obesity which may be more amenable to change, is a risk factor for obesity and chronic health conditions in adults.

Methods Socioeconomically disadvantaged children aged 4–7 y and their parents in Beer-Sheva were the study population in an intervention trial. We excluded those who refused, children with any chronic disease, developmental problems, in a weight reduction treatment and children or parents with any psychiatric problem. We measured twice weight and height of children and mothers in the mornings before breakfast, with light clothing and without shoes. Other data were obtained by personal interviews. Smoking and maternal perception of the child's weight status will be examined using the baseline data.

Results Overall 18.5% and 11.3% of the children were overweight and obese, respectively. Overweight/obese (OWO) children were significantly taller, heavier and had more sedentary hours than non-OWO children. Mothers misclassified the child's weight status in 82.3% and 42.4% of OWO and non-OWO children, respectively ($p < 0.001$). In a multivariate logistic regression which included the child's sedentary hours, maternal education and weight status, poverty status, only misclassification of the child's weight status (OR 8.3, 2.7–25.9; $p < 0.001$) and current parental smoking (OR 4.2, 1.6–11.4; $p = 0.005$) were significant risk factors for OWO in LSES pre-school children.

Conclusions Maternal misclassification of her child's weight status and parental smoking may be determinants of the development of childhood obesity among LSES children. These associations should be confirmed in prospective studies.

P1-426 ASSESSING THE PSYCHOMETRICS AND THE ECOMETRICS MEASUREMENTS OF NEIGHBOURHOOD SCALES: SAÚDE EM BEAGÁ STUDY, BELO HORIZONTE, BRAZIL, 2008–2009

doi:10.1136/jech.2011.142976g.16

^{1,2}A Friche,* ³A Diez-Roux, ^{1,2}C César, ^{1,2}F Proietti, ^{1,2}W Caiaffa. ¹Graduate Program of Public Health, School of Medicina, Federal University of Minas Gerais, Belo Horizonte, Minas Gerais, Brazil; ²Observatory for Urban Health, Federal University of Minas Gerais, Belo Horizonte, Minas Gerais, Brazil; ³Center for Social Epidemiology and Population Health, School of Public Health, University of Michigan, Ann Arbor, Michigan, USA

Introduction Although relevant, specific instruments are necessary to better understand the relationship between features of neighbourhood and health events, very few studies have developed instruments to measure neighbourhood features in developing countries.

Objective To develop valid and reliable measures of neighbourhood context useful in a Latin American urban context; assess their psychometrics and ecometrics properties and examine individual and neighbourhood-level predictors of these measures.

Methods We analysed data from a multistage (census tracts, households, and residents) household survey (2008–2009) conducted in Belo Horizonte City by the Observatory for Urban Health. One adult in each household was selected to answer the questionnaire that was composed of six domains. Neighbourhood was defined as census tract. Scales to represent different dimensions of neighbourhood were created using individual responses. Internal consistency was evaluated by Cronbach's α and three-level multi-level models were used to evaluate each scale.

Results 4048 survey respondents represented 149 census tracts. We assessed nine neighbourhood environment dimensions: Public Services (8 items), Aesthetic Quality (4 items), Walking Environment (7 items), Violence (6 items), Social Cohesion (6 items), Activities with Neighbours (11 items), Neighbourhood Physical Disorders (8 items), Neighbourhood Social Disorders (5 items) and Neighbourhood Problems (16 items). Cronbach's α coefficient ranged from 0.53 to 0.83, intraneighbourhood correlation ranged

0.02–0.53 and neighbourhood reliability were 0.76–0.99. Most scales were associated with individual and neighbourhood predictors.

Conclusion These findings illustrated the measurement properties of neighbourhood-level constructs can be measured reliably, confirming their use in multilevel analysis to assess the neighbourhood effects on health outcomes.

P1-427 ASSOCIATIONS OF MATERNAL WEIGHT GAIN IN PREGNANCY WITH OFFSPRING COGNITION THROUGHOUT CHILDHOOD AND ADOLESCENCE

doi:10.1136/jech.2011.142976g.17

S Gage,* D Lawlor, K Tilling, A M Tolppanen, A Fraser. *University of Bristol, Bristol, UK*

Introduction Basic science evidence suggests that gestational weight gain (GWG) may influence offspring cognitive development. However, this relationship has not been investigated in human population studies.

Methods Data from the ALSPAC, a UK prospective pregnancy cohort were used. GWG was expressed using 2009 IOM categories of GWG and estimates from random effect linear spline models (median number of measures per woman: 10 IQR: 8–11). Outcomes were school entry assessment score (SEA, age 4, N=5832), Wisc-III assessed IQ (age 8, N=5191) and GCSE results (age 15, N=7339).

