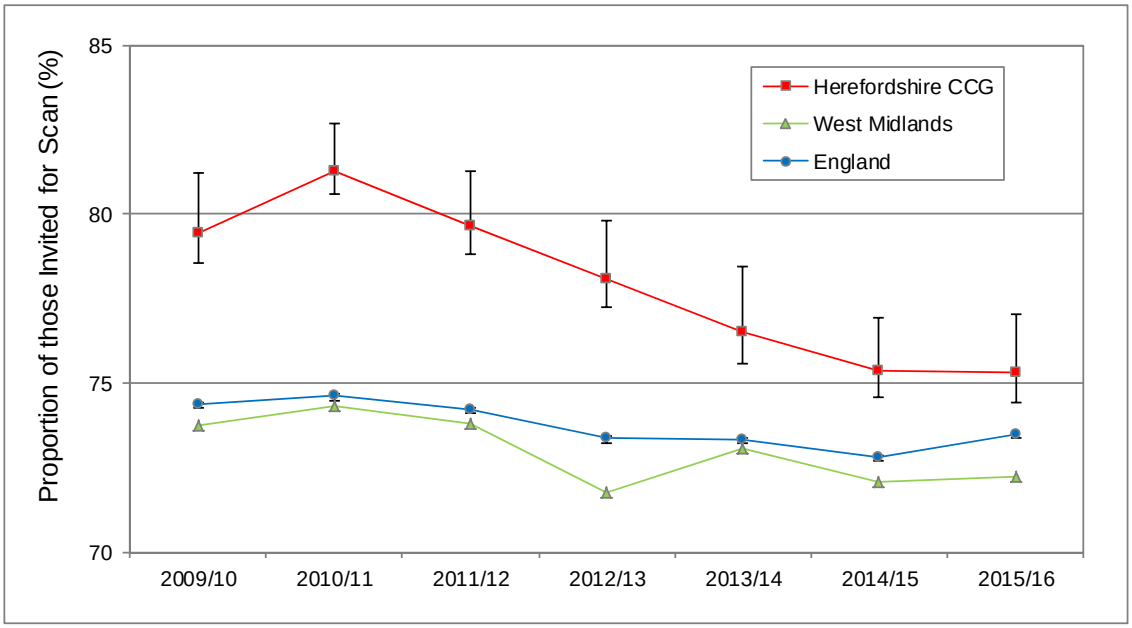


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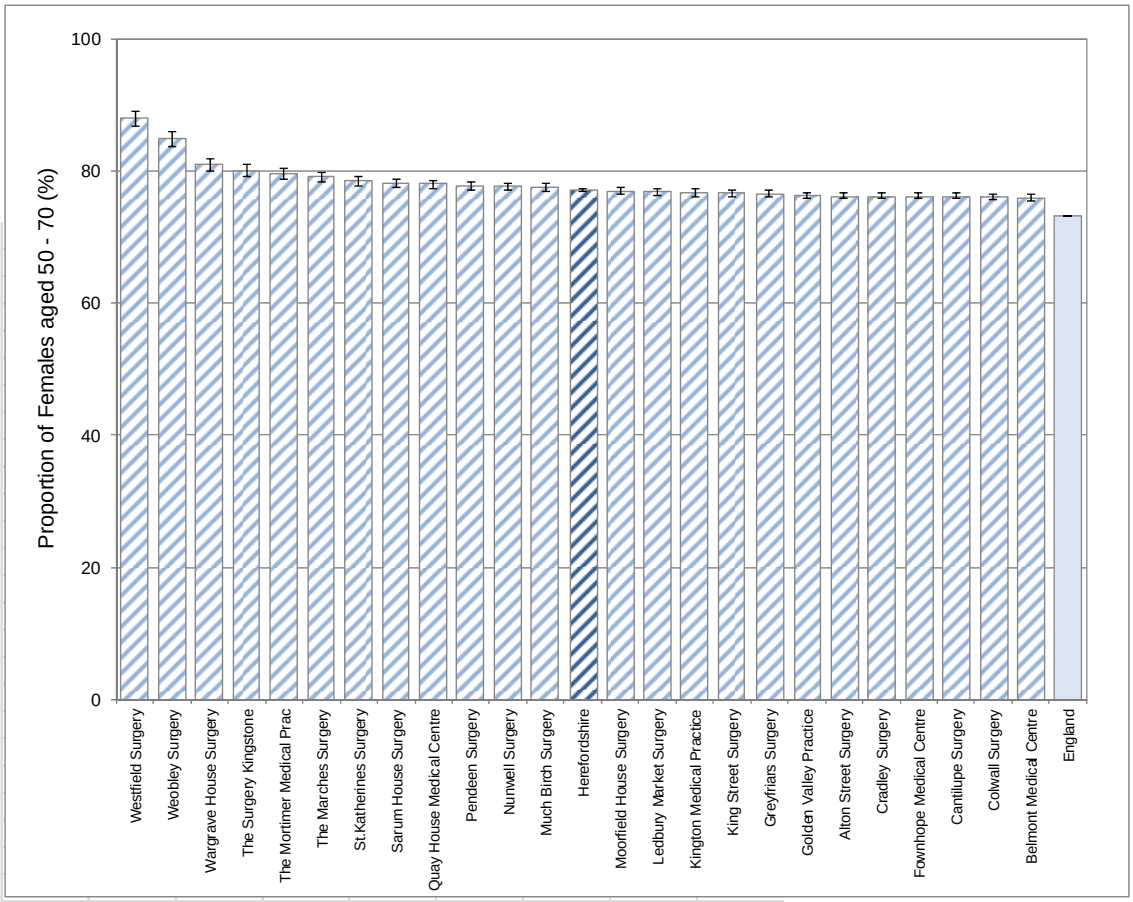
Figure 21: Rate of breast cancer screening in 50 – 70 year olds within 6 months of invitation in Herefordshire GP practices 20012/13 to 2015/16 pooled data. (shaded bars = significantly different from England average.



Source: Herefordshire Council SIT

Cervical Cancer

Between 2009/10 and 2014/15 the proportion of woman in Herefordshire aged 25 to 69 who underwent cervical screening within the target periods of the previous 42 months (if aged 24-49) or 66 months (if aged 50-64) has declined from 78.3 to 74.7 per cent, a proportional fall of 4.6 per cent (Figure 22). Over the same period both the national and regional rates have fallen, although at slower rates, although the Herefordshire rate has been consistently significantly higher than these two rates.

Between 2012/13 and 2014/15 there were no consistent patterns in the proportion of women in Herefordshire aged 25 to 69 who underwent cervical screening within the relevant target period. When combining the data over these three years the majority of Herefordshire practices have rates significantly higher than the rate for England of 73.3 per cent, with the Herefordshire overall figure also significantly higher at 75.9 per cent (Figure 23). Three Herefordshire practices returned rates significantly lower than the national figure.

Figure 22: Rate of cervical screening in 25 - 69 year olds within target period, 2009/10 - 2014/15.

