western Germany has not yet been elucidated due to the scarcity of population-based data on CVD morbidity and risk factors.
**Objective:** To provide data on the distribution of CVD and its risk factors in an elderly general population in eastern Germany as compared to a western German population.
**Methods:** Cross-sectional data of 1779 East German participants of the population-based CARLA Study aged 45–83 at baseline were used to calculate sex- and age-specific means of risk factors, disease prevalence, and expected 10-year risk of fatal CVD to be compared with the data of 4261 participants of the south-west German KORA study. Risk of fatal CVD was calculated using the Systematic Coronary Risk Evaluation (SCORE) Germany algorithm which is based on sex, age, systolic blood pressure (SBP), current smoking, and cholesterol levels.
**Results:** There were no clear differences in age-specific mean body mass index (BMI) and smoking prevalence between CARLA and KORA subjects (except for higher smoking prevalence in 45–54 year old CARLA subjects), and only a slightly higher predicted 10-year CVD mortality in CARLA as compared to KORA subjects. Mean 10-year risk of fatal CVD in CARLA increased from 0.57% (95% CI 0.39 to 0.75%) in 45–49 year-old to 3.5% (3.0 to 3.9%) in 60–64 year-old women as compared to 0.37% (0.33 to 0.41%) and 2.91% (2.71 to 3.12%) in KORA respectively. However, the prevalence of diabetes and hypertension, and mean SBP were considerably higher in CARLA subjects across all sex–age-groups as compared to KORA subjects. For example, the prevalence of hypertension in CARLA increased from 55.4% (48.6 to 63.3%) in 45–54 year-old to 84.2% (79.3 to 89.2%) in 65–74 year-old women, while it was 36.7% (32.3 to 41.1%) to 61.5% (56.5 to 66.5%) in KORA, respectively. The prevalence of diabetes across 10-year age-groups in CARLA women increased from 4.9% (1.9 to 7.9%) in the 45–54 year-old to 19.1% (13.8 to 24.5%) in the 65–74 year-old as compared to 2.4% (1.0 to 3.8%) to 8.1% (5.3 to 10.9%) in KORA, respectively. Moreover, within narrow categories of BMI, CARLA subjects consistently showed a considerably higher waist-to-hip-ratio than KORA subjects.
**Conclusions:** Our results support the hypothesis that an especially high prevalence of diabetes and hypertension and other components of the metabolic syndrome may explain the excess CVD mortality in eastern Germany which is not accurately reflected in SCORE.

# Methods in ethnicity research

## 088 INVESTIGATING THE ASSOCIATION BETWEEN ETHNICITY AND SURVIVAL FROM BREAST CANCER USING ROUTINELY COLLECTED HEALTH DATA: CHALLENGES AND POTENTIAL SOLUTIONS

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**Background:** Previous studies have reported differences in survival from breast cancer by ethnic group. Some of these studies have taken information on ethnicity from routinely collected data, such as Hospital Episode Statistics (HES). There are several problems associated with using ethnicity from HES data, such as multiple ethnicities being recorded for a single patient with multiple hospital visits, and missing data. This study will investigate methods to overcome these problems in order to assess the relationship between ethnicity and survival from breast cancer.
**Data and Methods:** 48 234 breast cancer patients diagnosed between 1997 and 2003 were identified from a linked cancer registry-HES dataset for two regions of the UK. Where multiple ethnicities were recorded for a patient a single ethnicity was allocated according to the last recorded and most popular code. The data were also expanded to include all available hospital episodes (and all ethnicity information) for each patient (452 061 "episode-level" records). Ethnicity was missing in 16% of the patient-level records and 26% of the episode-level records. Multiple imputation (10 iterations) of missing ethnicity using age, stage, socioeconomic background and census area ethnic make-up as predictors was undertaken for the "last recorded", "most popular" and "episode-level" data. Survival analysis (up to end 2006) was carried out using the imputed datasets.
**Results:** Across the two regions, 97.2% of the patients with a known ethnicity were White, 1.6% were South Asian and 0.8% were Black. White women were slightly older at diagnosis than the other groups, whilst Asian women had a higher proportion of early stage tumours, but these differences were not significant. Using "last recorded" ethnicity, unadjusted survival was higher in the Asian group compared to the White group (HR 0.77, 95% CI 0.66 to 0.92). After adjustment for age and stage this survival difference was no longer significant (HR 0.98, 95% CI 0.82 to 1.16). The results were similar using "most popular" ethnicity. Using the "episode-level" data to assign probabilities for each patient, unadjusted survival was again higher in the Asian group (HR 0.72, 95% CI 0.62 to 0.89) compared to the White group, but after adjustment survival was similar in the two groups. There was also some evidence of worse survival in the Black group compared to the White group (HR 0.98, 95% CI 0.98 to 1.39 after adjustment).
**Conclusions:** Assessment of the association between breast cancer survival and ethnicity presents many challenges. Previous research in this area may have reported biased results, because of missing data and the failure to use all available information.

## 089 RECRUITING SOUTH ASIANS TO A RANDOMISED TRIAL (PREVENTION OF DIABETES AND OBESITY IN SOUTH ASIANS) FOR THE PREVENTION OF DIABETES: THE CHALLENGES AND ACHIEVEMENTS

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**Background:** Despite recommendations to do so, few clinical trials focus on ethnic minority groups. There are concerns that data from general trials may not apply to them. PODOSA (Prevention of Diabetes and Obesity in South Asians) is a rare example of a prevention trial in European South Asians. The prevalence of type 2 diabetes among UK South Asian adults is extremely high.
**Objectives of the Trial:** To assess the feasibility and cost-effectiveness of the PODOSA lifestyle intervention (see below).
**Methods:** PODOSA is a cluster randomised controlled trial evaluating a family based, ethnically tailored, lifestyle intervention aiming to reduce the incidence of diabetes in people of Indian and Pakistani origin by reducing weight and increasing physical activity. Recruitment is via several channels. Eligible participants are those found to have impaired glucose levels (and therefore at high risk of developing diabetes) on an oral glucose tolerance test. The intervention group receives 15 contacts with a dietician over three years. The control group has 4 dietetic contacts. The dieticians' toolkit contains culturally tailored resources on diet and exercise.
**Results:** Recruitment commenced in July 2007 and plans to finish around August 2009. The trial has enjoyed support from individuals, community and religious organisations, media, leaders and health professionals. 122 families, with 135 people at high risk of diabetes and 101 family volunteers, have been recruited at the time of writing. Recruitment into the screening component of the trial has been slow, taxing and expensive. Referrals from NHS professionals have been few, and responses to radio, newspaper and website based publicity trivial. The response to written invitations has also been low. Face-to-face recruitment both with individuals and groups, has proved successful. 95% of those eligible have entered the trial.



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