



# Breast cancer incidence, treatment and survival in ethnic groups in South East England

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## THAMES CANCER REGISTRY

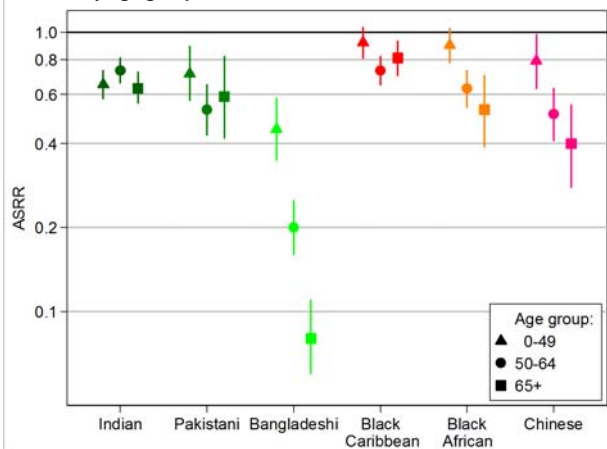
### Objectives

Ethnicity has not been well recorded in UK cancer registries to date. However, Hospital Episode Statistics (HES) data are available for all inpatient admissions to English NHS hospitals and include self-assigned ethnicity, which can be linked to cancer registrations. This study aimed to use all the available ethnicity data to describe the different patterns of breast cancer incidence, stage, treatment and survival in different ethnic groups in South East England.

### Methods

Data on 35,631 women diagnosed with breast cancer in South East England between 1998 and 2003 with self-assigned ethnicity information available were analysed. Results are reported for **White**, **Indian**, **Pakistani**, **Bangladeshi**, **Black Caribbean**, **Black African** and **Chinese** women. Age-standardised breast cancer incidence rate ratios were calculated both overall and for specific age groups (below 50, 50-64, and 65+ years) with **White** women as the baseline group. Of women with a stage recorded at diagnosis, the proportion diagnosed with metastatic disease was examined, adjusted for age and socioeconomic deprivation. The proportions of patients with different treatments recorded were calculated adjusting for age, socioeconomic deprivation and stage of disease. Finally, overall and breast cancer-specific survival were analysed adjusting for age, and additionally for socioeconomic deprivation, stage of disease and treatment received.

Figure 1: Age-standardised rate ratios (ASRR) for breast cancer incidence by age group, White women as baseline



### Results

**White** women had the highest age-standardised breast cancer incidence rates. All rate ratios were significantly below one: **Indian** (0.68 [95% CI: 0.64–0.73]), **Pakistani** (0.59 [0.51–0.69]), **Bangladeshi** (0.23 [0.20–0.26]), **Black Caribbean** (0.80 [0.74–0.86]), **Black African** (0.66 [0.59–0.74]) and **Chinese** (0.54 [0.47–0.63]).

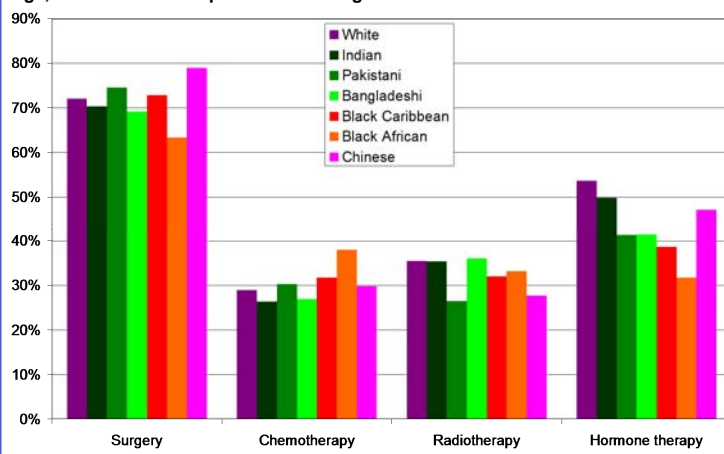
Figure 1 shows age-standardised incidence rate ratios calculated separately for different age groups. Younger women of different ethnic groups had incidence rates more similar to **White** women of the same age, apart from Indian women where there was no variation by age group.

**White** women were less likely to be diagnosed with metastatic disease than all other ethnic groups, after adjustment.

**Black African** women were the least likely to have a record of cancer surgery (63%) or hormone therapy (32%), and most likely to receive chemotherapy (38%) (Figure 2). There was no significant variation in the proportion of women receiving radiotherapy.

In the survival analyses adjusted for age, **Black Caribbean** and **Black African** women had worse survival than **White** women. After fully adjusting for age, socioeconomic deprivation, stage of disease and treatment received, there was no significant variation in breast cancer-specific survival (Figure 3). However, **Black African** women had significantly worse overall survival (hazard ratio 1.24, p=0.025) (Figure 4).

Figure 2: Proportion of breast cancer patients receiving cancer surgery, chemotherapy, radiotherapy and hormone therapy by ethnic group. Adjusted for age, socioeconomic deprivation and stage of disease



### Conclusions

This study found variations in breast cancer incidence and treatment received between different ethnic groups. Variation in survival between ethnic groups was explained by differences in stage of disease at diagnosis and treatment received. These findings suggest that a strategy of earlier detection should be pursued in Black and South Asian women.

Figure 3: Hazard ratios (HR) for breast cancer-specific fatality in breast cancer patients, White women as baseline. Adjusted for age, and age, socioeconomic deprivation, stage of disease and treatment received

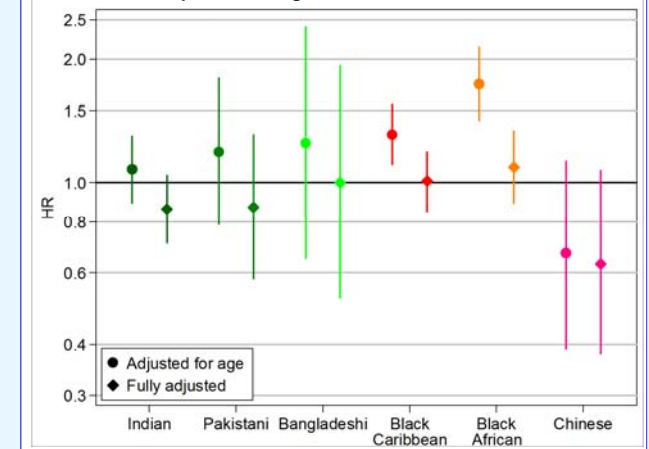


Figure 4: Hazard ratios (HR) for all cause fatality in breast cancer patients, White women as baseline. Adjusted for age, and age, socioeconomic deprivation, stage of disease and treatment received