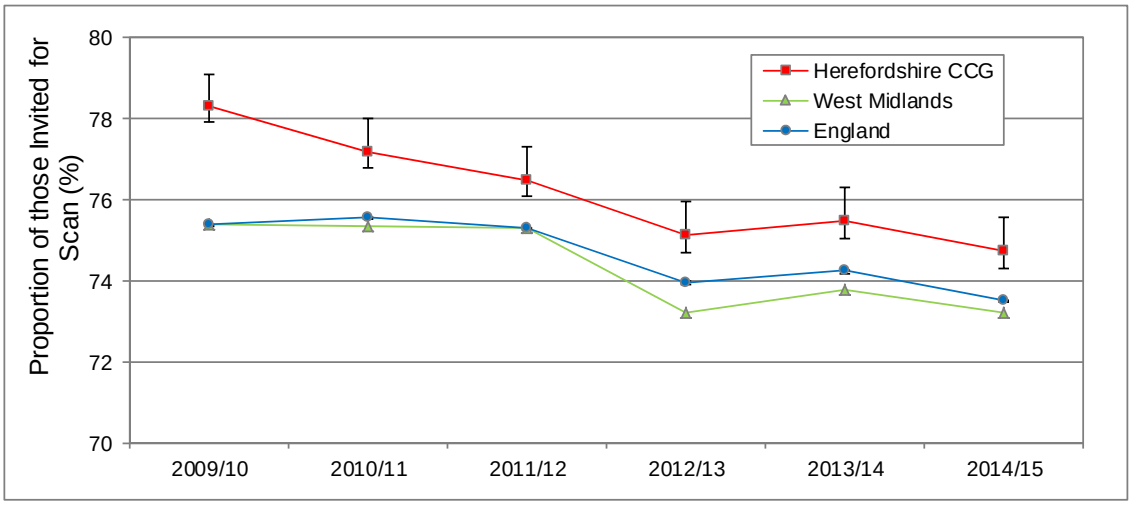


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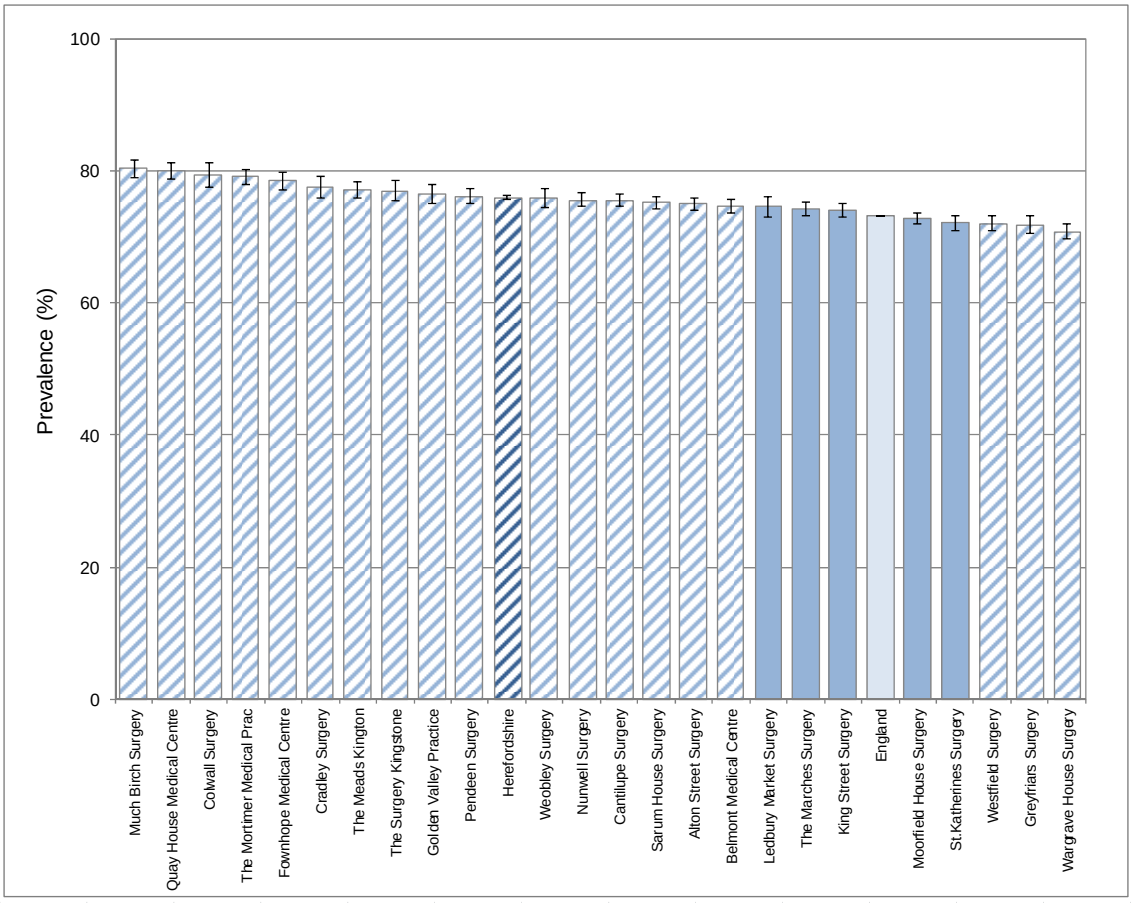
Figure 23: Proportion of females aged 25-64 attending cervical screening within target period (3.5 or 5.5 year coverage) at Herefordshire GP practices (per cent)- (shaded bars = significantly different from England average).



Source: Herefordshire Council SIT

Bowel Cancer

Since 2009/10 the proportion of individuals aged between 60 and 69 being screened for bowel cancer within six months of invitation remained relatively consistent in Herefordshire, varying between 59.5 and 61.6 per cent (Figure 24). Throughout this period the Herefordshire figure was significantly higher than those for England and the West Midland, values for which also remained relatively stable.

Between 2010/11 and 2014/15 there were no consistent patterns in the proportion of individuals aged between 60 and 69 being screened for bowel cancer within six months of invitation. When pooling the data for each practice for these five years 21 out of have proportions significantly higher than the rate for England of 56.7 per cent, with the Herefordshire overall figure also significantly higher at 60.9 per cent (Figure 25). Only Belmont Medical Centre returned a proportion significantly lower than the national figure.

Figure 24: Rate of bowel cancer screening in 60 - 69 year olds within 6 months of invitation, 2009/10 - 2014/15.

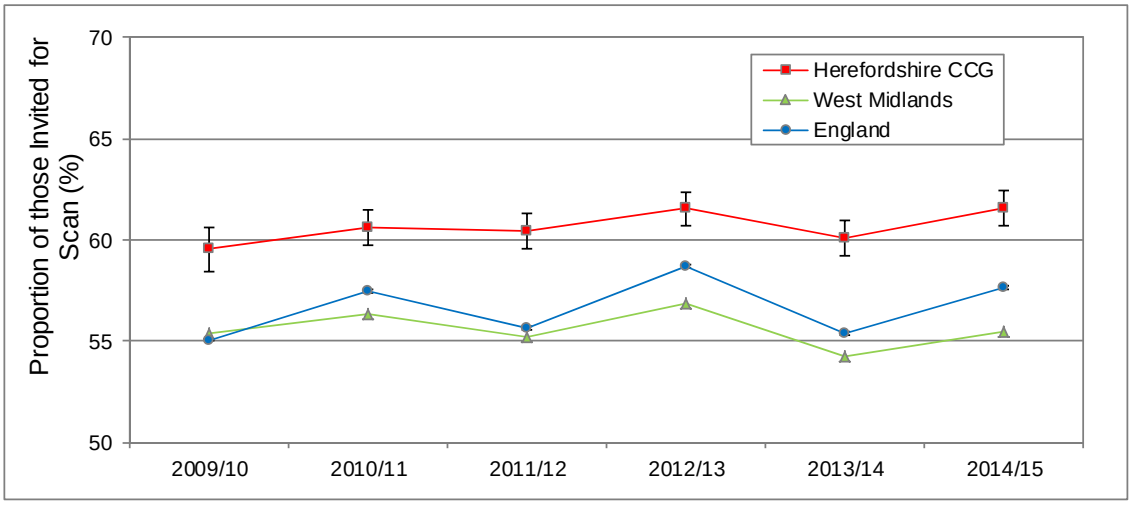


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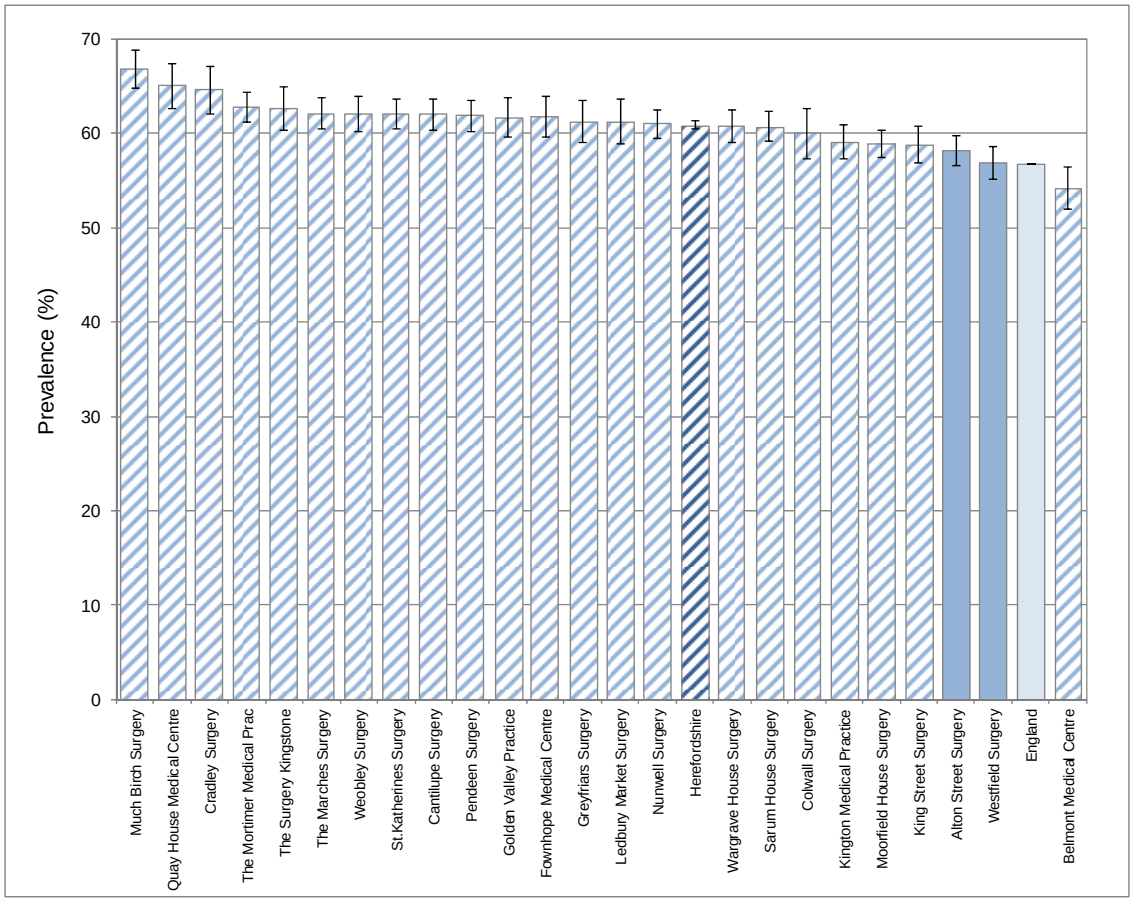
Figure 25: Proportion of individuals aged 60 – 69 undergoing bowel cancer scan within 6 month of invitation at Herefordshire GP practices (per cent)- (shaded bars = significantly different from England average



Source: Herefordshire Council SIT

EARLY DETECTION

In 2011 the Government published *Improving Outcomes: A Strategy for Cancer* (IOSC)[1] which set out a series of priorities for prevention and early diagnosis as the core of work to improve cancer outcomes nationally. As diagnosis at an early stage of a cancer's development can lead to dramatically improved survival chances the proportion of cancers diagnosed at an early stage is therefore a useful proxy for assessing improvements in cancer survival rates. The fourth annual IOSC report[2] reported that in 2013/14 the NHS in England performed on average over 300,000 more diagnostic tests each month compared to 2009/10.

The progression of a cancer is divided into four stages which describe to what extent the cancer has developed: :

[1] Improving Outcomes: A Strategy for Cancer (2011). DoH. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213785/dh_123394.pdf

[2] Improving Outcomes: A Strategy for Cancer Fourth Annual Report (2014). NHS England. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/388160/fourth_annual_report.pdf

Stage 1 - the cancer is relatively small and contained within the organ it started in.

Stage 2 - the cancer has not started to spread into surrounding tissue but the tumour is larger than in stage 1. Sometimes stage 2 means that cancer cells have spread into lymph nodes close to the tumour. This depends on the particular type of cancer.

