

**Conclusion** The study will quantify the risk of patient safety incidents among ethnic minority patients in hospital care, unravel the causes, and identify policy opportunities to minimise inequities in care.

**P1-367 ADOLESCENT'S ORAL HEALTH: ODONTOLOGICAL NEEDS RAISED BY COMMUNITY HEALTH AGENTS**

doi:10.1136/jech.2011.142976f.59

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**Introduction** Epidemiological data are essential for the development of public policies aiming at health promotion and prevention of risk situations, including those that compromise oral health.

**Objective** To present epidemiological data on adolescents' oral health collected by community health agents (CHA) utilising the Oral Health Community Indicator (ICSB).

**Methodology** Cross-sectional study conducted in Guaiúba-CE from July 2007 to February 2008. After calibration and training by community health agents, using the ICSB, a total of 743 adolescents were examined. The study was approved by the University of Fortaleza Research Ethics Committee (No. 001/2007).

**Results** The adolescents had an average of  $26.14 \pm 3.61$  teeth, 129 (17.4%) did not present caries, 301 (40.5%) had one or two, 223 (30.0%), three or more, 110 (14.8%) presented residual root, 121 (25.7%) tatar, 74 (10.0%) sore gingiva, 15 (2.0%) oral tissues injuries, 49 (6.6%) required prosthesis, 694 (93.4%) used toothbrush, and 281 (51.3%) visited the dentist last year. It was detected an association between the variables: visit to the dentist in the past year ( $p=0.0001$ ) and gender and between age below 12 and having three or more caries ( $p=0.023$ ).

**Conclusion** The CHA was able to collect relevant data to the elaboration of public policies aiming equity. The assessed adolescents did not reach the goal set by the International Dental Federation, which is, on average, one decayed, missing or filled tooth.

**P1-368 PHYSICAL ACTIVITY AND ENVIRONMENT PERCEPTION IN ELDERLY: POPULATION STUDY IN SOUTHERN BRASIL**

doi:10.1136/jech.2011.142976f.60

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**Introduction** The aim of this study was to evaluate the association between perceived environment and leisure-time physical activity level in a population sample of elderly in a southern capital of Brazil.

**Methods** Cross-sectional study included 1656 elderly (60 years and older) living in the urban area of Florianópolis, Santa Catarina, Brazil in 2009–2010. The leisure-time physical activity was measured using the long International Physical Activity Questionnaire. The 150 min time limit of physical activity per week was used to classify individuals who were active during leisure time. Environmental variables were assessed using a modified version of the Neighbourhood Environment Walkability Scale. Poisson' regression analysis was used to examine the association of environment variables with leisure-time physical activity with calculated prevalence ratios and CIs of 95% and p values (Wald test) (STATA 9). The analysis took into consideration the clustering of each sample.

**Results** The prevalence of leisure-time physical activity was 29.7% (95% CI 26.0 to 33.3), 35.6% (95% CI 29.7 to 41.6) among men and 26.3% (95% CI 23.1 to 29.4) in women. The existence of sidewalks, bikeways, pedestrian paths, social support from friends/neighbours

to motivate physical activities and climate were parameters independently associated with leisure time physical activity.

**Conclusion** The results suggest that the construction of a safe and enjoyable public environment inside populated urban areas stimulates physical activity practices and thus should be considered. Social network can develop and encourage leisure-time physical activities in the society nearby which is especially important for elderly population.

**P1-369 THE ASSOCIATION BETWEEN ORAL CONTRACEPTIVE USE AND BONE MASS IN BOTH YOUNG AND OLDER WOMEN**

doi:10.1136/jech.2011.142976f.61

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**Introduction** The association between oral contraceptive use and bone mass remains inconclusive.

**Aim** To describe the associations between current and ever use of OC, bone mass and vertebral deformity in population-based samples of women.

**Methods** Data were collected from women aged 26–36 years ( $n=687$ ) in the Childhood Determinants of Adult Health study and aged 50–80 years ( $n=491$ ) in the Tasmanian Older Adult Cohort study. OC use was assessed by questionnaire. Bone mass and vertebral deformity were measured by either quantitative ultrasound or dual-energy x-ray absorptiometry.

**Analysis** Multivariable linear regression analysis was employed to examine the associations between OC use and bone mass with adjustment for confounders. Logistic regression analysis was used to investigate the associations between OC use and the presence of vertebral deformity.

**Results** In young women, current OC use was associated with higher broadband ultrasound attenuation (BUA,  $\beta=0.21$ ), speed of sound (SOS,  $\beta=0.23$ ) and quantitative ultrasound index (QUI,  $\beta=0.23$ ) (all,  $p<0.05$ ). The associations remained significant after adjustment except for SOS. In older women, ever use of OC was associated with a higher BMD at the total body (6%,  $p<0.001$ ) and spine (4%,  $p=0.05$ ) after adjustment. Longer duration of use was also associated with total body and spine BMD. Consistent reductions in vertebral deformity were observed but these only reached significance for 5 to 10 years use (adjusted OR 0.46, 95% CI 0.22 to 0.94).

**Conclusion** OC use is consistently associated with higher bone mass in both young and older women in these population-based samples.

**P1-370 LESSONS FOR ZOOLOGICAL DISEASE AND VECTOR ERADICATION IN NEW ZEALAND FROM PAST SUCCESSES**

doi:10.1136/jech.2011.142976f.62

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**Introduction** Regional and global disease eradication remains attractive for epidemiologists and policy makers (*Science* 2010;330:1736–9). New Zealand has successfully eradicated endemic brucellosis and hydatids. It recently eradicated the southern saltmarsh mosquito (SSM), *Aedes campitorhynchus*, a vector for Ross River virus. In some areas of the country bovine tuberculosis appears to have been eliminated via various control measures relating to the brushtail possum (*Trichosurus vulpecula*).

