

it meant that free bus travel was typically held by all of a peer group. This rendered buses a socially inclusive way for groups to travel and spend time together, thereby enhancing group-level capabilities.

Conclusion We believe this attention to individual and group-level capabilities for self-determination provides the basis for a broader and more child-centered view of independent mobility than is typical in health research. The importance of the universal nature of the entitlement to free bus travel also provides an example of how policy interventions with universal coverage may have effects which are more than the 'sum of the parts' of alternative, targeted approaches.

PS03 SYSTEMATIC REVIEW AND META-ANALYSIS OF SCHOOL-BASED INTERVENTIONS TO REDUCE BODY MASS INDEX

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Background Childhood obesity predisposes to adult obesity and increases the risk of many diseases. Schools provide a vehicle to deliver public health interventions to all children.

Methods Medline and Embase were used to undertake a systematic review of published studies on school-based interventions aimed at reducing body mass index (BMI) of children ≤ 18 years. Preferred reporting items for systematic review and meta-analyses guidelines were followed, and eligible studies subjected to a random effects meta-analysis.

Results Between 1991 and 2010, 43 published studies provided 60 measurements of effect. The pooled effect was a 0.17 (95% CI: 0.08, 0.26, $P<0.001$) reduction in BMI. Heterogeneity was high ($I^2=93.4\%$) but there was no significant small study bias (Egger's test, $P=0.422$) nor significant variation by length of follow-up. The intervention comprised physical activity only in 11 (26%) studies, education only in three (7%), and combinations of these and improved nutrition in the remaining 29 (67%). On stratified analysis, physical activity used in isolation (-0.13, 95% CI: -0.22, -0.04, $P=0.001$) or combined with improved nutrition (-0.17, 95% CI: -0.29, -0.06, $P<0.001$) was associated with significant improvements in BMI. Interventions targeted at overweight/obese children reduced their BMI by 0.35 (95% CI: 0.12, 0.58, $P=0.003$). Those delivered to all children reduced it by 0.16 (95% CI: 0.06, 0.25, $P=0.002$).

Conclusion There is growing evidence that school-based interventions that contain a physical activity component may be effective in helping to reduce BMI in children.

PS04 VALIDITY OF CANCER DIAGNOSIS IN A PRIMARY CARE DATABASE COMPARED WITH LINKED CANCER REGISTRATIONS IN ENGLAND. POPULATION-BASED COHORT STUDY

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Background Electronic health records from primary care are increasingly utilised as a resource for epidemiological research in cancer. The present study aimed to evaluate the validity of cancer diagnoses recorded in a primary care database compared with cancer registry data in England.

Methods Eligible cancer codes were reviewed and agreed by two epidemiologists with experience in cancer and primary care. The eligible cohort comprised 42,556 participants, registered with English general practices in the General Practice Research Database

(GPRD) that consented to cancer registry linkage, who presented with haematuria, haemoptysis, dysphagia or rectal bleeding or were diagnosed with cancer of the lung, urinary tract, oesophagus/stomach, or colon/rectum between 2002 and 2006. Cancer registry (CR) records were linked through a unique identifier by a third party. Cancer registry and primary care records were compared for cancer diagnosis, date of cancer diagnosis and death.

Results There were 5,429 cancer diagnoses in GPRD and 5,710 in the CR, with 5,216 (91% of CR total) diagnosed in both sources. There were 494 (9%) diagnosed in CR but not in GPRD and 213 (4%) that were diagnosed in GPRD but not CR. The predictive value of a GPRD cancer diagnosis was 96% for lung cancer, 92% for urinary tract cancer, 96% for gastro-oesophageal cancer and 98% for colorectal cancer. 'False negative' primary care records were sometimes accounted for by registration end dates being shortly before cancer diagnosis dates. The median (interquartile range) difference in date of cancer diagnosis (CR minus GPRD) was -11 (-30 to 6) days. Death records were consistent for the two sources for 3,337/3,397 (99%) of cases.

Conclusion Recording of cancer diagnosis and mortality in primary care electronic records is generally consistent with cancer registrations in England. Linkage studies must pay careful attention to selection of codes to define eligibility and timing of diagnoses in relation to beginning and end of record.

PS05 MEN WITH PROSTATE CANCER MAKE POSITIVE DIETARY CHANGES FOLLOWING TREATMENT IN A RANDOMISED TRIAL: A PROSPECTIVE COHORT STUDY

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Background Prostate cancer (PC) is the second most frequently diagnosed cancer of men worldwide. A healthy diet may improve clinical outcomes but there is currently no disease-specific dietary advice available to aid survivorship after a PC diagnosis. The effect of a PC diagnosis on men's diet remains uncertain because, although cancer survivors report dietary changes, the direction and magnitude of changes are poorly understood. This study examined dietary changes in men before and after treatment for PC within the Prostate Testing for Cancer and Treatment (ProtecT) randomised trial.

Methods This was a prospective cohort study embedded within the ProtecT randomised trial of treatments for PC. Participants were men aged 50–69 years tested for PC in primary care centres in nine areas of the UK. 3935 men completed a validated food frequency questionnaire before diagnosis and 678 with localised disease repeated the questionnaire one year later (response 82.7%). Pre-diagnosis dietary intakes of men with different diagnoses subsequently (negative diagnosis, at risk, localised PC, advanced PC) were compared using linear regression. Dietary changes after a diagnosis of localised PC were examined using non-parametric tests. Effects of cancer treatments (radical prostatectomy, conformal external beam radiotherapy or active monitoring) were examined using linear regression.

Results Before diagnosis, all men consumed largely similar amounts of key nutrients and foods. The diagnosis of localised PC led to dietary changes in 29.2% of men. Changes observed were generally in a healthy direction, with 234 (34.7%) men eating more fresh tomatoes ($p<0.0001$) and 156 (23.5%) more tomato products ($p=0.01$). 271 (40.0%) men consumed more protein ($p<0.0001$) and 193 (28.6%) more fruit/vegetable juice ($p<0.0001$). Less macronutrients were obtained from dairy products ($p<0.01$). Men undergoing