Results Offspring of women who gained less than the 2009 IOM recommended GWG had a -0.075SD lower mean SEA score (95% CI -0.127 to -0.023) compared with women who gained as recommended, even when adjusting for potential confounders including maternal education. Greater prepregnancy weight was inversely associated with all cognition measures. For example, mean difference in IQ per 1 kg increase in pre-pregnancy weight = -0.004SD (-0.006, -0.002). GWG in early pregnancy (0–18 weeks) and in mid-pregnancy (19–28 weeks) were positively associated with SEA and IQ but not with GCSE results. GWG in late pregnancy (29 + weeks) was positively associated with higher SEA scores (0.208SD; 0.716, 0.261) and GCSE results (OR=1.35; 1.26, 1.46), with the latter not fully mediated by the association with SEA.

Conclusions Findings support a positive association between GWG, particularly in late gestation, and offspring cognitive development, which has lasting effects on school attainment at age 16 years. However this could still be due to residuals confounding.

P1-428 PREVALENCE AND RISK FACTORS OF HEPATITIS C VIRUS INFECTION AMONG POLISH NURSES AND MIDWIVES

doi:10.1136/jech.2011.142976g.18

¹M Ganczak,* ²M Korzen, ¹Z Szych. ¹Pomeranian Medical University, Szczecin, Poland; ²Westpomeranian University of Technology, Szczecin, Poland

Surgical and midwifery staff are at risk of acquiring occupational blood-borne infections. Controversial results have been reported about HCV. Objective of this cross-sectional sero-epidemiological study was to assess the prevalence of HCV in nurses from surgical/gynaecological wards of 16 randomly selected hospitals in West Pomeranian region of Poland and to compare it with other groups: consecutive female patients from the same hospital wards and female blood donation candidates from Regional Center for Blood Donation. Method: Serum samples collected from 414 healthcare employees and 1118 female patients have been tested by ELISA between February 2008 and June 2009 and confirmed by RIBA.

Results The seroprevalence in staff members was 1.4% (95% CI 0.7% to 3.1%). Personnel's sero-positive status was predominantly discovered during our occasional screening. A stepwise multivariate

model indicated that for anti-HCV sero-positivity, only the length of employment was associated with an increased odds of being infected (OR 2.8; $p < 0.006$). HCV prevalence in female patients was 0.4% (4/1118; 95% CI 0.1% to 0.9%), while in 801 female blood donors 0% (0/801; 95% CI 0% to 1.1%). Comparison of HCV prevalence with the patients' population and blood donors indicated an decreasing trend in this order: nurses/midwives, patients, blood donors.

Conclusions Surgical nurses and midwives show greater prevalence of anti-HCV than their female patients and blood donation candidates which may indicate an important occupational risk. Among those with positive serology, a factor of greatest risk was time in the job suggesting a dose-response effect. Much better recognition of possible consequences of blood exposures is needed regarding surgical and gynaecological staff in Poland.

P1-429 TESTOSTERONE, CORTISOL: TESTOSTERONE RATIO AND PHYSICAL PERFORMANCE IN LATER LIFE: RESULTS FROM THE CAERPHILLY PROSPECTIVE STUDY (CAPS)

doi:10.1136/jech.2011.142976g.19

¹M Gardner, ^{1,2}G D Smith, ³S Lightman, ⁴J Gallacher, ⁵D Kuh, ⁶S Ebrahim, ⁷T Bayer. ¹School of Social and Community Medicine, University of Bristol, Bristol, UK; ²MRC CAITE Centre, University of Bristol, Bristol, UK; ³Henry Wellcome Laboratories for Integrative Neuroscience and Endocrinology, Bristol, UK; ⁴Department of Primary Care and Public Health, Cardiff University, Cardiff, UK; ⁵MRC Unit for Lifelong Health and Ageing, University College London, London, UK; ⁶London School of Hygiene & Tropical Medicine, London, UK; ⁷Department of Geriatric Medicine, Cardiff University, Cardiff, UK

Introduction Testosterone levels fall with age hence men with higher levels may show better physical performance in later life, though current evidence is inconsistent. An elevated cortisol to testosterone ratio has been associated with metabolic dysfunction and may reflect chronic stress. No previous study has looked at the cortisol to testosterone (C/T) ratio and physical performance in later life. We examined the relationship between total testosterone, C/T ratio and physical performance in later life.

