of unemployment at 6 or 24 months. All models were adjusted for age, gender, level of education and country of origin. Gender interactions were examined.

Results 3969 participants were employed or unemployed and seeking work at baseline and at 6 months. 6% (n=221) had major depression at 12 months. Participants who were employed baseline but unemployed at 6 months compared to those employed at both time points had adjusted RRR of 1.63 (95% CI 1.02 to 2.60) for presence of depressive symptoms and 1.50 (95% CI 0.83 to 2.72) for major depression at 12 months. Gender differences were not significant. 12% (n=465) were unemployed at 6 months. The adjusted OR of being unemployed at 6 months, for participants with major depression at baseline and 6 months was 1.63 (95% CI 1.01 to 2.64). The OR of unemployment at 24 months associated with major depression at baseline or 6 months in men was 3.52 (95% CI 0.97 to 12.75) adjusted for lifetime depression and was further attenuated on adjustment for prior employment. In women the equivalent OR was 0.98 (95% CI 0.54 to 1.79).

Discussion There is some evidence that both causation and health selection result in raised levels of depressive symptoms in the unemployed. General practitioners should carefully monitor recently unemployed adults for onset of depressive symptoms and possible subsequent major depression. Adults with depression may have raised risks of subsequent unemployment and so should be supported at work.

025 THE INCIDENCE AND REPETITION OF HOSPITAL-TREATED DELIBERATE SELF-HARM IN IRELAND

doi:10.1136/jech.2010.120956.25

[1]I J Perry, [2]P Corcoran, [1]A P Fitzgerald, [3]H S Keeley, [2,4]U Reulbach, [2]E Arensman. *[1]Department of Epidemiology and Public Health, University College Cork, Republic of Ireland; [2]National Suicide Research Foundation, Cork, Republic of Ireland; [3]Child and Adolescent Mental Health Services, Mallow, County Cork, Republic of Ireland; [4]Department of Public Health and Primary Care, Trinity College Centre for Health Sciences, Adelaide and Meath Hospital incorporating the National Children's Hospital, Tallaght, Dublin, Republic of Ireland*

Background Deliberate self-harm (DSH) is one of the strongest risk factors for suicide and a significant public health problem in its own right. Nationally representative data on the incidence, repetition and determinants of DSH are sparse.

Objective To establish the incidence and risk of repetition of hospital-treated DSH in Ireland.

Setting The Republic of Ireland.

Design Surveillance of presentations to hospital emergency departments as part of the Irish National Registry of Deliberate Self Harm.

Participants Individuals who presented with DSH to one of the forty hospital emergency departments that operated in Ireland in 2003–2008. Case ascertainment and data collection were performed by trained data registration officers working independently of the hospitals and following standard operating procedures.

Main outcome measures Annual age-specific and age-adjusted rates of persons presenting to hospital per 100 000 population. Kaplan-Meier cumulative incidence curves and corresponding life-tables showing the risk of repeat DSH presentation at various time intervals and hazard ratios arising from multivariate Cox regression.

Results For 2003–2008, 63 154 DSH presentations were recorded involving 41 205 individuals. The average annual total, male and female rate of persons presenting with DSH were 202, 172 and 234 per 100 000, respectively. Overall, the female rate was 36% higher than the male rate. There was a clear peak in the female rate in 15–19 year-olds (651/100 000), twice the equivalent rate in men (323/100 000). In men, the highest rate was in the 20–24 year age group (426/100 000). For both genders, rates fell with increasing age. Of the 41 205 DSH patients, 8755 (21.2%) presented on at least two occasions. The risk of repetition was highest soon after a DSH presentation. Half (50%) of all repeat events occurred within three months. Risk of repetition within 12 months was almost 40% in subjects who self-cut compared to approximately 25% for those using other methods of DSH. Repetition rates were similar in men and women. Repetition rates rose rapidly with the number of previous DSH presentations. Respectively, twelve-month repetition rates of 13.7%, 36.1%, 47.7%, 59.7%, and 70.9% were observed for those with one, two, three, four and five previous presentations.

Conclusion Population-based data on the incidence and repetition of hospital-treated DSH represent an important indicator of the burden of mental illness and the pattern and distribution of suicide risk in the community. The development and implementation of effective methods to reduce repetition rates is an important challenge for health systems.