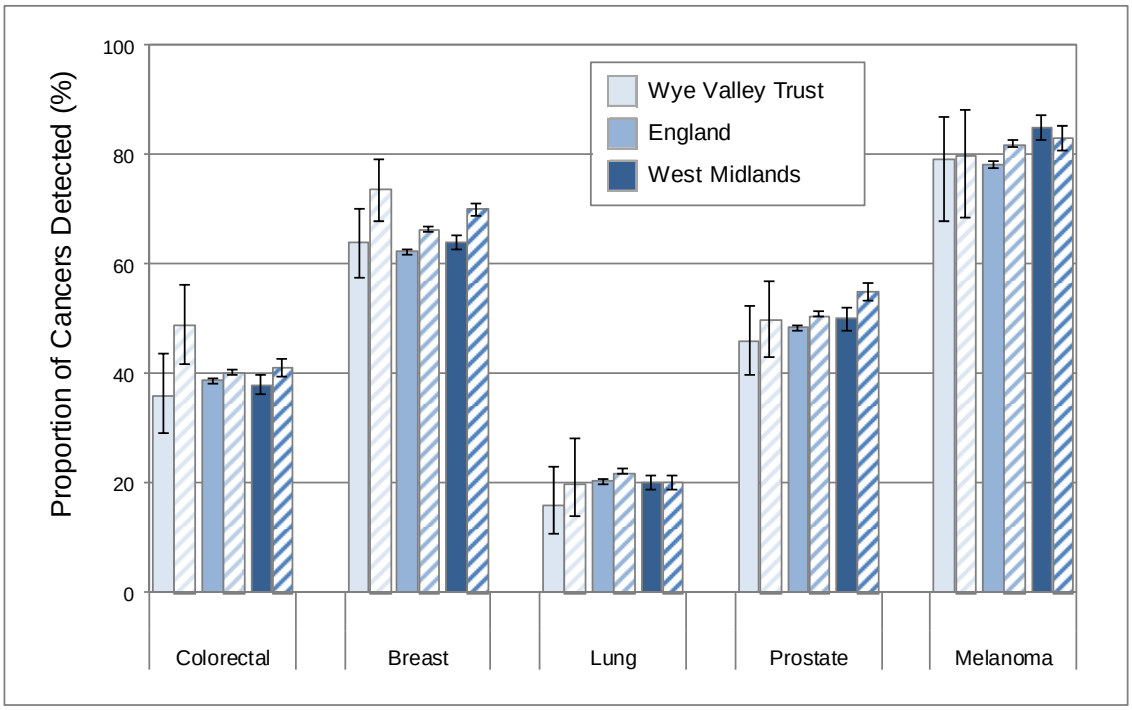
Stage 3 - usually means the cancer is larger and may have started to spread into surrounding tissues and there are cancer cells in the lymph nodes in the area.

Stage 4 - the cancer has spread from where it started to another body organ (this is also called secondary or metastatic cancer).

Detection of cancer at stages 1 and 2 is considered to be an early detection.

Between 2013 and 2014 the proportion of major cancers detected early increased in Herefordshire, although the differences between the two years were not statistically significant (Figure 26). Increases were also observed in England for the cancers considered, although the differences between 2013 and 2014 were statistically significant. For the West Midlands the proportion of colorectal, breast and prostate cancers detected early increased, although for melanoma the proportion fell, while for lung cancer there was no change. In 2013 there were no significant differences between early detection rates in the cancers considered in Herefordshire and national and regional figures. However in 2014 the early detection rate for colorectal and breast cancers were significantly higher in Herefordshire than across England as a whole. It should be noted that only two years' worth of data are available, and as such, any trends must be considered with caution with further data required to determine the veracity of any conclusions.

Figure 26: Proportion of cancers diagnosed at stage 1 and 2 in Herefordshire, England and the West Midlands, 2013 (solid bars) and 2014 (shaded bars).



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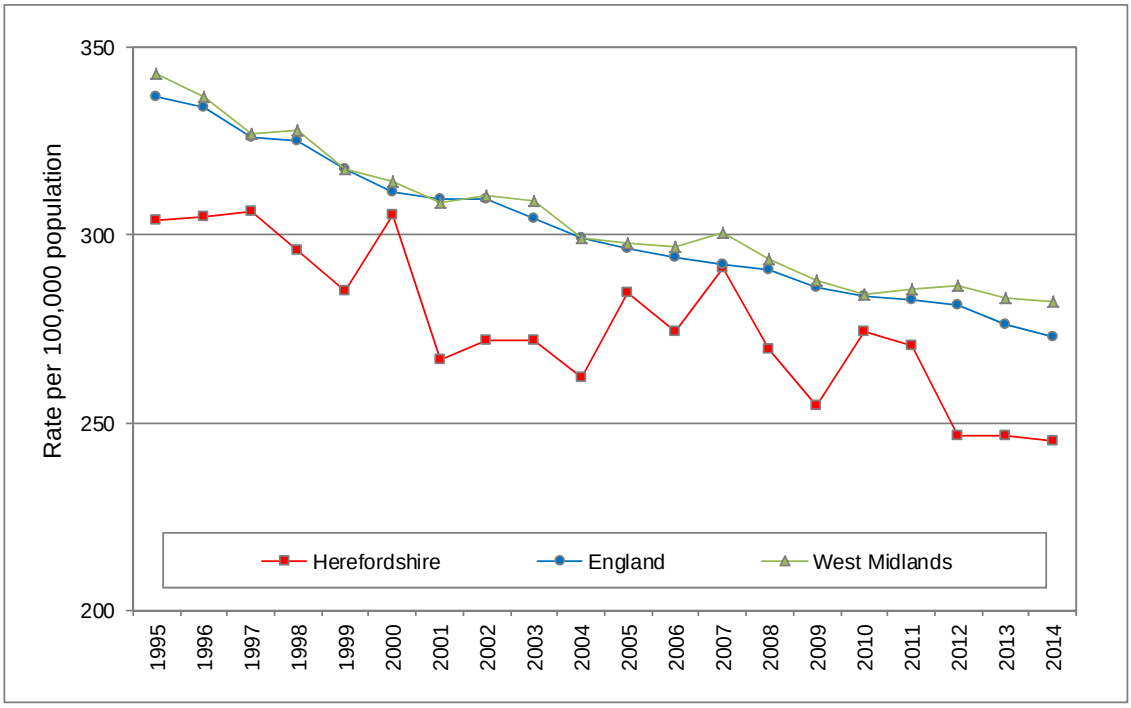
MORTALITY

All Age Mortality

In 2014 there were 537 cancer specific deaths in Herefordshire (294 males, 243 females). The directly standardised cancer specific mortality rate in Herefordshire showed some temporal variability between 1995 and 2014, although a general downward trend was evident with the rate falling from 304 per 100,000 population to 245 per 100,000 population, a proportional drop of 19.4 per cent (Figure 27). Similar temporal patterns were evident nationally and in the West Midlands which showed proportional falls of 19.0 and 17.7 per cent respectively. Throughout this period the Herefordshire rate was below the England and the West Midland figures with the local rate, on average, being 8.3 per cent less than the national rate and 8.2 per cent less than the regional rate.

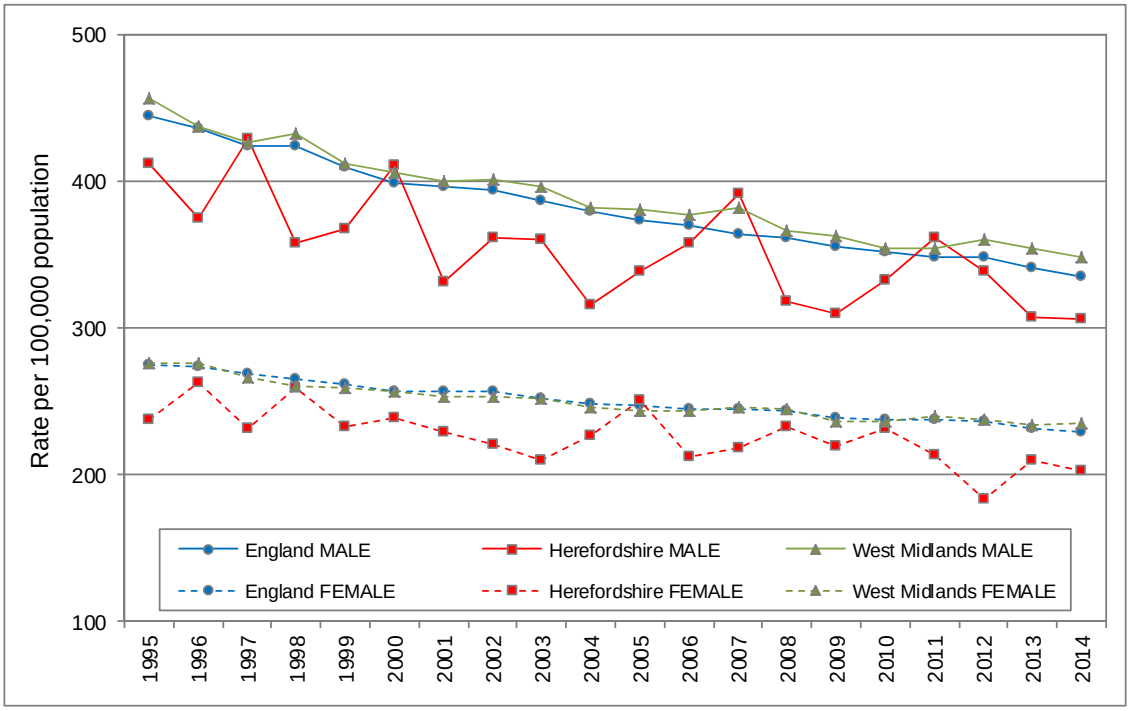
Cancer mortality rates for both males and females in Herefordshire showed some variability between 1995 and 2014, although rates for both genders showed a general downward trend with the proportional falls being 25.6 per cent for males and 14.7 per cent for females (Figure 28). Similar patterns were evident for both genders nationally and regionally; for males the national rate fell proportionally by 24.6 per cent while in the West Midlands the fall was 23.8 per cent, while for females the falls were 16.4 per cent nationally and 14.7 per cent regionally. Throughout this period the male cancer mortality rates were consistently higher than those for females in Herefordshire, nationally and regionally. Between 1995 and 2014 for Herefordshire the female mortality rate was on average 64.3 per cent of the male rate, while nationally and regionally the proportions were 65.7 and 64.3 percent respectively.

