burden that might be achieved by population shifts in these risk factors.

**Methods** The novel Stock of Health (SoH) modelling approach integrates demographic and risk factor data from the Office for National Statistics and the Health Survey for England, and risk factor effects from the US Cardiovascular Lifetime Risk Pooling Project. The SoH approach estimates the latent "stock" of CHD-related health for each individual within the entire population of England and Wales (51 million). It then computes failure times for CHD mortality, allowing for multiplicative risk factor effects and competing mortality risks.

We first simulated CHD deaths for England and Wales over the period 2000-2010. We then extended the simulations to 2030, and compared "FEASIBLE" and "IDEAL" population intervention scenarios, targeted to systolic blood pressure (SBP) and cholesterol under two future trend assumptions: I) assuming mortality rates in 2010 remain stable through to 2030, or II) assuming CHD mortality continue falling.

**Results** The mean simulated failure times closely mirrored those actually observed(1993–2004: men=72 vs. 71 years; women=74 vs. 75 years). In 2030, about 81200 CHD deaths are expected to occur under trend assumption I (+14% compared to 2010, reflecting population ageing) and 47600 under trend assumption II (–18% compared to 2010). SBP: For trend I, a FEASIBLE SBP reduction of 1mmHg and IDEAL reduction of –5mmHg could result in approximately 77300 (+9%, baseline: 2010)and 64500 (–9%, baseline: 2010) deaths respectively in 2030. Assuming falling trends (II), about 45500 (–22%, baseline: 2010) and 38300 (–34%, baseline: 2010) deaths would result in 2030 under the feasible and ideal scenarios respectively. Total cholesterol (TC): Under trend I, a FEASIBLE TC reduction of 0.1 mmol/l and IDEAL reduction of 0.5 mmol/l could result in about 74800 and 57000 deaths (5% and –20%) by 2030. Assuming trend II, the resulting deaths would be approximately 43900 and 33400 (–25% and –43%, baseline: 2010) respectively.

**Conclusion** Under both trend assumptions, the adoption of evidence-based dietary policies to reduce salt and saturated fat intake, resulting in population-wide decreases in blood pressure and cholesterol could result in substantial declines in forecasted CHD mortality.

## OP82 AN EVALUATION OF THE EFFECT OF THE NEW SCHOOL FOOD POLICY ON CHILDREN'S NUTRITIONAL INTAKE AND SOCIO-ECONOMIC CONSEQUENCES IN NORTH EAST ENGLAND

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**Background** After 20 years with no regulation of school food and a plethora of evidence on the state of children's diets, new food and nutrient-based standards were re-introduced in 2006 to schools in England. As a major policy change receiving financial and legislative support from Government, our objectives were to evaluate the effect of this policy on children's nutritional intake, and its wider consequences including the added costs.

**Methods** A cross-sectional study was undertaken in primary (n=13) and middle (n=5) schools in North East England. Dietary, anthropometric and socio-economic data were collected from children aged 4–7y and 11–12y using identical quantitative methods pre, and post-implementation. In the 4–7y olds a four day food diary was completed using an observational method, the 11–12y olds completed 2x3 day food diaries followed by an interview. Economic analysis was conducted in the form of cost-consequence analysis, comparing the differences in costs with all of its possible consequences in a tabular format.

**Results** The effect of lunch type (school or packed) and year had a significant effect on total dietary intake in the 4–7y olds (n=1,017). Children having school lunches post-implementation had a slightly higher mean daily intake of energy (93 kcals, p=0·004), but lower mean daily % energy from fat (3%, p<0·001) and saturated fat (1%, p<0·001). Mean daily intakes of micronutrients such as vitamin C, and iron were higher in children consuming school lunches. In contrast, there was limited evidence of the effect of lunch type post-implementation on the total diet in 11–12y olds (n=883). The exception was % energy from fat. In 1999–2000 children consuming a school lunch had a higher % energy from fat than those consuming a packed lunch, post-implementation this difference was no longer apparent. The cost per school meal following implementation of the school food policy is higher than pre-implementation, ranging from £29 to £55 per child per year depending on how differences in prices of food pre and post-implementation were adjusted for inflation. Wider social consequences, for example, a reduction in socio-economic inequality, educational benefits and change in health behaviour were also set against the increased cost.

**Conclusion** These findings demonstrate that the introduction of the school food policy has the potential to have a positive impact not only on food eaten at school but also on children's total diet. Economic analysis highlights the trade-offs between significant improvement of nutrient intakes of children and the increased cost.

## OP83 DOES LUNCH TYPE HAVE AN IMPACT ON DIETARY QUALITY OVER THE WHOLE DAY IN ENGLISH PRIMARY SCHOOL CHILDREN?

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**Background** Nutrient standards were introduced by the Government to all English primary schools in 2008. By restricting some products and increasing the quantity and quality of others, the standards resulted in a healthier school meal profile. Despite attention to improve the quality of school meals, packed lunches have changed little in recent years and are not covered by similar regulations. There are few published studies that compare weight, body mass index (BMI), energy and nutrient intake over the whole day according to lunch type.

**Methods** A dietary assessment tool named CADET was used to assess the diet of 2355 children aged 6 to 8 years attending primary schools across England. Regression analysis which took into account the clustering of children within schools was used to report anthropometric, dietary and nutritional characteristics over one 24 hour period. Nutrient and anthropometric results from children having a packed lunch were compared with children having a school meal. Results were also compared to the reference nutrient intakes (RNIs) and the National Diet and Nutrition Survey (NDNS) in children.

**Results** No significant differences in weight, standardised BMI, or daily energy consumption were seen between children in the packed lunch group compared to the school meal group. However, there were nutritional differences, reported here as mean difference and 95% confidence interval (95% CI). The packed lunch group consumed higher daily amounts of carbohydrates (8.1 g, 95% CI 2.2 to 14.0g, P< 0.01), sugar (9.8g, 95% CI 5.4 to 14.3, P< 0.01) and sodium (92.1mg, 95% CI 22 to 162mg, P< 0.01). Conversely, the school meal group consumed higher intakes of protein (3.3g, 95% CI 1.6 to 5g, P< 0.01), fibre (0.8g, 95% CI 0.3 to 1.3g, P<0.01) and zinc (0.2mg, 95% CI 0.05 to 0.5mg, P<0.01). Neither group met the recommended amounts for zinc, fibre or starch and indicated lower levels of sodium and higher levels of fat than the NDNS. Differences