

# Incidence of haematological malignancies by ethnic group in England, 2001-2007.

## Background:

The incidence of haematological malignancies varies geographically, with the lowest rates being found in areas of South Asia and Africa and the highest rates in more economically developed countries. However, comparing rates between different countries can be misleading due to differences in the diagnosis, reporting and registration of cancers.

Studying migrant populations overcomes some of these limitations, since similar diagnostic methods, reporting and registration procedures are used, regardless of ethnicity. As an increasingly multiethnic nation with a unified health care system, the English population provides an ideal setting in which to do this.

Rates of haematological malignancies have previously been studied in British South Asians and British Blacks. However, these are broad ethnic groups with different lifestyles, cultures and ancestry, and the incidence of the group as a whole may not reflect that of the individual ethnic groups of which they comprise.

## Aim:

To compare the incidence of haematological malignancies among the 6 largest 'Non-White' ethnic groups in England to each other and to British Whites using self-assigned ethnicity.

## Methods:

- The National Cancer Intelligence Network provided us with data on all cancer registrations from 2001 to 2007 with ethnicity for each person obtained by linkage to the Hospital Episodes Statistics database.
- Mid-year population estimates for the years 2001- 2007 were obtained from the Office of National Statistics.
- Poisson regression was used to estimate incidence rate ratios, adjusted for age, sex and income.

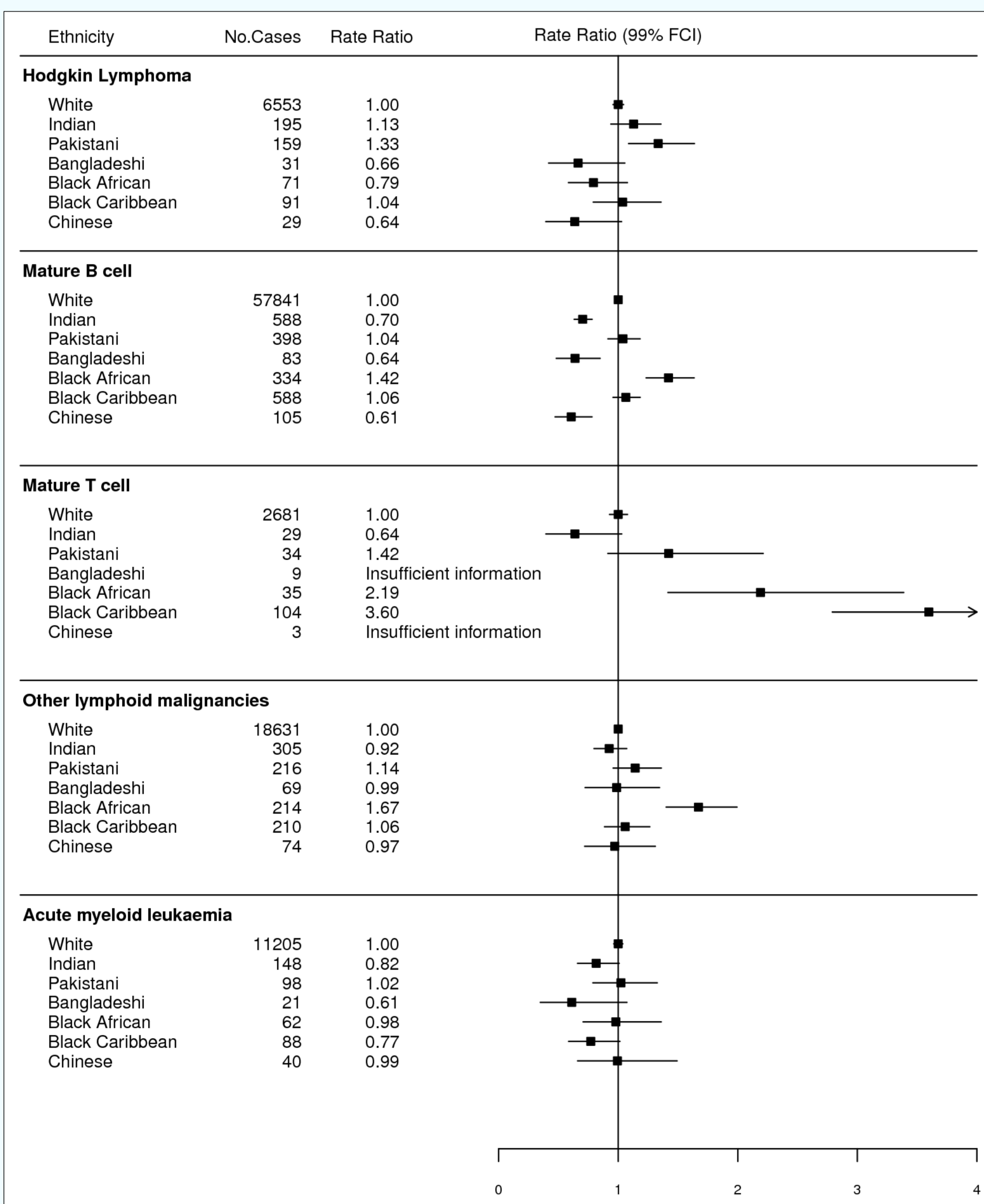


Figure 1: Rate ratios for the 5 major haematological malignancies by individual ethnic group compared to Whites.