Figure 27: All age directly age-standardised cancer mortality rates for Herefordshire, England and West Midlands, 1995 – 2014.



Source: NHS Digital Indicator Portal

Figure 28: Male and female all age directly age-standardised cancer mortality rates for Herefordshire, comparator group and England, 1995 – 2014.



Source: NHS Digital Indicator Portal

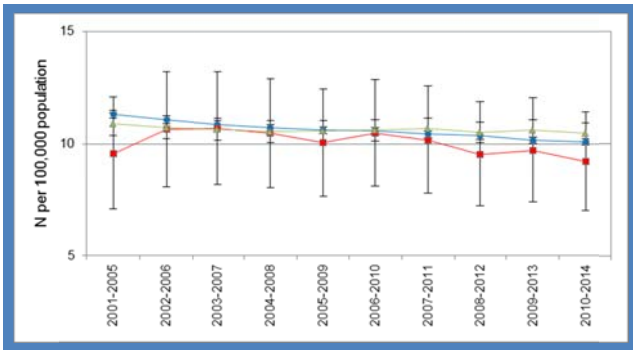
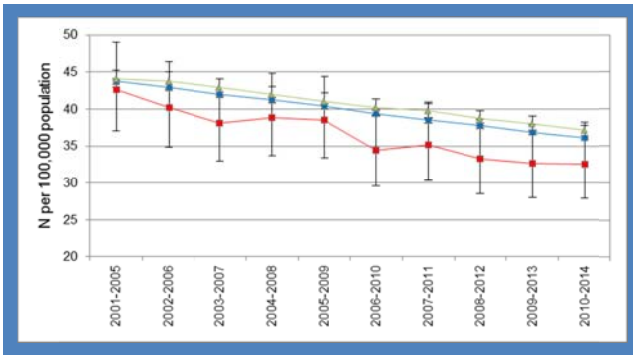
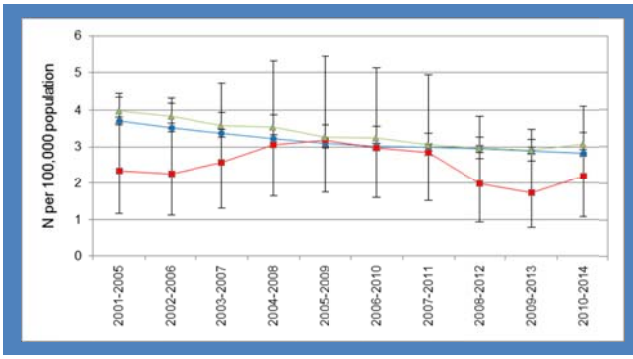
Examining the cancer specific mortality in Herefordshire between 2001/2005 and 2010/2014 the standardised all person rate for liver cancer has shown an increasing trend, rising proportionally by 61 per cent over this period (Table 2); the liver cancer specific mortality rates for England and the West Midlands also showed increasing trends over this time rising proportionally by 63 and 91 per cent respectively. However, while the local trend is strong (R^2= 0.72) the rate in 2010/2014 was not statistically higher than in that recorded in 2001/2004, although since 2005/2009 the local rate has been significantly lower than the national and regional rates and remained so in 2014.

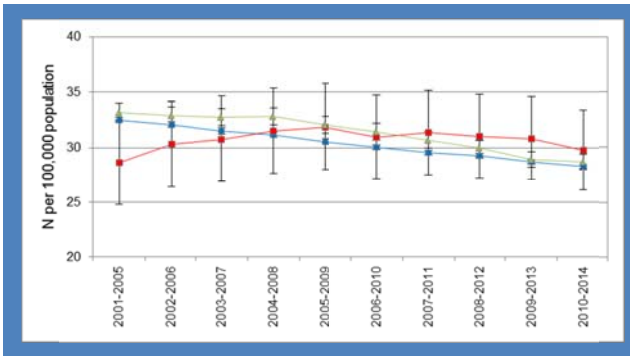
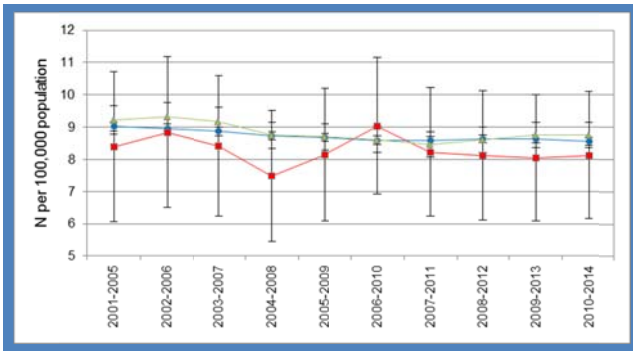
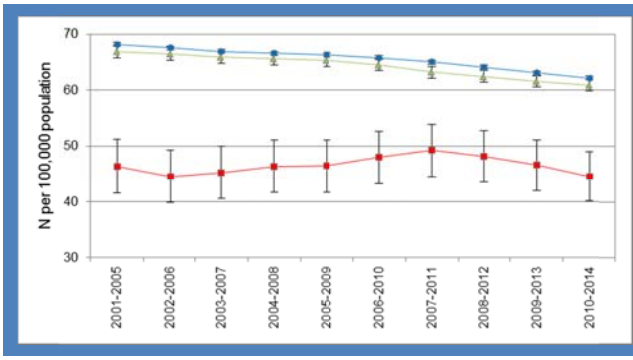
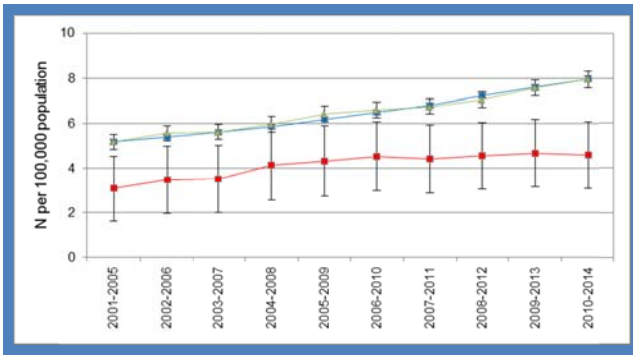
The breast cancer mortality rate has shown a downward temporal trend falling proportionally by 24 per cent between 2001/2005 and 2010/2014. Downward trends are also evident for the rates for England and the West Midlands, although the proportional falls were smaller than the local rate at 18 and 16 per cent respectively. Throughout this period the Herefordshire rate has been below both the national and regional rates, although the differences were not statistically significant. Since 2003/2007 the Herefordshire all person mortality rates for both stomach and prostate cancer have shown downward trends falling by 40 and 21 per cent respectively, prior to which both rates were increasing. Whereas the Herefordshire mortality rate for stomach cancer has consistently been significantly lower than the national and regional rates since 2001/2004, the rate for prostate cancer specific mortality has been higher than both these headline rates, although in most years these differences have not been significant.

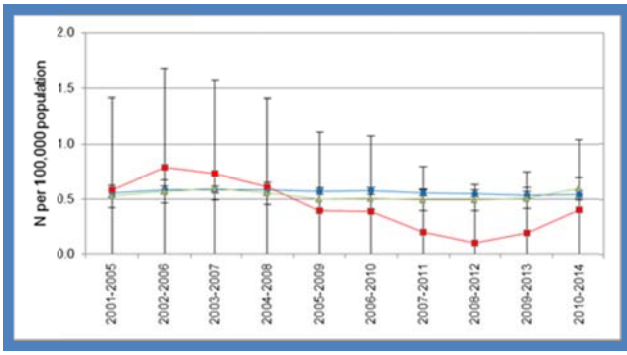
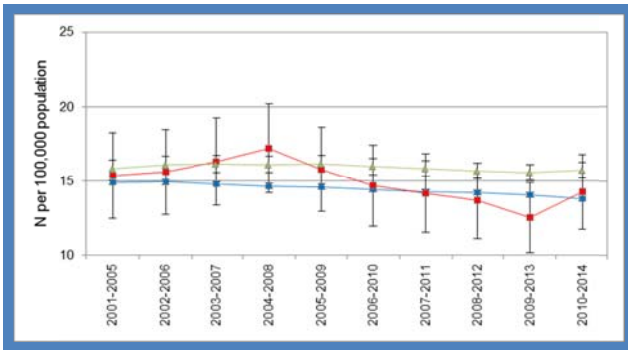
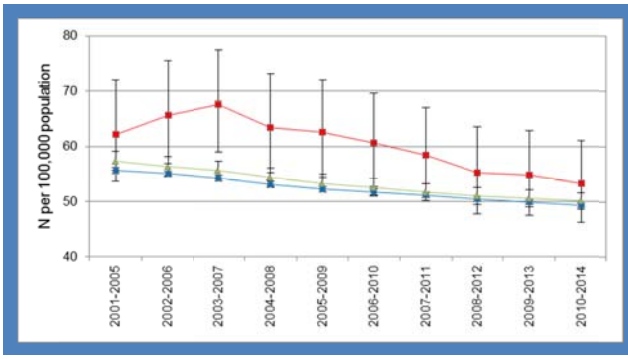
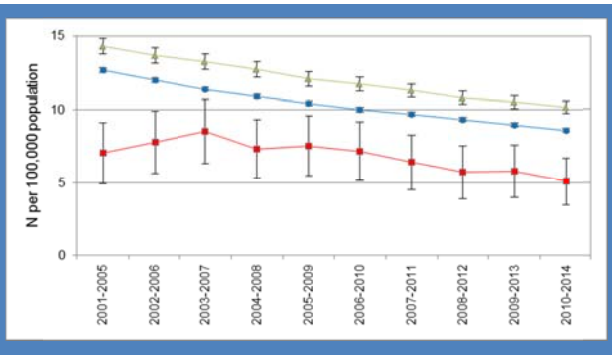
Lung cancer specific all person mortality in Herefordshire has shown no consistent pattern between 2001/2004 and 2010/2014 while both the national and regional; rates have shown a consistent fall, although throughout this period the local rate has been significantly lower than those for England and the West Midlands. For other cancers the mortality rates showed no specific temporal trends and the figures were close to, or varied around the rates for England and the West Midlands.

