Conclusion BCG protection against tuberculosis varies between settings to an extent which cannot be attributed to chance alone. More efficacious results were seen in studies of individuals screened using stringent criteria (to exclude those already sensitized to mycobacteria), and those at a greater latitude from the equator.

| OP40 | SELENIUM SUPPLEMENTATION FOR THE PRIMARY PREVENTION OF CARDIOVASCULAR DISEASE (CVD) – A COCHRANE SYSTEMATIC REVIEW |

K Rees, L Hartley, C Day, A Clarke, S Stranges. *Division of Health Sciences, Warwick Medical School, University of Warwick, Coventry, CV4 7AL*

Background Selenium is a key component of a number of selenoproteins which protect against oxidative stress and have the potential to prevent chronic diseases including CVD. However, observational studies have shown inconsistent associations between selenium intake and CVD risk; in addition there is concern around an increased risk of type 2 diabetes with high selenium exposure.

Objective To determine the effectiveness of selenium only supplementation for the primary prevention of CVD and examine potential adverse effects on type 2 diabetes.

Methods The following electronic databases were searched with no language restrictions from their inception to July 2011: MEDLINE, EMBASE, CINAHL, Web of Science, the Cochrane Library and trial registers. Studies were included if they fulfilled the following criteria: study design - RCTs, participants - free of CVD (includes those at high risk), intervention - selenium only supplementation, comparator – no intervention or placebo, outcomes – diagnosis of CVD or change in the risk factor profile for CVD (blood pressure, lipids) or adverse effects (type 2 diabetes). Two reviewers independently screened titles and abstracts, assessed shortlisted studies for formal inclusion/exclusion, abstracted data and assessed methodological quality. Data were analysed using RevMan 5.1 software.

Results Database searching resulted in 1310 hits of which 43 went forward for formal inclusion/exclusion; 9 RCTs met the inclusion criteria. Included trials were heterogeneous in the participants recruited, dose of selenium, intervention and follow-up periods, outcomes reported, country of recruitment and baseline selenium status. Meta-analysis was possible for 2 trials reporting clinical events, but the analysis was dominated by the SELECT trial which carried over 80% of the weight. There were no statistically significant effects of selenium supplementation on total mortality (RR 0.97, 95% CI 0.88, 1.08), CVD mortality (RR 0.97, 95% CI 0.79, 1.2) or non-fatal CVD events (RR 0.97, 95% CI 0.9, 1.05). Similarly, the SELECT trial dominated the findings from 3 trials reporting type 2 diabetes, where selenium supplementation increased the risk of type 2 diabetes (RR 1.06, 95%CI 0.97, 1.16) although this did not reach statistical significance. There were no statistically significant effects of selenium on total or HDL cholesterol (measured in 2 trials (5 intervention arms) with varying doses of selenium supplementation).

Conclusion There is still a lack of evidence of the effects of selenium supplementation in the primary prevention of CVD. More trial evidence is needed especially to clarify the potential adverse effect of selenium supplementation on type 2 diabetes.

Population Based Studies: Early Life II

| OP41 | BIRTH SIZE AND MORTALITY IN BREAST CANCER PATIENTS |

[1,2]U Sovio, [1]R Jones, [2]I Koupil. *[1]Department of Medical Statistics, LSHTM, London, UK; [2]Centre for Health Equity Studies, Stockholm University / Karolinska Institute, Stockholm, Sweden*

Background Previous studies suggest that larger birth size is associated with a higher breast cancer incidence, but the few studies of birth measures and mortality in breast cancer cases have been inconclusive. The aim of this study was to investigate survival of women after breast cancer diagnosis (N=436) in the Uppsala Birth Cohort born in 1915–1929, who had detailed obstetric records available.

Methods Cox regression was used to calculate hazard ratios (HR) and their 95% confidence intervals (CIs) for death from any cause after a breast cancer diagnosis until the end of 2010. Cancer register diagnoses were available from 1958. The main exposures were birth measures: gestational age (GA), birth length (BL), and birth weight (BW) for GA. They were converted to standard deviation (SD) scores to ensure comparability of the effect sizes. Analyses were performed with and without adjustment for own adult socio-economic position (SEP) measured by education, occupation and income. Analyses were additionally adjusted for age at breast cancer diagnosis, decade of diagnosis, and age at first birth. Adjustment for family SEP at birth was considered but omitted since it did not affect the estimates and was not related to mortality after adjustment for other confounders.

Results In adjusted analyses, one SD increase in GA was associated with 7% (95% CI 2–12%) lower mortality and this association did not change after additional adjustments for BL or BW. There was no association between BL and mortality (adjusted HR=1.02 (0.91–1.16)). One SD increase in BW for GA was associated with 14% (1–29%) and 26% (9–46%) higher mortality without and with an additional adjustment for BL, respectively. Adjustment for SEP or other confounders did not substantially alter the estimates.

Conclusion Our results suggest that both low GA and high BW for GA predict a higher mortality in breast cancer cases. This study strengthens the current evidence that size at birth is related to breast cancer mortality as well as incidence. It also brings in new evidence of the inverse relationship between GA and breast cancer mortality that has not been reported before. The observed associations persisted after an adjustment for SEP, although breast cancer cases from lower SEP are known to have a poorer survival and also birth measures are socially patterned. Further studies are needed to investigate how the observed associations are mediated.

| OP42 | LIFECOURSE SOCIOECONOMIC POSITION AND COGNITIVE FUNCTION IN LATER LIFE IN CENTRAL AND EASTERN EUROPE: PRELIMINARY FINDINGS FROM THE HAPIEE STUDY |

[1]P Horvat, [2]M Richards, [1]M Bobak. *[1]Department of Epidemiology and Public Health, UCL, London , UK; [2]MRC Unit for Lifelong Health and Ageing, London, UK,*

Background Socioeconomic position (SEP) across the lifecourse is positively associated with cognitive function in later life in studies of Western populations, with later SEP likely mediating the effect of early life factors. However, it remains to be seen whether similar associations are observed in settings with markedly different social histories with apparently smaller income inequalities. This study aims to investigate the association between measures of SEP reflective of the lifecourse and cognitive function in mid and later life in three Central and Eastern European populations.

Methods Cross-sectional analysis of 7,990 men and women aged 45–69 years in 2002 from the Health, Alcohol and Psychosocial factors in Eastern Europe (HAPIEE) study recruited in Novosibirsk (Russia), Krakow (Poland), and six Czech towns using random probability sampling. Measures of lifecourse SEP included self-reported childhood socioeconomic conditions (parental education, ownership of household amenities at age 10), own education and current material circumstances. Linear regression was used to estimate the associations between lifecourse SEP measures and three