

the expense of higher numbers of deaths in both groups than in the actual scenario, and a lesser improvement in absolute inequality. The differences between the two scenarios raised ethical questions.

**Conclusion** When talking about health inequalities, defining desirable reductions in them, assessing trends and judging success and failure, it is important, on social justice and other grounds, to consider both absolute and relative inequality.

### P1-353 CHILDHOOD CIRCUMSTANCES AND MODE OF DELIVERY

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<sup>1,2</sup>C Teixeira,\* <sup>1,2</sup>S Correia, <sup>1,2</sup>H Barros. <sup>1</sup>Department of Hygiene and Epidemiology, University of Porto Medical School, Porto, Portugal; <sup>2</sup>Institute of Public Health, University of Porto, Porto, Portugal

**Objective** To assess the influence of social circumstances at 12 yrs on c-section delivery.

**Methods** Women (n=6827) were consecutively recruited during the assembling of a birth-cohort. Interviews were used to obtain data on social and demographic characteristics and current pregnancy events. Financial childhood circumstances were classified as low (LF) or high (HF) based on the number of amenities reported. Parents' education was defined as low ( $\leq 6$  years, LPE) and high (HPE). The effect of participants' financial socioeconomic conditions on c-section risk was computed using logistic regression stratified by parents' education.

**Results** Women with both high financial and educational childhood circumstances were significantly older, more educated and more frequently primiparous, with normal or underweight and reporting private antenatal care. The overall c-section rate was 35.6% varying from 32.2% (LF-LE) to 41.3% (HF-HE). After adjustment and considering women in LF-LPE as reference, we obtained OR=0.92; 95% CI 0.66 to 1.28 for LF-HPE group, OR=1.19; 95% CI 1.04 to 1.37 for HF-LPE group and OR=1.38; 95% CI 1.16 to 1.64) for HF-HPE group. Stratifying by parents' education and compared with women in LF group, those in HF group showed higher risk of c-section either in the LPE group (OR=1.19; 95% CI 1.04 to 1.37) or in the HPE group (OR=1.42; 95% CI 0.99 to 2.02).

**Conclusions** Our results suggest that, independently of the parents' education and the current socio-demographic conditions, the childhood financial environment may influence the mode of delivery.

### P1-354 WCRF/AICR CONTINUOUS UPDATE PROJECT: KEEPING THE EVIDENCE ON FOOD, NUTRITION, PHYSICAL ACTIVITY, AND CANCER UP TO DATE

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<sup>1</sup>R Thompson,\* <sup>2</sup>S Higginbotham, <sup>1</sup>M Wiseman, <sup>2</sup>D McGinley-Gieser, <sup>1</sup>K Allen. <sup>1</sup>World Cancer Research Fund International, London, UK; <sup>2</sup>American Institute for Cancer Research, Washington DC, USA

**Introduction** Understanding the causes of cancer depends on synthesising epidemiological, clinical and mechanistic evidence. Using this approach, the 2007 WCRF/AICR Expert Report defined the likely causal contributions of factors related to food, nutrition and physical activity to cancer risk, based on systematic literature reviews (SLRs) of evidence published up to 2005. For the Continuous Update Project (CUP) a team at Imperial College London (ICL) updates the previous databases as new studies are published.

**Methods** The CUP follows a similar process to the 2007 Expert Report. Having first combined the separate databases for the 17 cancers reviewed for the 2007 Expert Report into one database, the

ICL team conducts SLRs of links between food, nutrition physical activity and specific cancer sites, and displays and analyses the evidence according to peer-reviewed protocols. An independent expert panel draws conclusions based on the updated evidence. The database is currently being updated with papers published since 2005 through a rolling programme. A complete, continuously updated database is expected by 2015.

**Results** An updated SLR for breast cancer was consistent with the conclusions of the 2007 Expert Report. Further reports of updated SLRs will be published on other cancers. Once the SLRs for all the cancer sites have been updated, the database will be made publicly available, and the 2007 Expert Report recommendations reviewed.

**Conclusion** The CUP will provide a unique resource synthesising epidemiological and other evidence on food, nutrition, physical activity and cancer, to facilitate related research, and underpin advice to public and policy-makers.

