blood pressure (systolic BP:−0.78; 95% CI:[−1.26,–0.31 kg]; diastolic BP: −0.46; 95% CI:[−0.87,–0.04]) at 13.5 years. Similar results were obtained for skinfold-derived AR. Many of the above associations were fully explained by fat mass at 13.5 years. However, the association between skinfold-derived AR and SBP was still significant after adjusting for fat mass (−0.37; 95% CI:[−0.72,–0.01]).

Conclusion BMI and skinfolds produced similar estimates of age at adiposity rebound. Associations of AR with BMI and cardio-metabolic risk factors at 13.5 years were comparable regardless of how we derived AR. AR appears to be related to later cardio-metabolic risk markers through its association with fat mass. Skinfolds, as a more direct measure of adiposity than BMI, may be a better method for estimating AR when available.

P49 AN ECONOMIC EVALUATION OF A COMPLEX WORKPLACE DIETARY INTERVENTION: A CLUSTER CONTROLLED TRIAL

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Background The workplace is recognised as a priority environment to influence dietary behaviours and improve employee healthy. Yet, previous workplace dietary interventions have failed to combine clinical effectiveness evidence with economic costs, thus the cost-effectiveness of workplace dietary interventions remains unknown. Employing cost and outcome data from the Food Choice at Work (FCW) study, a cluster controlled trial of complex workplace dietary interventions, this study employed an economic evaluation of nutrition education, environmental dietary modification and combined workplace interventions.

Methods A 9 month time horizon was assumed (length of interventions). Each of the dietary interventions (education, environment and combined) were compared to a control workplace. Firstly, a cost-benefit analysis (CBA) employed the monetary value of absenteeism to report the net benefit of the interventions compared to the control, from an employer's perspective. Secondly, cost-effectiveness analyses (CEAs) were performed using intervention-specific clinical measures (body mass index (BMI), weight and midway waist circumference) to measure health outcomes. Thirdly, a cost-utility analysis (CUA) measured the cost-effectiveness of the interventions in terms of quality adjusted life years (QALYs). The robustness of the QALYs were assessed as the results of the CEAs and CUA were compared. Probabilistic sensitivity analysis (Monte Carlo simulation) assessed parameter uncertainty.

Results The environment intervention reported the highest net benefit (€ 146/employee) which was associated with an average reduction of 0.7 absent days. The environment intervention also reported the lowest incremental cost-effectiveness ratios (ICERs) for BMI (€ 14/kg/m^2), waist circumference (€ 3/cm) and weight (€ 7/kg). The CUA demonstrated similar results as the environment intervention also reported the lowest ICER of € 98/QALY, followed by the education (€ 971/QALY) and combined interventions (€ 2,156/QALY). The cost-effectiveness acceptability curve (CEAC) indicated that the environment intervention had a 50% probability of being cost-effective when compared to the control at a ceiling ratio of € 45,000/QALY. However, as demonstrated on the CEAC, no decision uncertainty surrounded the cost-effectiveness of the education or combined interventions, the control had a higher probability of being cost-effective.

Conclusion Although demonstrated over a short timeframe, environmental dietary modification alone, offers a potentially cost-effective approach for improving employee health and generating positive net benefit for employers. While environmental dietary modification strategies are potentially sustainable and important interventions for obesity prevention, future research should include long-term outcomes to determine if improvements in outcomes persist.

P50 THE PREVALENCE AND DETERMINANTS OF POLYPHARMACY: DATA FROM THE BRITISH 1946 BIRTH COHORT

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Background Polypharmacy, a growing phenomenon within the British population, has been linked with increased falls, reduced functional status and higher all-cause mortality in later life. However the risk profile for individual medications is not universal, with cardiovascular medications in particular posing a high risk. Prior research has found that greater socio-economic disadvantage is associated with higher levels of polypharmacy but studies rarely control for disease burden or distinguish between cardiological and non-cardiological polypharmacy. The aim of this study was to describe the development of polypharmacy and its composition in a British birth cohort in its seventh decade and to investigate socioeconomic and gender differences independent of disease burden.

Methods Medication data from the Medical Research Council National Survey for Health and Development (NSHD), the oldest British birth cohort, were analysed to determine the prevalence and composition of polypharmacy at age 69 and its change from ages 60–64. Multinomial regression was used to test associations between gender, education and occupational social class and total, cardiological and non-cardiological polypharmacy controlling for the number of diagnosed diseases.

Results At age 69, 22.8% of individuals were taking more than 5 medications. There was an increase in the use of 5 to 8 medications (+2.3%) and over 9 medications (+0.8%) between ages 60 to 64 and 69. The greatest increases were found for cardiovascular (+13.4%) and gastrointestinal medications (+7.3%). Men experienced greater cardiological polypharmacy, women greater non-cardiological polypharmacy. Higher levels of education were associated with lower levels of both types of polypharmacy independent of disease burden, with strongest effects seen for over five cardiological medications (RRR 0.3, 95% CI 0.2,0.5 p<0.001 for advanced secondary qualifications compared with no qualifications); there was no additional effect of occupational class.

Conclusion Polypharmacy, particularly cardiological polypharmacy, increased over the seventh decade and was associated with lower educational attainment. While this study could not assess the appropriateness of the polypharmacy observed, it provided understanding of its genesis and the possible benefits of targeted interventions to reduce potential harm caused by