population, along with information from the local care home inspectorate. Analyses were performed using Cox regression models with hazard of care home admission as the outcome.

**Participants** 55,440 people aged 65 years or older and not living in care homes at the time of the Census.

**Main outcome measures** Permanent admission to a care home for older people, identified by change of address (from health card registration information) to a registered nursing or residential home (from inspectorate information).

**Results** In unadjusted models, women were 80% more likely to be admitted to a care home than men (HR 1.80 95% CI 1.65 to 1.96), while in fully adjusted models, the risk averaging across all living arrangements was 10% higher (HR 1.10 95% CI 1.00 to 1.20). There was however variation in the risk by living arrangements. After controlling for age, there was no raised admission risk for females among people living alone (HR 1.05 95% CI 0.93 to 1.19), or with siblings (HR 1.04 95% CI 0.64 to 1.68), however there was a higher risk when looking at the 20,972 cohort members living with a partner (HR 1.34 CI 1.14 to 1.59). There was no evidence of variation with health status of co-residents.

**Conclusions** Apart from age, the single biggest contribution to the raised admission risk is living arrangements. There are no apparent gender differences among people living alone or with siblings, whereas the risk is higher for women living with a partner. This suggests that the support provided within the home is different, and that women receive less support from their husbands than men receive from their wives. Further research should investigate the effect of co-resident gender on living arrangements among people living with children.

**Wednesday 8 September 2010 Parallel Session D**

**Food policy**

**066 ESTIMATING THE UK CARDIOVASCULAR MORTALITY REDUCTION EXPECTED WITH DIFFERENT FOOD POLICY OPTIONS**

**Objective** To estimate the reduction in UK cardiovascular mortality potentially achievable by decreasing saturated fat, trans-fat and salt consumption and fruit and vegetable consumption.

**Methods** Cardiovascular Disease (CVD) mortality reductions were calculated by synthesising data on population, diet, cholesterol levels, blood pressure, and CVD mortality rates. Contemporary mortality and dietary data among UK adults 25 to 84 years old were obtained from official statistics. We quantified the aetiological effects of specific dietary factors on cholesterol levels, blood pressure, and CVD mortality using systematic reviews and meta-analyses. The number of CVD deaths achievable by reducing saturated fat, trans fat, and salt consumption and fruits and vegetables was estimated for a variety of dietary policy scenarios. Results were stratified by 10-group age and sex.

A probabilistic sensitivity analysis was then conducted. Using Monte-Carlo simulation, best, maximum and minimum estimates were calculated.

**Results** Reducing salt consumption by 1 g/day, saturated fat by 1% of energy intake and trans fat by 0.5%, and of fruits and vegetable intake 1 portion per day would result in approximately 13,850 fewer CVD deaths per year. These would comprise 4790 (minimum estimate 4620, maximum estimate 4910) fewer coronary heart disease deaths among men and 1840 (minimum estimate 1790, maximum estimate 1900) among women, along with 4000 (minimum estimate 3910, maximum estimate 4100) fewer stroke deaths in men, 3230 in women (minimum estimate 3160, maximum estimate 3310). Approximately 26% of the 13,850 mortality decrease would be attributed to decreased transaturated fat consumption, 27% to increased fruits and vegetables consumption 24% to decreased saturated fat consumption, and 25% to decreased salt consumption. More substantial dietary improvements could result in approximately 38,100 fewer CVD deaths (min 37,900, max 39,100).

**Conclusions** The CVD burden attributable to saturated fat, trans-saturated fat, salt and, fruits and vegetable consumption is substantial. Food policies resulting in even small dietary changes could result in approximately 20,000 fewer CVD deaths each year. This would represent a 9% reduction in UK cardiovascular mortality. Similar benefits might be expected in other industrialised populations.

**067 FOOD INSECURITY, WELL-BEING AND INEQUALITIES IN DIET IN UK WOMEN**

**Objective** Prevalence of household food insecurity varies between populations, but is higher among those who have low incomes, poor
Results 28 randomised and non-randomised controlled trials were identified that reported daily fruit and/or vegetable intake. A median intake of 0.4 portions more fruit and vegetables was consumed in the intervention group compared to the control group. The qualitative review of 7 studies reporting lunchtime intake, either in addition to daily intake or independently in studies concentrating solely on lunchtime intake, revealed a median difference of 0.2 portions more fruit and vegetables in the intervention group at lunchtime. The meta-analysis of daily intake included 13 studies classified into one of two groups: behavioural change studies with a school and/or home component that relied on families improving eating behaviour; and free school fruit and vegetable scheme where fruit and vegetables are distributed to children. The short term impact of both type of programme was determined using the follow up data collected within 3 months of the end of the intervention. This was the longest follow-up period in most cases. The pooled estimates (95% CI) for behavioural change studies and free fruit and vegetable schemes were 0.45 (0.21 to 0.65) and 0.44 (0.20 to 0.67) portions respectively. The pooled estimate (95% CI) for all studies was 0.42 (95% CI 0.27 to 0.58) portions more in the intervention group. The majority of the difference was due to fruit not vegetables. Heterogeneity was high for the meta-analysis with lunchtime intake but reasonable for daily intake.

Conclusion School-based interventions have the potential to moderately improve fruit and vegetable intake in children, with approximately half of the increase attributable to improvements in lunchtime intake.

Physical activity

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Background Periods early in life, between birth and adolescence, could be especially important for the establishment of health behaviours. Early adversity may influence the level and types of physical activity in adulthood.

Objectives To investigate the associations between early adversity and adult physical activity, and the role of depression and education as potential mediators of these associations. Structural equation models were used to 1) identify five latent factors of early adversity: socio-economic conditions (father’s unskilled job, lack of home amenities and overcrowding), parental health (parental poor health, maternal neuroticism); family structure during childhood (death of parents, divorce), chronic illness (hospitalisation for >1 month); and social isolation; 2) model the effect of depression/anxiety (at ages 15 and 36 years) and education level (at age 26 year) on the relationships between early adversity and physical activity.

Design Prospective cohort study.

Setting England, Scotland and Wales.

Participants Approximately 5000 men and women from the MRC National Survey of Health and Development, followed up since birth in March 1946.

Main outcome measures Four physical activity types measured at age 36 years—cycling/walking, heavy gardening, sports/recreational activities, and activity during the working day—with three levels of intensity (most active, less active, inactive).

Results There was no evidence of direct paths between early adversity and adult physical activity (p > 0.05). However, there was a strong indirect effect of socio-economic adversity on activity at work (0.24) and on sports/recreational activity (−0.10) via education. The significant indirect effects of adolescent emotional problem on activity at work day (−0.01) and on sports/recreational activity (−0.01) via adult depression/anxiety were of smaller