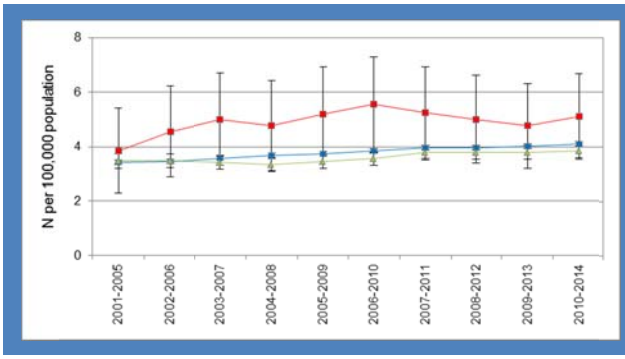
In 2014 the all person mortality rates for lung and liver cancer were significantly lower than both the national and regional rates. In 2014, with the exception of liver cancer, the mortality rates for other non-gender specific cancers were higher in males than in females, a pattern which was evident locally, nationally and regionally.

Table 2: Directly standardised cancer specific mortality rate in for Herefordshire, England and West Midlands in 2014 and temporal trends for 2001 – 2014 (5 year rolling mean).

Site		2014			Temporal Trend - Persons (red line = Herefordshire; blue line = England; green line = West Midlands)
		Hereford-shire	England	West Midlands	
Bladder (IDM10 C67)	Males (95 per cent CI)	10.5 (4.9-20.8)	15.2 (14.6-15.8)	15.0 (13.4-16.8)	
	Females (95 per cent CI)	5.2 (1.9-12.6)	5.0 (4.8-5.3)	5.2 (4.4-6.0)	
	Persons (95 per cent CI)	7.9 (3.1-12.6)	10.1 (9.8-10.4)	10.1 (9.1-11.0)	
Breast (ICD10 C50)	Males (95 per cent CI)	-	-	-	
	Females (95 per cent CI)	33.7 (23.8-47.1)	34.5 (33.8-35.2)	35.5 (33.4-37.8)	
	Persons (95 per cent CI)	-	-	-	
Cervical (ICD10 C53)	Males (95 per cent CI)	-	-	-	
	Females (95 per cent CI)	5.0 (1.6-12.7)	2.7 (2.5-2.9)	3.7 (3.1-4.5)	
	Persons (95 per cent CI)	-	-	-	

Site		2014			Temporal Trend - Persons (red line = Herefordshire; blue line = England; green line = West Midlands)
		Hereford-shire	England	West Midlands	
Colorectal (ICD10 C18-C20)	Males (95 per cent CI)	42.6 (30.4-59.1)	33.3 (32.5-34.1)	36.6 (34.1-39.2)	
	Females (95 per cent CI)	16.3 (9.9-26.4)	21.3 (20.7-21.8)	21.7 (20.0-23.5)	
	Persons (95 per cent CI)	29.5 (21.2-37.8)	27.3 (26.8-27.8)	29.1 (27.6-30.7)	
Leukaemia (ICD91 - 95)	Males (95 per cent CI)	15.4 (8.3-27.3)	10.5 (10.1-10.9)	11.7 (10.3-13.3)	
	Females (95 per cent CI)	7.2 (3.2-15.0)	5.8 (5.5-6.1)	6.0 (5.1-6.9)	
	Persons (95 per cent CI)	11.3 (5.7-16.9)	8.1 (7.8-8.4)	8.9 (8.0-9.7)	
Trachea, Bronchus and Lung (ICD10 C33-C34)	Males (95 per cent CI)	42.5 (30.7-58.5)	72.9 (71.8-74.1)	75.7 (72.2-79.3)	
	Females (95 per cent CI)	31.5 (22.1-44.4)	48.4 (47.5-49.2)	44.6 (42.2-47.1)	
	Persons (95 per cent CI)	37.0 (28.1-45.9)	60.6 (59.9-61.3)	60.1 (58.0-62.3)	
Liver And Intrahepatic Bile Ducts (ICD10 C22)	Males (95 per cent CI)	3.9 (1.1-11.8)	11.1 (10.7-11.6)	12.1 (10.7-13.6)	
	Females (95 per cent CI)	4.8 (1.7-11.9)	6.2 (5.9-6.5)	7.0 (6.0-8.0)	
	Persons (95 per cent CI)	4.3 (0.6-8.0)	8.7 (8.4-8.9)	9.5 (8.7-10.4)	

Site		2010-2014			Temporal Trend - Persons (red line = Herefordshire; blue line = England; green line = West Midlands)
		Hereford-shire	England	West Midlands	
Lymphoma (Hodgkin's Disease) (ICD10 C81)	Males (95 per cent CI)	2.11 (0.25-9.44)	0.72 (0.62-0.85)	0.92 (0.59-1.44)	
	Females (95 per cent CI)	0	0.46 (0.38-0.55)	0.70 (0.42-1.09)	
	Persons (95 per cent CI)	1.05 (0-3.72)	0.59 (0.52-0.66)	0.81 (0.54-1.08)	
Oesophagus (IDM10 C15)	Males (95 per cent CI)	26.4 (16.9-40.2)	19.3 (18.7-19.9)	23.4 (21.4-25.5)	
	Females (95 per cent CI)	7.5 (3.4-15.5)	7.4 (7.1-7.7)	9.5 (8.4-10.7)	
	Persons (95 per cent CI)	16.9 (10.4-23.5)	13.3 (13.0-13.7)	16.4 (15.2-17.6)	
Prostate (ICD10 C61)	Males (95 per cent CI)	42.0 (29.5-58.7)	48.2 (47.2-49.2)	49.4 (46.3-52.6)	
	Females (95 per cent CI)	-	-	-	
	Persons (95 per cent CI)	-	-	-	
Stomach (ICD10 C16)	Males (95 per cent CI)	7.0 (2.8-15.9)	10.9 (10.5-11.4)	12.9 (11.5-14.5)	
	Females (95 per cent CI)	4.0 (1.3-11.0)	4.7 (4.4-4.9)	5.2 (4.4-6.1)	
	Persons (95 per cent CI)	5.5 (1.4-9.6)	7.8 (7.5-8.0)	9.1 (8.2-9.9)	

Site		2010-2014			Temporal Trend - Persons (red line = Herefordshire; blue line = England; green line = West Midlands)
		Hereford-shire	Hereford-shire	Hereford-shire	
Melanoma of Skin (ICD10 C43)	Males (95 per cent CI)	8.0 (3.4-17.2)	5.5 (5.2-5.8)	5.3 (4.4-6.3)	
	Females (95 per cent CI)	1.7 (0.2-7.9)	3.1 (2.9-3.3)	3.0 (2.4-3.7)	
	Persons (95 per cent CI)	4.8 (0.9-8.8)	4.3 (4.1-4.5)	4.1 (3.5-4.7)	

PHE – CancerStats

Premature Mortality

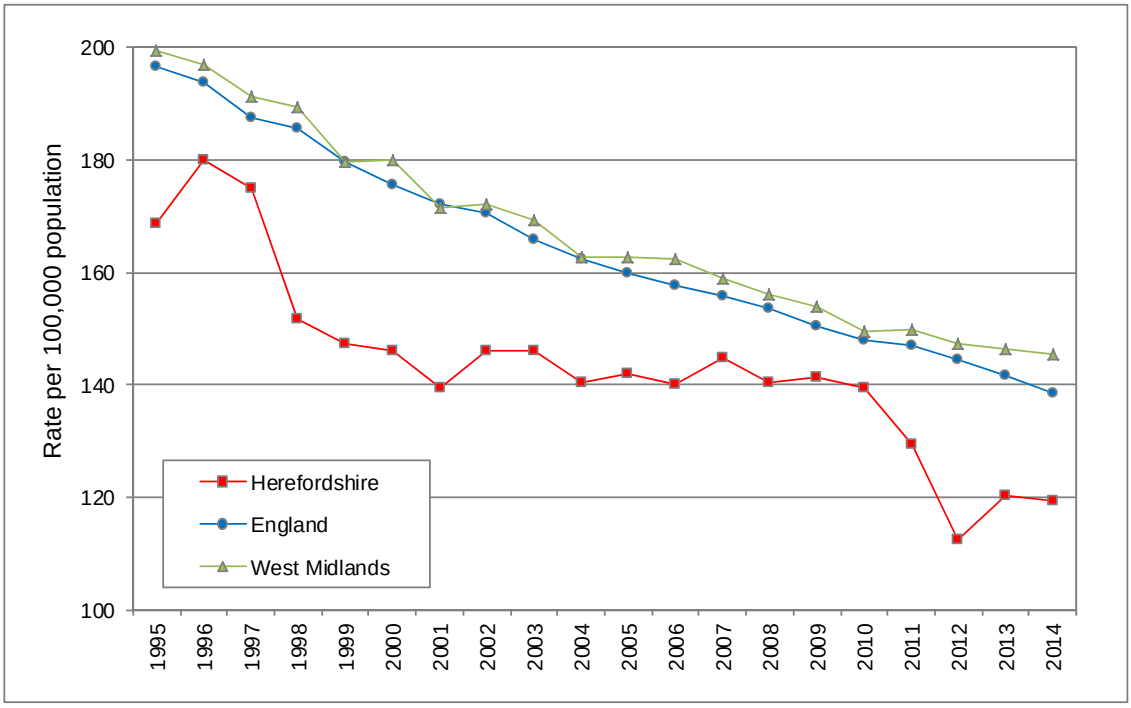
Individuals living today can expect to live a longer, healthier life than ever before. However, nationally, there are more than 150,000 premature deaths each year. Cancer is one of the most common causes of premature mortality, which along with heart disease, stroke, lung disease and liver disease account for 79 per cent of all premature deaths in England. Of these deaths it is estimated that two thirds could be avoided either through prevention, earlier diagnosis and access to the highest quality treatment and care[3].

In 2014 there were 230 cancer specific premature deaths in Herefordshire (118 males, 112 females) which represented 42.8 per cent of all premature deaths in the county. Between 1995 and 2014 the directly standardised cancer specific premature mortality rate in Herefordshire showed some variability, with the highest rate (180 per 100,000 population) recorded in 1996 and the lowest (112 per 100,000 population) in 2012, although a general downward trend was evident throughout this period with a proportional drop of 29.2 per cent observed (Figure 29). Strong downward trends were evident nationally and in the West Midlands which showed proportional falls of 29.6 and 27.0 per cent respectively. Throughout this period the Herefordshire rate was below the England and the West Midland figures with the local rate, on average, being 12.6 per cent less than the national rate and 14.2 per cent less than the regional rate.