Births cohorts

026 THE ALL IRELAND TRAVELLER BIRTH COHORT STUDY: OVERCOMING RECRUITMENT CHALLENGES TO ESTIMATE BIRTH PARAMETERS

doi:10.1136/jech.2010.120956.26

N A Hamid, S Abdalla, J Turner, B Quirke, R Niccharthaigh, C Kelleher, P Fitzpatrick, for the All Ireland Traveller Health Study Group. *School of Public Health, Physiotherapy and Population Science, University College Dublin, Republic of Ireland*

Objective Irish Travellers are a significant minority group characterised by a nomadic lifestyle, specific culture, and significant socio-economic and health disadvantage. When last documented in 1986, their fertility rate was one of the highest in Europe and infant mortality was almost 3 times the Irish average. The purpose of this study was to investigate prospectively the health status, health utilisation and health care needs of Traveller infants from birth through first year of life.

Setting The Traveller Birth Cohort Study is a linkage sub-study of the All Ireland Traveller Health Study (AITHS) on Island of Ireland (IOI): Republic of Ireland (ROI) and Northern Ireland (NI).

Participants All proband babies born to self-identifying Traveller mothers over a one year period (13th October 2008 to 14th October 2009) on IOI.

Methodology A two-stage recruitment process was undertaken through families themselves during the main census using an innovative audio-visual computer-based survey and subsequently consents for the study were obtained by the public health nurses (PHN) or the main study coordinator. In ROI, identification of participants was aided by birth notification forms, the national metabolic screening registers, PHNs' local knowledge and Traveller health projects, and in NI, by Health Visitor notifications and informal local Traveller networks. The participating mothers carry a specifically designed Parent-held Child Record. Fertility rates calculation used data from between the cohort and the AITHS census.

Results 980 eligible mothers were identified; to date 468 (51.2%) mothers consented in ROI and 34 (50.7%) in NI (in progress). Median maternal age was 25cyears old (mean 25.8, SD 5.6) compared to the 2007 national average of 31.1; with 75% of the cohort group under 30 years old. Peak age-group for Travellers was 20-24 years old, this was 30–34 years old for general population. 980 babies were identified, 14 were twins and 51.5% were male. Since 1986, the Travellers (ROI) crude birth rate has dropped from 34.9 to 25.1; the general- and total period- fertility rates have also dropped from 164.1 to 97.0 and from 5.3 to 2.9 respectively. Both are still significantly above the 2008 ROI national average of 64.6 and 2.1.

30.6% of Traveller births occurred in the 3 major Dublin maternity hospitals compared to the 35% of total national births in 2008.

Conclusions In a difficult-to-reach nomadic minority group this study has overcome significant challenges in recruitment. Data to date indicates a downward trend in birth rate in this group.

027 BIRTH CHARACTERISTICS AND EARLY-LIFE SOCIAL CHARACTERISTICS PREDICT UNEQUAL EDUCATIONAL OUTCOMES: CONSISTENCY ACROSS SWEDISH COHORTS BORN 1915–1929 AND 1973–1980

doi:10.1136/jech.2010.120956.27

[1]A Goodman, [2]M D Gisselmann, [2]I Koupil. [1]*Department of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine;* [2]*Centre for Health Equity Studies, Stockholm University/Karolinska Institutet, Stockholm, Sweden*

Objective To investigate early-life biological and social predictors of educational outcomes, and compare the nature and magnitude of these effects across twentieth century Sweden.

Design Multi-generational data from a representative, population-based birth cohort, with linkage to routinely collected data.

Setting Sweden.

Participants 9829 Swedish male and females born 1915–1929 and 9465 of their grandchildren born 1973-1980, restricting participants to those who remained alive and in Sweden until age 20.

Characteristics measured at birth Sex, birthweight for gestational age, preterm birth, birth multiplicity, birth order, mother's age, mother's marital status and family social class.

Educational outcomes School achievement was measured using standardised schoolmarks in elementary school. Education continuation was measured as a) senior school attendance and b) entrance to higher education.

Results The predictors of both school achievement and education continuation were very similar in the two cohorts, and effect sizes were usually at least as large in the younger cohort. In both cohorts, the independent predictors of better schoolmarks were: female gender (adjusted effect size 0.35 standard deviations (SD) in 1915–1929, 0.41SD in 1979-1980); higher birthweight for gestational age (0.09SD in 1915–1929, 0.23SD in 1979–1980 for highest vs lowest quintile); lower birth order (eg, 0.33SD in 1915–1925, 0.65SD in 1973–1980 for birth order 1 vs 4–5); older mother (eg, 0.12SD in 1915–1929, 0.34SD in 1973–1980 for 35–39 years vs 20–24 years); married mother (0.14SD in 1915–1929, 0.15SD in 1973–1980 for married vs unmarried); and higher family social class (eg, 0.39SD in 1915–1929, 0.66SD in 1973–1980 for high/mediate non-manual vs semi/unskilled manual). There were no independent effects of preterm or twin status. The same characteristics predicted education continuation, except that for this outcome the older cohort now showed a marked male advantage and no birthweight effect. Even after adjusting for school achievement, education continuation was still predicted by lower birth order, older mother, married mother and higher social class.