### P1-355 LONG-TERM PM<sub>2.5</sub> AIR POLLUTION EXPOSURE AND MORTALITY AMONG CALIFORNIA RESIDENTS IN THE NIH-AARP COHORT

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<sup>1</sup>G D Thurston,\* <sup>1</sup>R Lall, <sup>1</sup>Y Shao, <sup>1</sup>Jiy Ahn, <sup>2</sup>Y Park, <sup>1</sup>R B Hayes. <sup>1</sup>New York University, School of Medicine, New York, USA; <sup>2</sup>National Cancer Institute, NIH, Bethesda, Maryland, USA

**Introduction** Epidemiological studies indicate that exposure to fine particulate matter air pollution mass (PM<sub>2.5</sub>) is associated with an increased risk of premature mortality. Pope *et al* (2002, 2004) reported elevated mortality risks of long-term PM<sub>2.5</sub> exposure in the USA nationwide American Cancer Society (ACS) CP-II cohort, finding a total mortality risk of RR=1.04 per 10 ug/m<sup>3</sup> (95% CI 1.01 to 1.08), and a cardiovascular mortality RR=1.12 per 10 ug/m<sup>3</sup> (95% CI 1.08 to 1.15). We seek to evaluate the PM<sub>2.5</sub> association with these outcomes in another large US cohort.

**Methods** The NIH-AARP cohort is an ongoing prospective mortality study of more than a half million people from locations throughout the USA (Adams *et al*, 2006). Using available EPA data to interpolate exposures on a census tract level, we evaluated associations between PM<sub>2.5</sub> in California, the state with the largest number of cohort participants. The statistical approaches applied were similar to those used in the previously published ACS cohort research: standard Cox Proportional Hazards (CPH) modelling, including individual level covariates.

**Results** The CPH estimated long-term PM<sub>2.5</sub> risk in this NIH-AARP cohort in California was RR=1.09 per 10 ug/m<sup>3</sup> (95% CI 1.05 to 1.12) for total mortality. The risk found for cardiovascular mortality was RR=1.18 per 10 ug/m<sup>3</sup> (95% CI 1.11 to 1.24). These confirm excesses at least as great as observed in the ACS cohort.

**Conclusion** Analysis of mortality among California residents of the NIH-AARP cohort confirms excess total and cardiovascular risks from long-term exposure to PM<sub>2.5</sub>.

### P1-356 RELATIONSHIP BETWEEN PROPORTION OF BUDGET EXPENDITURE FOR HEALTH SERVICES FOR DISABILITY PREVENTION AND THAT FOR LONG-TERM CARE INSURANCE IN JAPAN

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Y Tomata,\* M Kakizaki, I Tsuji. Division of Epidemiology, Department of Public Health and Forensic Medicine, Tohoku University Graduate School of Medicine, Sendai, Japan

**Introduction** The government of Japan encourages municipalities to promote Health Services for Disability Prevention (HSDP) to

contain the increasing trend of Long-term Care Insurance (LTCI) expenditure for the care of aged people with disability. Although the proportion of the budget expenditure for HSDP varies among municipalities, it has been unclear whether these differences are related to the containment of LTCI expenditure. The objective of this study was to examine whether there is some relationship between the proportions of budget expenditure for HSDP and LTCI in all of the municipalities in Japan.

**Methods** 1640 municipalities were categorised into five groups according to the mean budget expenditure for HSDP per resident aged  $\geq 65$  years in 2006–2008 ( $<£5$ ,  $£5-£7$ ,  $£7-£9$ ,  $£9-£11$ ,  $\geq£11$ ). The rate of increase (%) in LTCI expenditure from 2006 to 2008 was calculated in each category. One-way analysis of variance was used.

**Results** The rate of increase in LTCI expenditure differed significantly between expenditure categories for HSDP (120.7 %, 120.4 %, 119.0 %, 118.5 %, 117.0 % from the lowest group [ $<£5$ ] to the highest group [ $\geq£11$ ] respectively;  $p < 0.001$ ). These differences were mainly attributable to significant inverse correlation between budget expenditure for HSDP and the rate of increase in fraction of those who use formal care under LTCI.

**Conclusion** Municipalities with higher budget expenditure for HSDP have a lower rate of increase in LTCI expenditure, suggesting that HSDP would be a cost-effective service.

#### P1-357 STATISTICAL ANALYSIS OF SPATIAL SURVIVAL DATA AND ITS APPLICATION TO THE COHORT STUDY OF HIROSHIMA ATOMIC BOMB SURVIVORS

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T Tonda,\* K Satoh, K Otani, Y Sato, H Maruyama, H Kawakami, S Tashiro, M Hoshi, M Ohtaki. *Research Institute for Radiation Biology and Medicine, Hiroshima University, Hiroshima, Japan*

**Introduction** While there are considerable studies on the relationship between the risk of disease or death and direct exposure from the atomic bomb, the risk for indirect exposure caused by residual radioactivity has been ignored. One of the reasons is that risk assessments have utilised estimated radiation dose but it is difficult to estimate indirect exposure. To evaluate risks for indirect radiation exposure as well as direct exposure, we developed a statistical method that evaluates risk with respect to individual location at the time of atomic bomb exposure instead of radiation dose.