Premature mortality rates for both males and females in Herefordshire showed some variability between 1995 and 2014, although rates for both genders showed a general downward trend with the proportional falls being 40.0 per cent for males and 19.7 per cent for females (Figure 30). Similar patterns were evident for both genders nationally and regionally; for males the national rate fell proportionally by 32.7 per cent while in the West Midlands the fall was 30.7 per cent, while for females the falls were 26.9 per cent nationally and 23.5 per cent regionally. Throughout this period the male cancer mortality rates were consistently higher than those for females in Herefordshire, nationally and regionally. Between 1995 and 2014 for Herefordshire the female mortality rate was on average 78.9 per cent of the male rate, while nationally and regionally the proportions were 77.5 and 75.9 percent respectively.

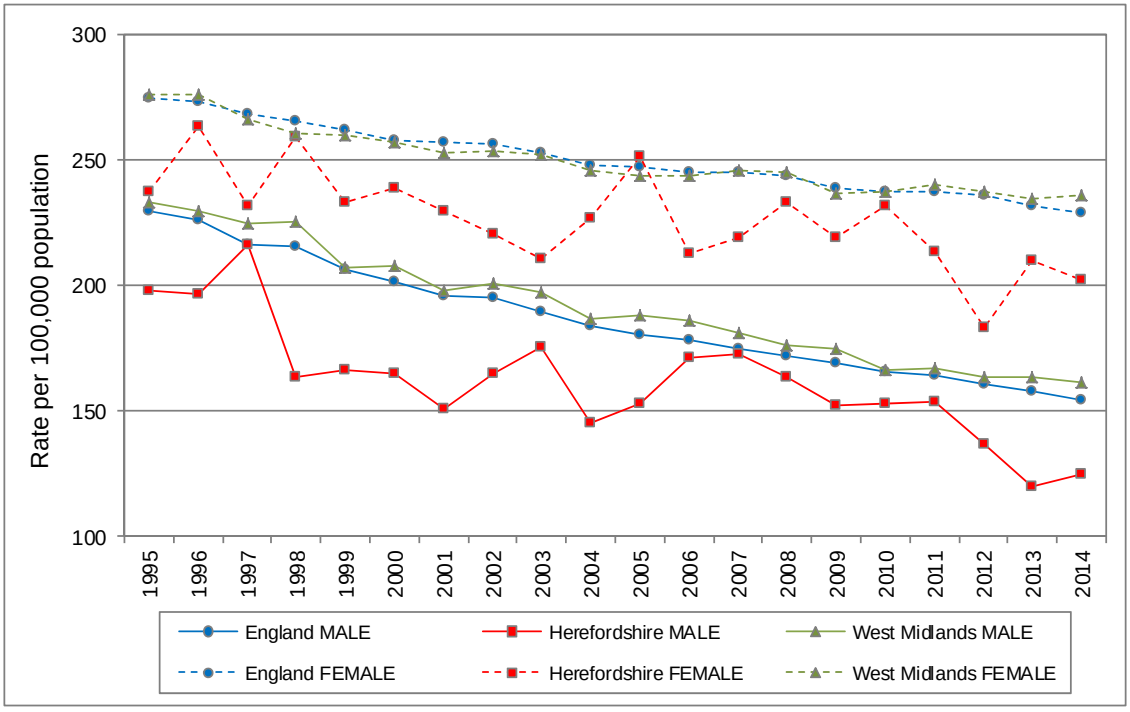
[3] Premature mortality is defined as death occurring in individuals aged less than 75 years.

Figure 29: Directly age-standardised cancer specific premature mortality rates for Herefordshire, England and West Midlands, 1995 – 2014.



Source: NHS Digital Indicator Portal

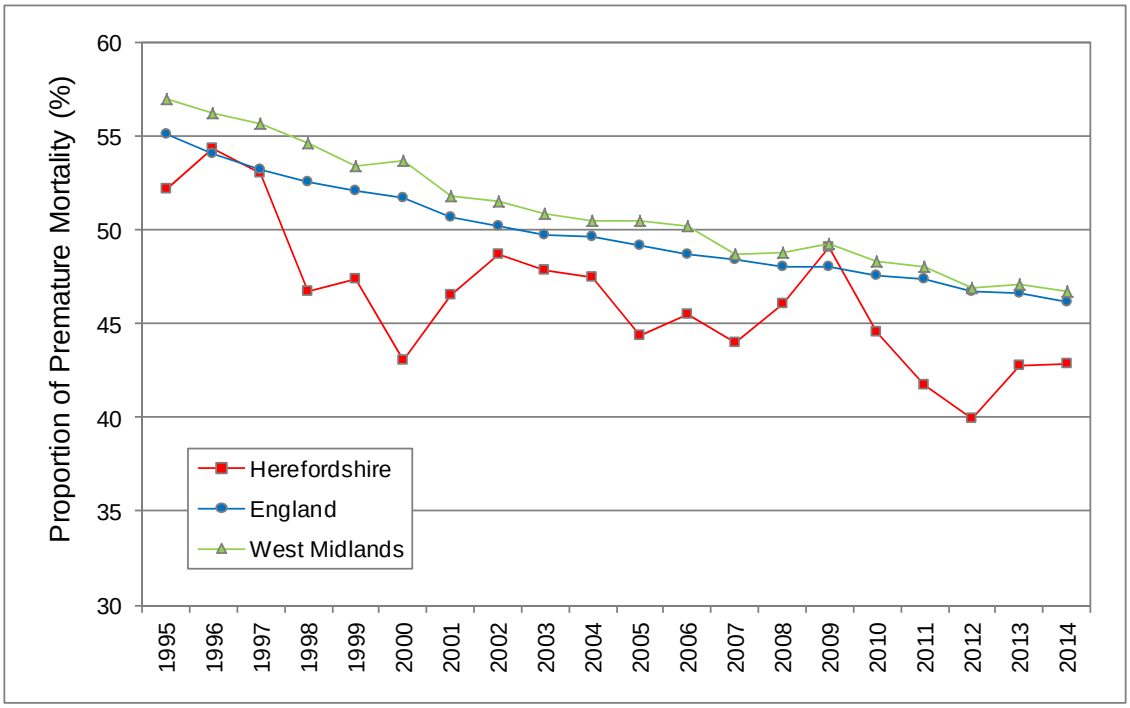
Figure 30: Directly age-standardised male and female cancer specific premature mortality rates for Herefordshire, England and West Midlands, 1995 – 2014.



Source: NHS Digital Indicator Portal

The proportion of all premature deaths in Herefordshire between 1995 and 2014 represented by cancer specific deaths has shown some temporal variability, although there is a general downward trend with the value falling proportionally by 17.9 per cent (Figure 32). Strong downward trends were evident nationally and in the West Midlands which showed proportional falls of 16.2 and 17.9 per cent respectively. Between 1995 and 2014 the proportion of premature deaths represented by cancer in Herefordshire was below that England in all years except 2009 when it was marginally higher, and on average the local proportion was 6.8 per cent lower proportionally than the national figure. Throughout this period the local proportion was consistently lower than that for the West Midland figures, being on average 12.6 per cent less than the regional rate.

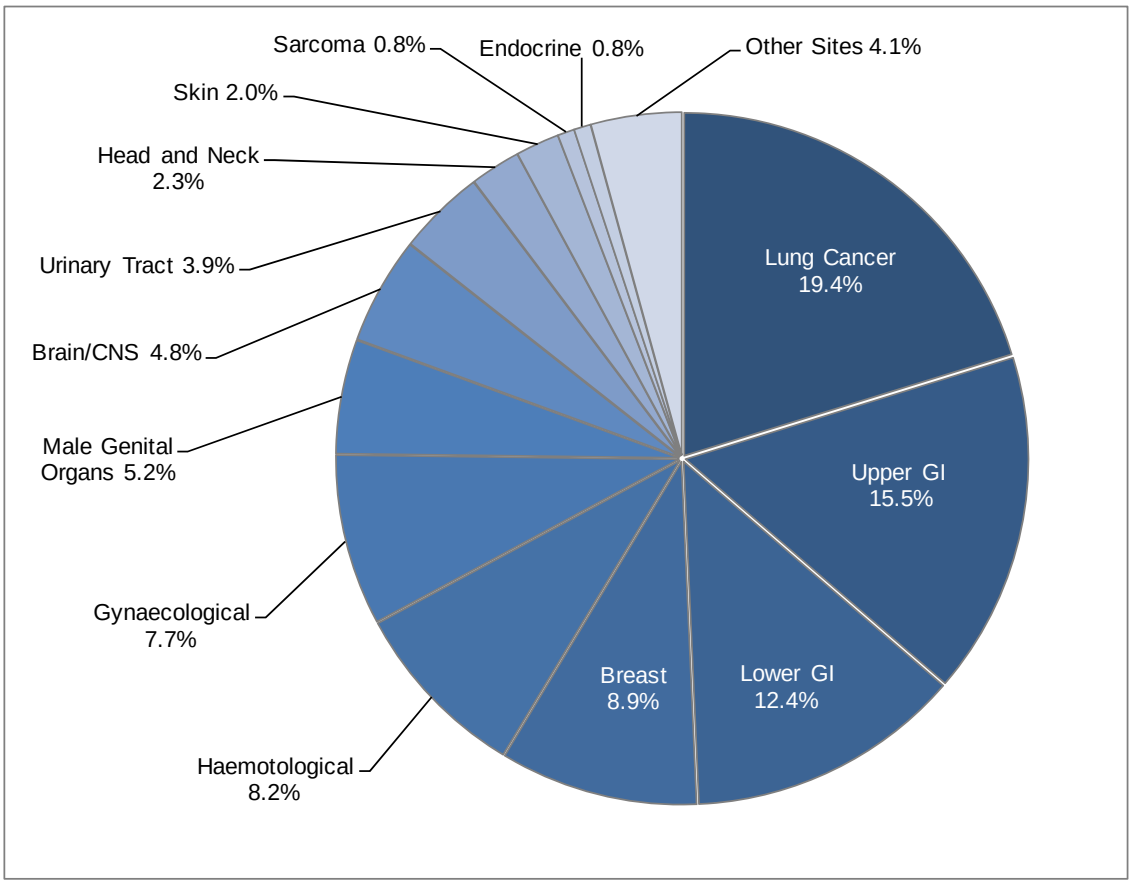
Figure 31: Proportion of all cause premature mortality represented by cancer in Herefordshire, England and West Midlands, 1995 – 2014.