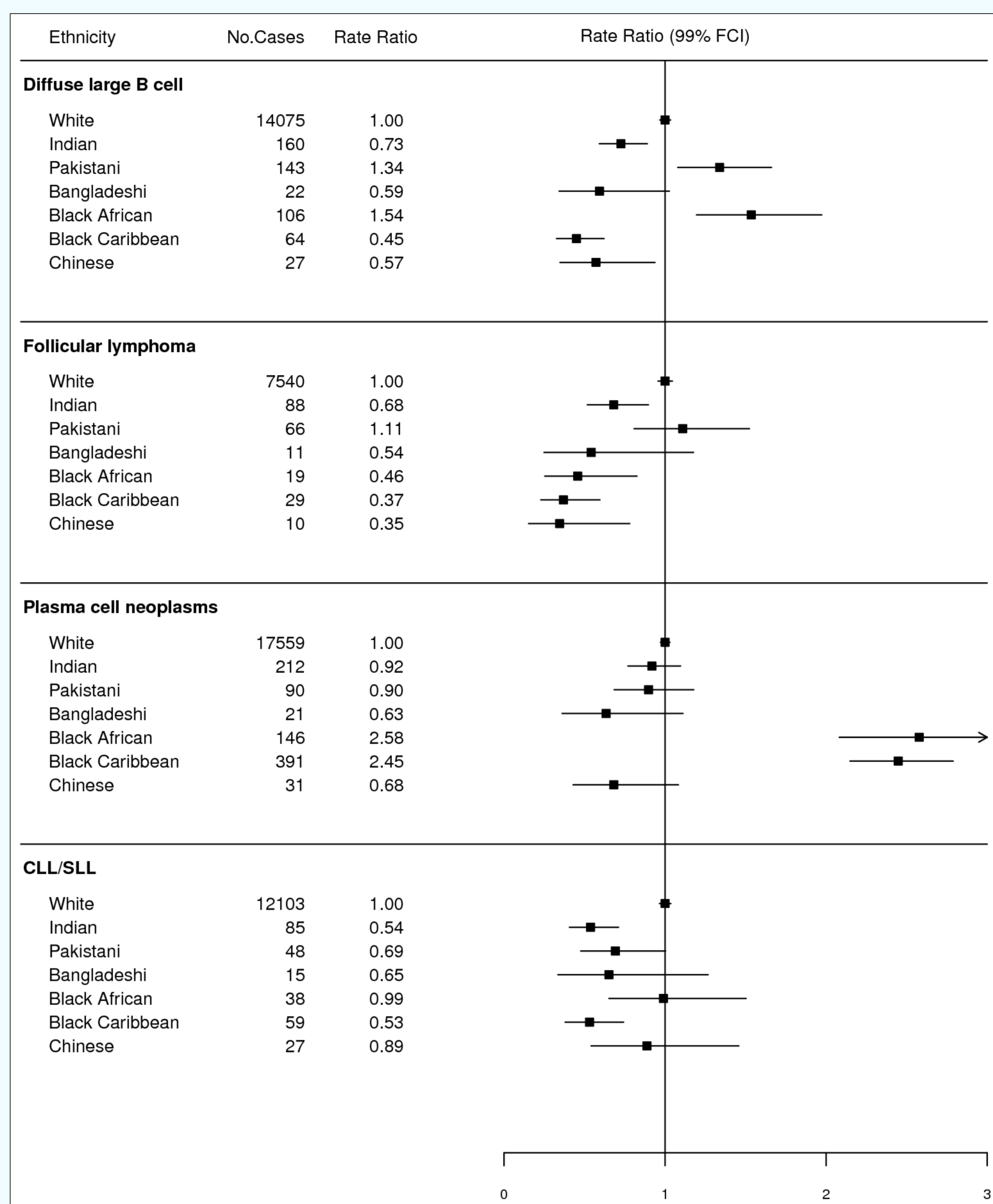


Figure 2: Rate ratios for the 5 largest mature B-cell neoplasm subtypes by individual ethnic group compared to Whites.

## Results:

- In general, compared to the non-White ethnic groups, Whites experienced the highest or similar incidence rates for most subtypes.
- Notable exceptions included plasma cell neoplasms and mature T-cell neoplasms, for which Blacks experienced considerably higher rates, and Hodgkin lymphoma, which was more common among Pakistanis.
- There were also significant intra-ethnic differences in incidence, for example, between Indians, Pakistanis and Bangladeshis for Hodgkin's disease and mature B-cell neoplasms and between Black African and Black Caribbeans for mature B-cell neoplasms and other lymphoid neoplasms (all  $p < 0.001$ ).

## Conclusions and future plans:

- There are major differences in the incidence of haematological malignancies between ethnic groups in England.
- Intra-ethnic differences in the incidence of many of these malignancies illustrate the heterogeneity of the South Asian and Black groups and highlight the importance of distinguishing between individual ethnic groups in future research.
- Many of these differences are not readily explained by known risk factors and suggest that important, potentially modifiable causes of these cancers are still to be discovered.