**Methods** Subjects for analysis were selected from the ABS database of the RIRBM at Hiroshima University. The number of death from all causes was 9641 and the number of censoring was 21 414. The follow-up period was from 1980 to 1997. Mesh coordinates of 100 m in width were used to define location. Sex and age at atomic bomb exposure were used as covariates. Applying the proposed method to the data, we estimated the location-specific risks for direct and indirect exposure.

**Result and conclusion** The contour of estimated risk showed that the north-west region has higher risk compared to other areas. The resultant risk map, excluding the risk for direct exposure, still has contours skewed towards the north-west direction. These suggest that there exists an impact on risk that cannot be explained by direct exposure. The shape of the risk map, which is skewed towards the north-west direction, might be due in part to Black Rain.

#### P1-358 RECORD BASED DATA EVALUATION OF 108 -EMERGENCY RESPONSE SERVICES- A HELP TO KNOW THE PATTERN OF EMERGENCIES IN MADHYA PRADESH

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N Toppo,\* P Kasar, A Bhadoriya. *NSCB Medical College, Jabalpur, Madhya Pradesh, India*

**Introduction** GVK EMRI (GVK Emergency Management and Research Institute) is World's Largest Integrated Emergency Response Services (ERS) Provider. It is not-for-profit professional organization operating in the Public Private Partnership (PPP) mode. This is a free service delivered through state-of-art emergency call response centers and has over 2000 ambulances providing necessary professional pre-hospital care while transporting the victim to the nearest hospital. In our state it was launched on 16 July 2009.

##### Objectives

1. To determine the type of emergencies reported by 108-ERS.
2. To determine the proportion of emergencies brought to medical college hospital by 108-ERS.
3. To determine the impact of 108-ERS on emergency medical services.

**Methods** Type of study- Record based data evaluation.

Study area: Four Districts of M.P.

Research period- 1 August 2010 to 31 August 2010.

Tools and techniques: Review of secondary data from 108-ERS, Jabalpur and MRD of NSCB Medical College, Jabalpur.

**Results** 74 557 individuals get benefitted in M.P. till 31 July 2010 from the launch. Out of which 25 000 (33.53%) were pregnancy related emergencies, followed by 16 986 (22.78%) of road traffic accidents and 6 494 (8.7%) were of acute abdomen. About one tenth of total emergency cases seen in emergency department of NSCB Medical College, Jabalpur were brought by 108-ERS. Above 6000 lives saved by this 108- Emergency response service in Madhya Pradesh.

**Conclusion** Record based data are a great help to formulate policies and strategies to improve the health services in any state or country.

#### P1-359 PUBLIC OPINION OF CHILDCARE PROVIDERS IN ALBERTA, CANADA

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<sup>1,2</sup>S Tough,\* <sup>3</sup>S Rikhy, <sup>4</sup>K Benzie, <sup>3,5</sup>M Vekved, <sup>3</sup>H Kehler, <sup>4,6</sup>D Johnston. <sup>1</sup>Alberta Centre for Child, Family and Community Research, Calgary, Alberta, Canada; <sup>2</sup>Departments of Paediatrics & Community Health Sciences, University of Calgary, Calgary, Alberta, Canada; <sup>3</sup>Public Health Innovation and Decision Support, Alberta Health Services, Calgary, Alberta, Canada; <sup>4</sup>Faculty of Nursing, University of Calgary, Calgary, Alberta, Canada; <sup>5</sup>Department of Paediatrics, University of Calgary, Calgary, Alberta, Canada; <sup>6</sup>Behavioural Research Unit, Alberta Children's Hospital, Calgary, Alberta, Canada

**Objective** To assess public opinion about, and interactions with, childcare providers and programs.

**Methods** Between September 2007 and March 2008, 1443 randomly selected adults living in Alberta, Canada, completed a telephone survey. Individuals were eligible to participate if they had interactions with a child  $< 14$  years of age in the past 6 months.

**Results** Of the respondents, 52% believed the government should cover between 40 and 60% of daycare costs, with 24% indicating more coverage and 23% indicating less coverage. Three-quarters (72%) indicated that childcare providers at daycare centres should have at least a college diploma. About 80 to 90% indicated that childcare providers were as central to children's development as elementary school teachers, with females and parents more likely to