Source: Herefordshire Council SIT

Over the period 2012 to 2014 there were 1,583 premature deaths in Herefordshire of which 660 were cancer specific which represents 41.7 per cent of all premature deaths during that period compared to 41.4 and 40.5 per cent in England and the West Midlands respectively. Of the cancer specific premature deaths the most common cause was lung cancer which contributed 19.4 per cent of all cancer specific premature mortality, while upper and lower gastrointestinal cancers contributed 15.5 and 12.4 per cent respectively (Figure 32). Of gender specific cancers breast cancer contributed 8.9 per cent, gynaecological 7.7 per cent and cancers of the male genital organs 5.2 per cent. The proportions of cancer specific premature deaths represented by other cancer sites are shown in Figure 32. Similar proportions for each cancer site were observed both nationally and regionally over this period.

Figure 32: Proportion of cancer specific premature mortality represented by cancer site in Herefordshire, 2012 - 2014.



Source: Herefordshire Council SIT

Years Lost to Life

Years Lost to Life (YLL) is a measure of premature mortality. Its primary purpose is to compare the relative importance of different causes of premature death within a particular population and it can therefore be used by health planners to define priorities for the prevention of such deaths. It can also be used to compare the premature mortality experience of different populations for a particular cause of death. The concept of years of life lost is to estimate the length of time a person would have lived had they not died prematurely which incorporates a notional average life expectancy of 75 years. By inherently including the age at which the death occurs, rather than just the fact of its occurrence, the calculation is an attempt to better quantify the burden, or impact, on society from the specified cause of mortality.

In 2012-14 the number of YLL in Herefordshire was 19,691 of which 7,122 were cancer related representing 36.2 per cent of all YLL which was similar to both the England (36.2 per cent) and West Midlands (35.4 per cent) proportions. The local directly standardised rate of 134.5 per 10,000 population is significantly lower than both the national and regional rates of 157.0 and 163.8 per 10,000 population respectively (Table 3). Looking at specific cancers lung cancer is responsible for the greatest YLL in Herefordshire in 2012-14 representing 16.5 per cent of the county total for all cancers (Figure 33); other important local causes of cancer related YLL were upper gastrointestinal (14.5 per

cent), breast (12.4 per cent) and lower gastrointestinal (11.3 per cent). Similar patterns in the proportion of cancer specific YLL were observed both nationally and regionally.

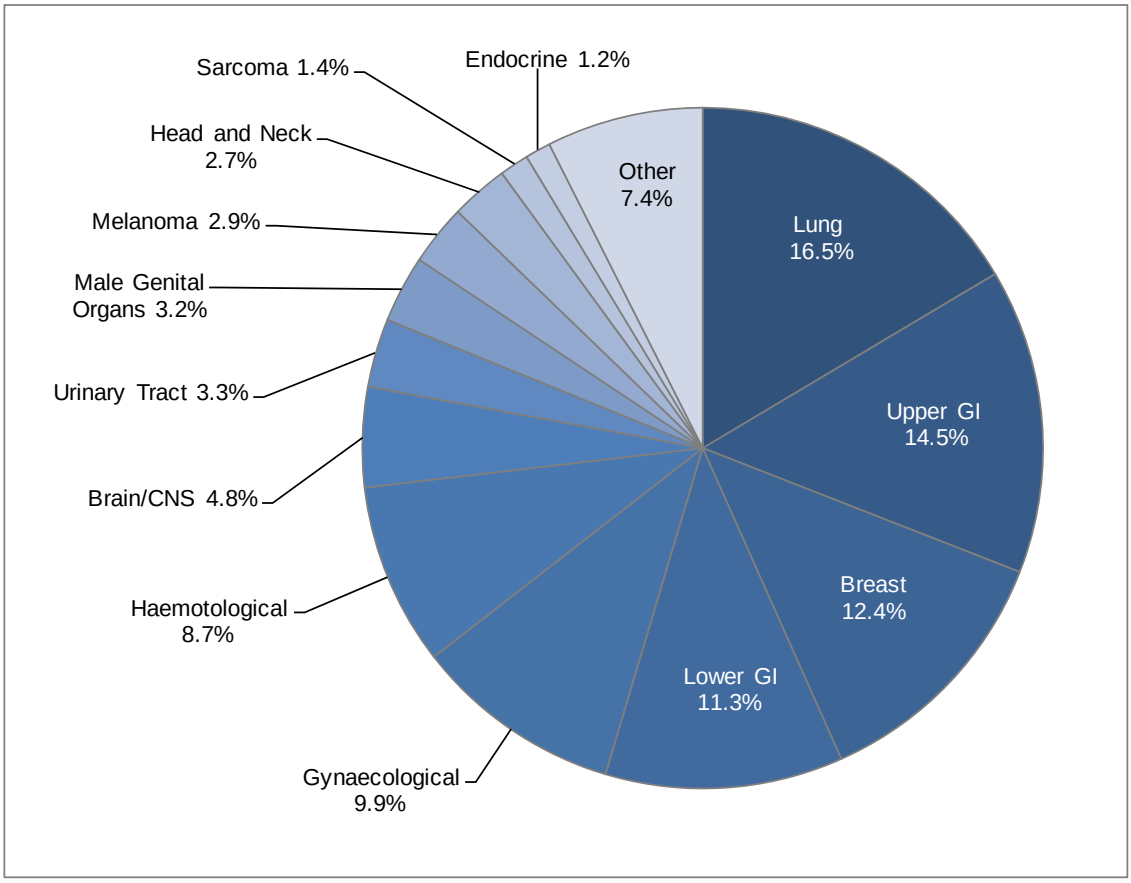
Table 3: Directly standardised cancer specific years lost to life (YLL) for Herefordshire, England and West Midlands in 2012 - 2014.

		Herefordshire	England	West Midlands
All Cancers	Years Lost to Life (DSR) 95 per cent CI (LL – UL)	134.5 120.2 – 148.8	157.0 156.1 – 157.9	163.8 160.9 – 166.6
	Total YLL	7,122	2,133,640	234,432
Lung	Years Lost to Life (DSR) 95 per cent CI (LL – UL)	20.9 16.2 – 25.6	31.4 31.0 – 31.7	31.3 30.2 – 32.5
	Total YLL	1,135	416,845	44,022
Breast	Years Lost to Life (DSR) 95 per cent CI (LL – UL)	32.8 22.7 – 42.9	32.7 32.1 – 33.3	33.3 31.3 – 35.3
	Total YLL	903	229,574	24,340
Colorectal	Years Lost to Life (DSR) 95 per cent CI (LL – UL)	12.4 8.1 – 16.8	14.2 13.9 – 14.5	14.8 14.0 – 15.7
	Total YLL	632	191,932	20,953
Oesophagus	Years Lost to Life (DSR) 95 per cent CI (LL – UL)	7.21 3.91 – 10.51	7.95 7.76 – 8.14	9.30 8.66 – 9.94
	Total YLL	394	106,676	13,149
Leukaemia	Years Lost to Life (DSR) 95 per cent CI (LL – UL)	5.22 1.59 – 8.85	4.95 4.76 – 5.15	4.98 4.39 – 5.58
	Total YLL	261	69,799	7,498
Malignant Melanoma	Years Lost to Life (DSR) 95 per cent CI (LL – UL)	4.16 0.99 – 7.32	3.65 3.50 – 3.80	3.69 3.22 – 4.17
	Total YLL	196	50,868	5,414
Prostate	Years Lost to Life (DSR) 95 per cent CI (LL – UL)	6.62 4.00 – 9.25	7.71 7.49 – 7.93	7.32 6.68 – 7.97
	Total YLL	177	48,347	4,937
Stomach	Years Lost to Life (DSR) 95 per cent CI (LL – UL)	3.40 0.8 – 6.02	3.90 3.75 – 4.04	4.38 3.92 – 4.84
	Total YLL	174	52,925	6,224

		Herefordshire	England	West Midlands
Cervical	Years Lost to Life (DSR) 95 per cent CI (LL – UL)	6.72 0.83 – 12.61	5.00 4.72 – 5.28	5.89 4.93 – 6.85
	Total YLL	169	35,874	4,340
Bladder	Years Lost to Life (DSR) 95 per cent CI (LL – UL)	1.23 0.14 – 2.32	2.59 2.48 – 2.69	2.85 2.50 – 3.19
	Total YLL	63	34,068	4,043
Lymphoma (Hodgkin's Disease)	Years Lost to Life (DSR) 95 per cent CI (LL – UL)	0.36 0.00 – 0.87	0.64 0.56 – 0.71	0.87 0.58 – 1.15
	Total YLL	2	463	65

Source:PHE – CancerStats

Figure 33: Proportion of cancer specific years lost to life represented by cancer site in Herefordshire, 2012 - 2014.



Source: Herefordshire Council SIT

SURVIVAL

Cancer survival is expressed in terms of the cancer survival index which is simply the proportion of diagnosed cancer cases surviving a given time period following diagnosis e.g. a one year survival ratio of 90 per cent means that 90 per cent of people diagnosed are alive at one year from diagnosis.

In Herefordshire, for individuals aged between 15 and 99 the rate of those surviving for one year following diagnosis for all cancers has increased steadily from 62.0 in 1999 to 69.8 per cent in 2014, a proportional increase of 12.6 per cent (Figure 34). Over this period the one year survival rate for England has increased from 60.6 to 70.4 per cent, a proportional increase of 16.2 per cent. Until 2008 the local survival rate was significantly higher than the national figure, although no significant difference is evident in subsequent years. Since 2013 the national rate has been marginally higher than the local rate, although these differences are not statistically significant.

