



# Reported cancer spending in relation to population characteristics, disease burden and service activity for primary care trusts in South East England

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## THAMES CANCER REGISTRY

### Background

Recent English cancer policy has directed significant extra funding towards improving cancer services and cancer outcomes in England.

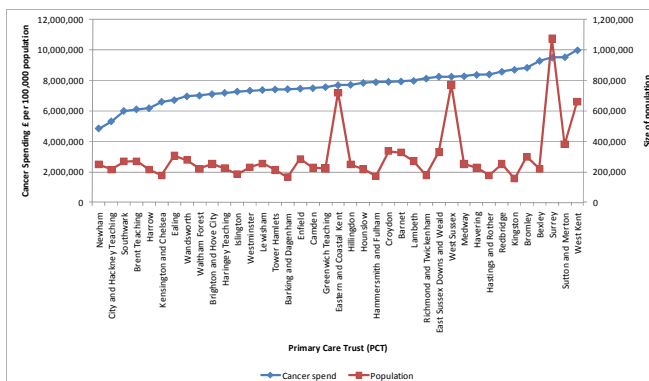
Few evaluations have related programme budget data on cancer spending to population differences, disease burden, outcome or service activity for cancer. We used existing routine data to explore these associations for 39 Primary Care Trusts (PCTs) in South East England in 2005-2007.

### Method

We used data on cancer expenditure for PCTs in our area in 2005-2007 from the Department of Health Programme Budget. We used PCT population size data from the Office for National Statistics and calculated deprivation level as a percentage of lower super output areas in each PCT that fell into the most deprived quintiles 4 and 5 based on Income Domain of the Index of Multiple Deprivation 2007.

We explored associations between cancer spending and PCT size, deprivation, age-standardised cancer incidence and mortality rates, proportions treated with surgery, radiotherapy and chemotherapy, and per capita bed days.

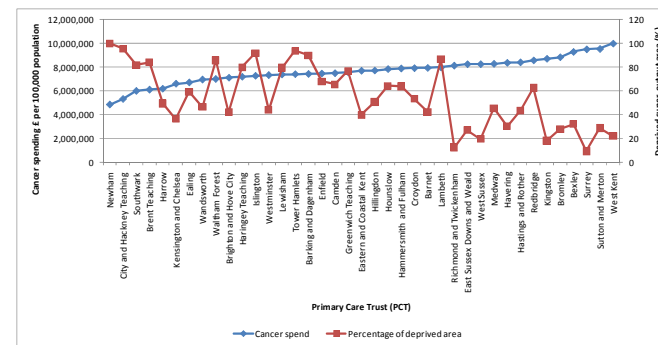
**Figure 1: Reported per capita cancer spending and PCT size, South East England per year, 2005-2007**



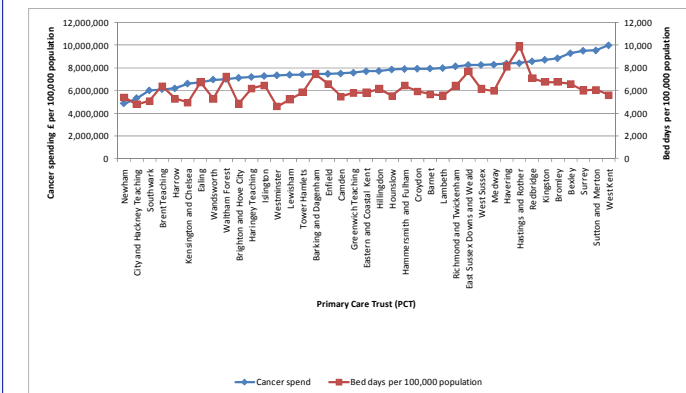
### Results

PCTs with larger populations reported slightly higher per capita spending (Figure 1). This relationship was driven by three large PCTs outside London. PCTs with a higher percentage of LSOA in the two most deprived quintiles spent less on cancer (Figure 2).

**Figure 2: Reported per capita cancer spending and proportion of lower super output areas in deprivation quintiles 4 and 5, PCTs in South East England per year, 2005-2007**



**Figure 3: Reported cancer spending and per capita bed days for cancer in PCTs in South East England per year, 2005-2007**



**Table 1: Linear regression coefficients of cancer expenditure per 100,000 population**

Predictor	Coefficient	(95% CI)	P-value
Population size (£ per 100,000 population)	2.33	(0.54 to 4.13)	0.012
Deprivation (£ per quintile increment in deprivation)	-28725.02	(-39048.77 to -18401.26)	0.000
Age standard incidence rates (£ per 100,000 population, per year)	-854.43	(-13790.63 to 12081.78)	0.894
Age standard mortality rates (£ per 100,000 population, per year)	-4161.97	(-23666.07 to 15342.12)	0.668
Investigative and/or cancer surgery (£ per extrapolated contrast from 0 to 100%)	36900.90	(-72166.16 to 145968.00)	0.497
Chemotherapy (£ per extrapolated contrast from 0 to 100%)	73847.18	(-54215.60 to 201910.00)	0.25
Radiotherapy (£ per extrapolated contrast from 0 to 100%)	185046.30	(81480.77 to 288611.80)	0.001
Bed days (£ per 100,000 population)	398.59	(65.06 to 732.12)	0.02

### Conclusion

Contrary to our expectation that PCTs with higher levels of deprivation, and cancer incidence or mortality rates would report higher spending, we found that higher deprivation was associated with lower spending, and that total disease burden was unrelated to spending.

However, cancer spending reported by South East England PCTs was related to some aspects of treatment and service activity.