Methods Middle-aged men (45–59 years) were recruited between 1979 and 1983 as part of the Caerphilly Prospective Study and had cortisol and testosterone measured from morning fasting serum. They were followed-up for approximately 20 years and then had their walking speed and balance time measured. 748 and 848 participants had data on C/T ratio and testosterone respectively and physical performance measures.

Results Higher morning testosterone was associated with faster walking speed (0.56 metres/min, 95% CI 0.05 to 1.07; age-adjusted), though this was attenuated when fully adjusted (0.38 metres/min, 95% CI –0.19 to 0.95). Higher testosterone was weakly associated with the worst quintile of balance (OR 0.91, 95% CI 0.77 to 1.08). There was no evidence of an association between C/T ratio measures and either walking speed or balance.

Conclusion Higher total testosterone in mid-life was associated with faster walking speed in later life but this was not seen with the C/T ratio. These findings provide limited support for a role of testosterone levels in maintenance of mobility in older age but require replication in further studies.

P1-430 SMOKING AMONG BRAZILIAN WORKERS: INFLUENCE OF EMPLOYMENT STATUS AND HOUSEHOLD CONTEXT

doi:10.1136/jech.2011.142976g.20

L Giatti, ^{*}S M Barreto. Federal University of Minas Gerais, Belo Horizonte, Minas Gerais, Brazil

Despite the overall decline in cigarette smoking prevalence in Brazil in past decades, social inequalities in smoking have persisted and

even widened. We investigated the effect of precarious work and household context on smoking prevalence among Brazilian workers.

Methods This study is based on the household Special Smoking Survey (PetTab) carried out in 2008 in a representative sample of the Brazilians. Studied sample included 7601 working individuals aged between 15 and 64 years, who lived in large metropolitan regions of Brazil. Participants were classified as formal or informal employee based on the presence of social insurance protection. Smoking prevalence was estimated according to employment status and Poisson regression used to investigate factors associated with smoking.

Results The prevalence of smoking was 18.5%, it was highest among informal employers (23.7% vs 15.7%, $p < 0.005$). On both groups, the prevalence of smoking was greater among older workers, less educated, head of household, who lived with a smoking person and in households lacking rules about indoor smoking. Lack of workplaces rules concerning smoking was associated with smoking prevalence. In the multivariate analysis including all workers, smoking remained positively associated with precarious employment (PR: 1.28; 95% CI 1.09 to 1.41), male sex, older age, number of smoking persons in the same household (1–2 smokers: PR: 1.92; 95% CI 1.70 to 2.18; 3+ smokers: PR: 2.84; 95% CI 1.98 to 4.06); and absence of norms about smoking in the household (PR: 2.18 95% CI 1.89 to 2.52).

Conclusion The results reveal that smoking affects more individuals in precarious working relations and the importance of household cultural context on tobacco use.

P1-431 SOCIAL SUPPORT NETWORKS AND MENTAL HEALTH: EVIDENCE FROM SHARE

doi:10.1136/jech.2011.142976g.21

^{1,3}S Gibney, ^{*}^{2,3}M McGovern. ¹School of Public Health, Physiotherapy & Population Science, University College Dublin, Dublin, Ireland; ²School of Economics, University College Dublin, Dublin, Ireland; ³Centre for Behaviour & Health, Geary Institute, University College Dublin, Dublin, Ireland

Introduction This study investigates whether the social support networks (SSNs) of older Europeans exert a causal influence on their mental health. The manner in which social support influences mental health has been characterised by two psychological models. The main effects hypothesis predicts that individuals with strong social support experience higher levels of well-being than those with weak social support. According to the stress-buffering hypothesis, it is only upon exposure to unexpected negative life events that individuals with weaker levels of social support are adversely affected.

Methods The dataset used comprises over 60 000 observations from adults aged 50+, from two waves of the Survey of Health, Ageing and Retirement in Europe (2004 & 2006), including the EURO-D scale of depressive mood. Cluster analysis of objective criteria such as proximity of family members and support-exchange identified four SSN types: self-contained; spouse-reliant; family-dependent; and family and community integrated. Networks differed in terms of socio-demographic indicators. Personal characteristics were controlled for and standard panel data techniques determined whether omitted variables such as personality were driving the relationship between network type and depressive mood.

Results Among women, weak SSNs were associated with higher EURO-D scores (main effects hypothesis). This relationship appears to be mediated through feelings of loneliness. We found no evidence that network membership either exacerbates or mitigates the effect of negative life events on depressive mood for either gender (buffer hypothesis).

Conclusion Enhanced social support provides a mechanism for alleviating depressive mood, which was found to be mediated through feelings of loneliness.