**Methods** We searched the literature for documents from the relevant organisations, and communicated with officials involved in the eradication efforts.

**Results** Some of the major lessons we identified for successful eradication efforts in this country were:

- ▶ Having a clear goal of achieving eradication.
- ▶ The disease/vector ecology and the points of intervention.
- ▶ Having effective tools available to achieve eradication
- ▶ Multidisciplinary funding from, and collaboration across, government agencies (agricultural, biosecurity, health) especially for hydatids control and SSM eradication.
- ▶ Having well-planned and well-resourced campaigns that could continue for 10+ years.
- ▶ Having detailed surveillance systems to guide refinements of eradication efforts and to confirm success.

**Conclusions** New Zealand has been able to eradicate some zoonotic diseases and exotic disease vectors with well-designed campaigns. Lessons from such control efforts may be relevant to other countries (especially island nations) to protect human health, animal health and ecosystem health. Such tools, skills and collaborative efforts will be useful in facing the challenges of the future such as disease and vector eradication in the face of climate change.

**P1-371** WHAT'S POLITICS GOT TO DO WITH GLOBAL HEALTHCARE? A MULTILEVEL EXAMINATION OF INDIVIDUAL-PATIENT REPORTS OF HEALTH SYSTEM RESPONSIVENESS IN 45 LOW, MIDDLE AND HIGH INCOME

doi:10.1136/jech.2011.142976f.63

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**Introduction** Patient responsiveness, often measured as patient experiences of healthcare, is a core dimension of health system functioning. Seldom is this investigated globally, with little known about the influence of politics on how different national systems are responsive to their patients. Therefore, we investigate (1) the associations between patient responsiveness and political factors, and (2) the extent to which health system inputs and outputs might further explain associations.

**Methods** World Health Survey data were analysed in 45 countries (n=195 891). Main outcomes included eight responsiveness indicators for both in-and out-patient experiences. Multilevel linear regression was used to assess associations of individual patients' responsiveness with policy metrics (ie, civil liberties, political rights), general development (ie, per capita GDP and female literacy), health system inputs (ie, health spending and human resource capital), and health system outputs, measured by maternal mortality. We also adjusted for individual-level socioeconomic factors.

**Results** Political factors are associated with patient responsiveness. Measured on a 0–5 scale, political rights are more positively related to patient responsiveness than civil liberties. For example, betas and SE show that an increase in political rights indicates a 0.05 (SE 0.04) increase in attention, and a 0.02 (SE 0.05) increase in autonomy and choice, respectively. Associations with political factors are not greatly modified by general development indicators, nor by health system input or output.

**Conclusion** The manner in which a country is organised politically influences patient responsiveness. Strengthening a country's political infrastructure, might improve patient responsiveness, which may enhance health system functioning.

**P1-372** AN AGE-PERIOD-COHORT ANALYSIS OF MORTALITY ASSOCIATED WITH BACTERIAL DISEASES IN HONG KONG

doi:10.1136/jech.2011.142976f.64

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**Introduction** We aim to investigate longitudinal trends in bacterial disease related mortality in HK in order to describe how socio-economic transition affects mortality due to infections and to provide generalised aetiological insights. We use one of the major bacterial disease related death, septicaemia, as an exemplar.

**Methods** We used local data on mortality due to septicaemia and mid-year population figures (1976–2005). We fitted Poisson age-period-cohort models on the age, period and cohort effects. We also looked for any possible difference in age, cohort or period effects by sex assessed from the model fit using the deviance information criterion (DIC).

**Results** Septicaemia-related deaths increased exponentially with age in both sexes, while there was a down turn in the period effects in both sexes (peaked in the 1991–1995 for females, and in the 1986–1990 for males). The birth cohort curves mainly had downward inflections in both sexes, however there was a steeper deceleration in women after 1945s, which was confirmed by the model fit as shown by the DIC.

**Conclusion** Sex difference in birth cohort effects might reflect changes which affect mortality risk due to septicaemia in a given birth cohort throughout their lifetime. The observed changes could be living conditions of the individual at different stages in life, and better immunity against bacteria in women born in HK but not in men. It is compatible with our hypothesis that the gonadotropic axis upregulation with better early living conditions enhance immunity in women but not men.

**P1-373** USING EPIDEMIOLOGICAL DATA TO INFORM SERVICE PLANNING: A LESSON FROM THE SCOTTISH HOME OXYGEN SERVICE

doi:10.1136/jech.2011.142976f.65

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**Introduction** Increasing demand for home oxygen in Scotland has resulted in a shortfall in the budget for this service. In 2009, discussions began to identify financial solutions. There was a lack of understanding about what was driving increasing demand and an assumption that this reflected inappropriate over-provision. A national home oxygen needs assessment was undertaken. This considered the epidemiology of underlying conditions to examine this assumption and contribute to planning.

**Methods** Analysis of routinely available data to examine the epidemiology of four conditions underlying home oxygen use: chronic neonatal lung disease, cystic fibrosis, chronic interstitial lung disease, and chronic obstructive pulmonary disease. Trends in risk factors, disease incidence, prevalence and mortality, and hospital admissions were examined.

**Results** The prevalence of all the conditions studied has increased in Scotland over recent years due to increased incidence, increased survival, more active case finding, and/or demographic changes. Trends towards considerably shorter hospital stays and hence more community based care were noted.

**Conclusions** The need for home oxygen is likely to continue to increase over coming years. It will encompass all age groups and a complex range of conditions. Initial planning assumptions anticipating reducing demand for home oxygen were unsound and adjusted accordingly. Routine data, particularly in linked format, is