Conclusions Multiple early-life characteristics predicted educational outcomes across the lifecourse. These included size at birth (foetal growth rate) and family composition effects which typically receive far less attention than socio-economic influences. A range of pathways including impaired cognitive development, are likely to mediate these effects. Most effects were remarkably stable across the half-century separating our cohorts, indicating their potential relevance for understanding educational inequalities in populations around the world. Greater understanding of educational inequalities would, in turn, shed light onto a major mechanism whereby health inequalities are created and recreated across generations.

028 BIRTH SIZE DIFFERENCES BETWEEN WHITE AND PAKISTANI-ORIGIN INFANTS BY GENERATION: RESULTS FROM THE BORN IN BRADFORD COHORT STUDY

doi:10.1136/jech.2010.120956.28

[1]J West, [2]D A Lawlor, [1]L Fairley, [1]J Wright, [3]for the Born in Bradford Research Group. [1]*Bradford Institute for Health Research, Bradford Hospitals NHS Trust, Bradford, UK;* [2]*MRC Centre for Causal Analyses in Translational Epidemiology, University of Bristol, Oakfield House, Oakfield Grove, Bristol, UK;* [3]*www.borninbradford.nhs.uk*

Background Previous studies have shown marked differences in birthweight between babies born in the UK of South Asian origin and those of UK origin. Whether such differences persist across generations in contemporary populations, the mechanisms underlying them and the extent to which other dimensions of birth size vary between these two groups is unclear.

Objective To describe differences in term birthweight, head, arm and abdominal circumference and skinfolds between Pakistani origin and white British origin infants and to investigate whether the magnitude of any differences reduces depending on whether the parents and grandparents of Pakistani infants are born in the UK or Pakistan.

Design Birth cohort study (Born in Bradford (BiB)).

Setting Bradford, UK.

Participants 1838 white British and 2222 Pakistani mothers recruited to BiB who completed a questionnaire at 26 weeks gestation and their babies born between Sept 2007 and Nov 2009.

Main outcome measures Birthweight, head, arm and abdominal circumference and skinfolds.

Results Pakistani babies were lighter (mean difference 227.6g, 95% CI 198.3 to 256.8), had smaller head, arm and abdominal circumferences (mean differences 0.43cm, 95% CI 0.30 to 0.56; 0.22cm, 95% CI 0.10 to 0.34; 1.25cm, 95% CI 1.02 to 1.39 respectively) and smaller subscapular and triceps skinfold thickness (mean differences 0.22 mm, 95% CI 0.12 to 0.32 and 0.21 mm, 95% CI 0.13 to 0.29) than white British infants. Differences remained significant following adjustment for deprivation. Mean birthweight was highest in Pakistani infants when both parents were born in Pakistan (3206 g) and was lowest when both parents were UK-born (3165g).

Conclusions These results reaffirm that significant differences in birth size exist between white British and Pakistani origin infants in the UK. Despite the assumption that differences will reduce over successive generations, mean birthweight has not increased in infants of UK-born Pakistani origin parents compared with infants of Pakistani born parents. This suggests that differences may be genetically determined or are affected by epigenetic or persisting behaviour characteristics. Further analysis will include adjustment for additional socio-economic variables, other maternal and family characteristics and birthplace of maternal and paternal grandparents.

029 DOES A HEAVY BABY BECOME A STRONG CHILD? GRIP STRENGTH AT 4 YEARS IN RELATION TO BIRTHWEIGHT

doi:10.1136/jech.2010.120956.29

R Dodds, C Macdonald-Wallis, T Kapasi, A Aihie-Sayer, S Robinson, K Godfrey, C Cooper, N Harvey, H Inskip, the SWS Study Team. *MRC Epidemiology Resource Centre, Southampton, UK*

Objective Consistent positive relationships have been found between birthweight and grip strength in young, middle-aged and older adults, suggesting that early influences on the growth and development of muscle are important for muscle function later in the lifecourse. However there are limited data in children. We aimed to assess the relationship between birthweight and grip strength in children aged 4 years.