analysis was used to estimate ORs for factors contributing to satisfaction with healthcare.

Results In all 27 883 individuals were studied. The mean age of respondents was 32.7 (SD=11.8) years. In all 20.7% of the respondents were satisfied or very satisfied with healthcare delivery while 36.2% of people indicated little or no satisfaction with healthcare. The results obtained from regression analysis indicated that income (a proxy measure of access to healthcare) and information was the most significant contributing factor to people's dissatisfaction [OR for lower income=2.17, p<0.0001; OR for people with poor health information = 2.01, p<0.001].

Conclusion The study findings suggest that improving access to information and healthcare could lead to people's satisfaction with healthcare.

P1-422 | **ACCURACY AND QUALITY OF ROUTINE IMMUNISATION DATA MONITORING SYSTEM IN OGBARU AND ONITSHA NORTH LOCAL GOVERNMENT AREAS OF ANAMBRA STATE, NIGERIA**

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Immunisation managers often depend on immunisation coverage obtained from immunisation data monitoring system to guide planning. However, limited studies have been carried out to verify the accuracy or determine the quality of the immunisation information system at the Health Facilities (HFs) and Local Government Areas (LGAs), which are the sources of the data reported to the state and national levels. This study was to assess the quality and accuracy of immunisation data in Ogbaru (OGB) and Onitsha North (ONN) LGAs of Anambra State, Nigeria. A WHO validated methodology of immunisation Data Quality Audit was used. All the HFs conducting immunisation in OGB (28) and ONN (20) as well as the two LGAs' Immunisation Units (IUs) were visited. The records of DPT3 immunisation at the HFs from January to December, 2009 was recounted and compared with reported data at the LGA IUs for the same period. An Accuracy Ratio (AR) which expresses the ratio of immunisation recounted at the HFs to that reported to the LGAs IUs was obtained. AR of ≥0.95 to ≤1.05 indicates data consistency. Immunisation Focal Persons (IFPs) in each HFs were interviewed using a validated tool that contained a 70 point knowledge scale and a 120 item quality score (QS) on data monitoring system. The proportion of HFs with consistent data were 27.6% and 42.9% (p<0.05) in OGB and ONN respectively. The overall AR was 89.8% in OGB and 96.3% in ONN. The mean knowledge score among IFPs in the LGAs was 44.0±8.0 and 46.2±6.9 (p<0.05), while the mean QS for HFs was 74.5±18.0 and 73.6±13.2 in OGB and ONN respectively (p<0.05). There was a fair correlation between the overall QS and the overall knowledge score in the two LGAs, r=0.3 (p>0.05). Auditing showed inconsistent data and low quality of data reporting in the LGAs.

P1-423 | **ASSESSMENT OF INFLUENZA OUTBREAKS USING A PRIVATE HEALTHCARE INFORMATION SYSTEM: AN ANALYSIS OF THE 2009 H1N1 EPIDEMIC IN BUENOS AIRES**

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Introduction This study aims to determine if the A/H1N1 influenza outbreak could have been earlier detected through changes in morbidity and mortality patterns analysed from a health information system (HIS).

Methods Specific data subsets were created to compare the burden of influenza during the epidemiological week (EW) 21 to 26 for years 2007 to 2009 among 150 000 Health Maintenance Organization members in Buenos Aires. The threshold for identifying an epidemic was considered met when the weekly influenza-like illness (ILI) rate exceeded 200 per 100 visits. Mortality rates of severe acute respiratory infection (SARI) from 2007 to 2009 were compared. Case fatality and mortality rates for A/H1N1 influenza 2009 also were estimated.

Results The HIS detected the outbreak in EW 23 while the government Ministry of Health (MoH) gave a national epidemic alert during EW 25. The number of visits for ILI increased more than fourfold when comparing 2009 to the 2007–2008. SARI mortality rate in 2009 was higher than in 2008 (RR 2.8; 95% CI 1.18 to 6.63) and similar to that of 2007 (RR 1.05; 95% CI 0.56 to 1.49). 2009 was the first year with mortalities younger than 65 years attributable to SARI. The estimated A/H1N1 case fatality rate for SARI was 6.2% (95% CI 2.5 to 15.5). The estimated A/H1N1 mortality rate was 6 per 100 000 (95% CI 0 to 11.6).

Conclusions the outbreak was detected 2 weeks before than the MoH gave a national alert suggesting that with a private-public integration a more real-time outbreak and disease surveillance system could be implemented.

P1-424 | **LIFETIME SCHOOL FAILURE AND PHYSICAL FIGHTING AT 17 YEARS OF AGE**

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Objective To evaluate the association between school grade retention and physical fighting among adolescents.

Methods We evaluated 1687 adolescents, part of EPITeen population-based cohort of urban adolescents, at 13 and 17 years of age. At both study waves, socio-demographic and behavioural characteristics were obtained by self-completed questionnaires. School failure was considered as the school grades retention reported by adolescents. Physical fighting was only assessed at 17 years-old, and participants were asked "During the past 12 months, were you involved in a physical fight?" ORs and 95% CIs were estimated separately for girls and for boys.

Results 28.2% of the girls who had school grade retention after 13 years old and 33.5% who had school retention before 13 years old reported involvement in physical fighting. For boys, the respective frequencies were 49.4% and 61.7%. After adjustment for potential confounders in a stepwise model, the odds for involvement in fights were 2.45 (1.50–3.99) in girls and 1.38 (0.90–2.12) in boys when considering school grade retention that occurred only after 13 years old. Considering those with school grade retention before 13 years old, the association was even stronger: 2.75 (1.64–4.59) in girls and 2.52 (1.63–3.89) in boys.

Conclusion School failure increased the risk of physical fighting involvement among adolescents; school retention during compulsory school phase (until 13 years old) seems even more relevant.

P1-425 | **RISK FACTORS FOR OVERWEIGHT AND OBESITY IN PRE-SCHOOL CHILDREN**

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Introduction In 2008 the prevalence of obesity in the USA, England and Italy were 14.6%, 21.2% and 22.2%, respectively. Childhood

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.

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

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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 multilevel 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, intraneighborhood 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.

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

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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 $=-0.004$SD (-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.

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

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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