For individuals aged between 55 and 64 the one year survival ratio for Herefordshire also increased between 1999 and 2014 from 70.0 to 75.9 per cent, a proportional raise of 8.4 per cent (Figure 34). Over this period the national survival rate increased more rapidly (14.6 per cent) than locally and while until 2003 the Herefordshire rate was significantly higher than the national rate in 2014 the national one year survival rate was significantly higher than that for Herefordshire.

For individuals aged between 75 and 99 the one year survival ratio for Herefordshire also increased between 1999 and 2014 from 49.8 to 59.2 per cent, a proportional raise of 18.9 per cent (Figure 34). Over this period the national survival rate showed a proportional increase of 21.5 per cent, rising from 47.9 per cent in 1999 to 58.2 per cent in 2014. Until 2012 the local one year survival rate was significantly higher than the national rate. Subsequently, while the Herefordshire rate remained higher than the national rate the differences were not significant.

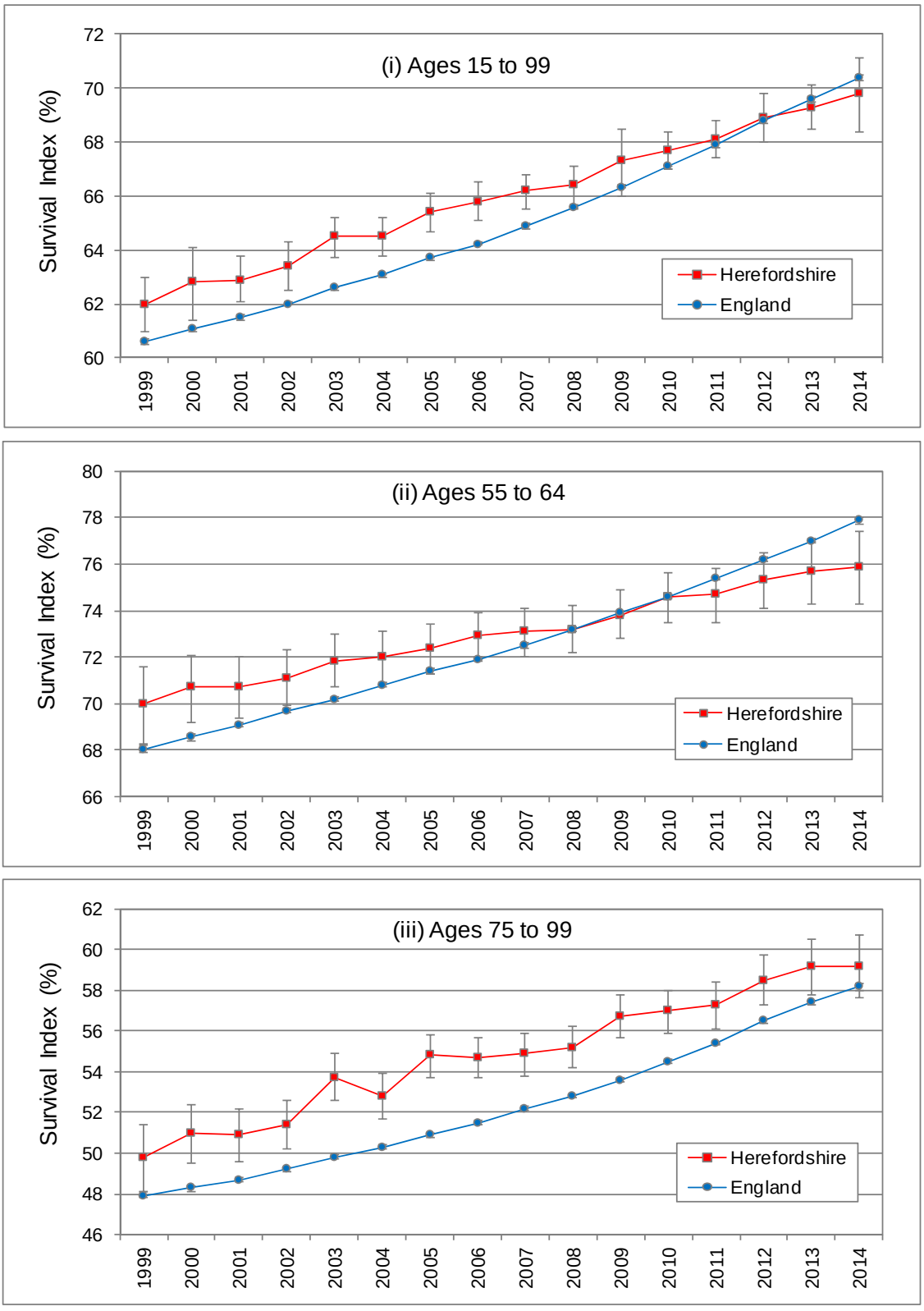
These date indicate that one year survival following a diagnosis of cancer is influenced by age with older individuals less likely to survive for one year compared to younger individuals, a pattern evident both locally and nationally.

For site specific cancer in Herefordshire the one year survival rates in individuals aged between 15 and 99 for breast, colorectal lung cancers have increased between 1999 and 2014 (Figure 35). Over this period one year survival for breast cancer has increased from 92.9 to 97.5 per cent, a proportional increase of 5.0 per cent while the national rate has increased by 4.0 per cent. Although the Herefordshire rate has remained consistently higher than the national rate since 1999 for much of this time no significant differences were evident. A similar pattern is evident for colorectal cancer with both the regional and national one year survival rates increasing steadily since 1999 with proportional increases of 13.3 per cent for Herefordshire and 11.9 per cent nationally. Throughout this period the local rate was higher than that recorded nationally, although the differences were not significant.

One year survival for lung cancer almost doubled in Herefordshire between 1999 and 2014 rising from 19.2 to 37.7 per cent compared to a 51.4 per cent proportional increase in the national figure. Prior to 2013 the Herefordshire rate was less than the national rate, although these differences were only significant between 1999 and 2004. In 2014 the regional survival rate (37.7 per cent) rate was marginally higher than the national figure (363.8 per cent).

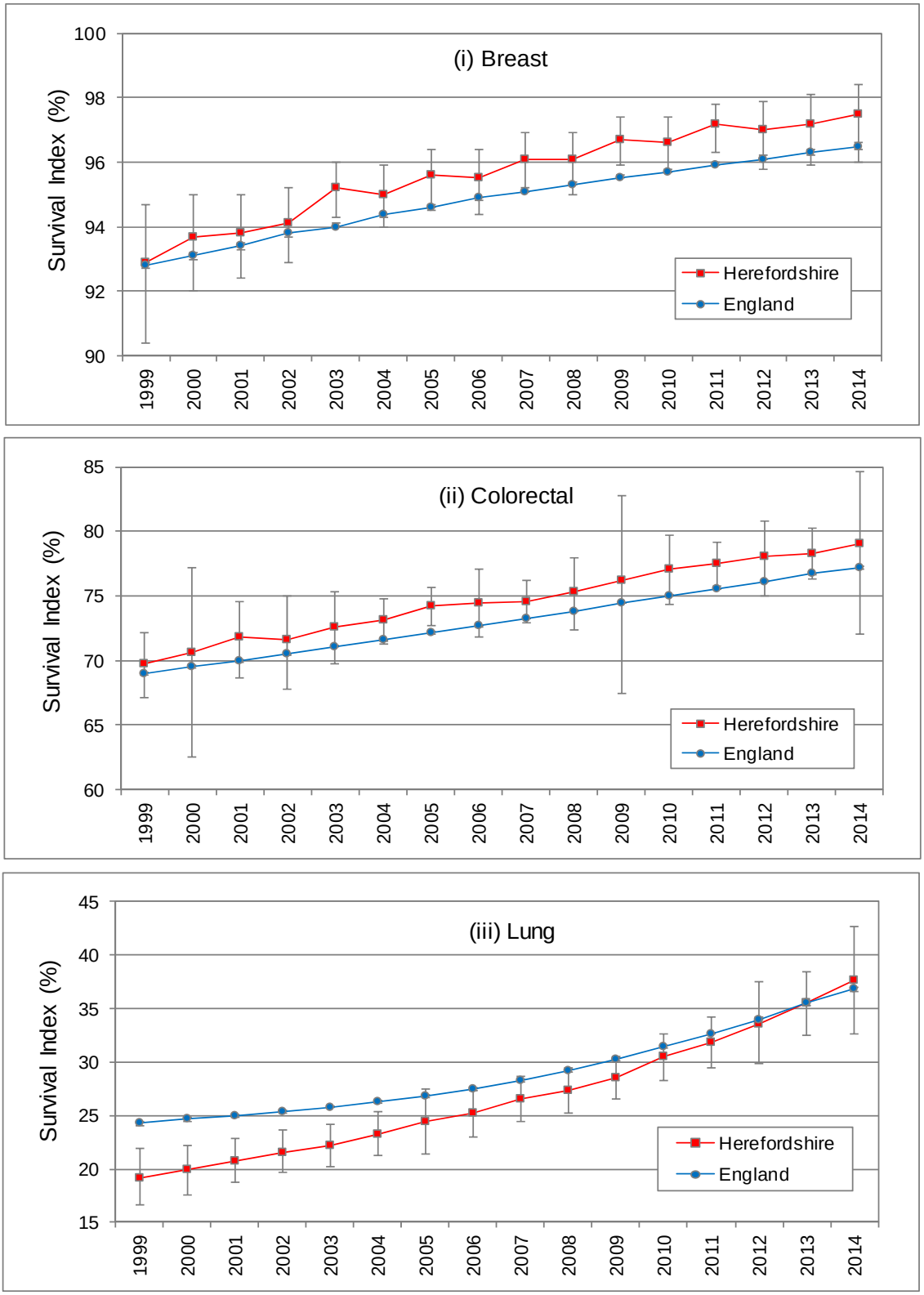
The increases in one year survival in all and specific cancers since 1999 reflects earlier detection and improved treatment.

Figure 34: One year survival index for all cancers in Herefordshire and England, 1999 – 2014.



Source: ONS

Figure 35: One year survival index for breast, colorectal and lung cancers in Herefordshire and England, 1999 – 2014.



Source: ONS