



6<sup>th</sup> International Conference on

# EPIDEMIOLOGY & PUBLIC HEALTH

October 23-25, 2017 | Paris, France

## Posters

Epidemiology 2017

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## GAP IN HEALTH AMONG A LONG-LIVED POPULATION

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**Statement of the Problem:** In Sweden, the government has a platform on overall national goals for public health; to create social conditions for good health on equal terms for the entire population. The province of Halland has the highest life expectancy in Sweden. The recent health surveys in Sweden point to a noticeable better health in the county of Halland compared to Sweden as a whole. From a public health point of view, it is of interest to probe the distribution of the self-rated health among socio-demographic groups to explore if inequality in health exists even in this healthy population.

**Purpose:** The purpose of the study was to analyze the distribution of obesity and psychosocial health in the largest municipality in Halland compared with the average for the province as a whole.

**Methodology & Theoretical Orientation:** A simple random sample of 8,429 individuals was selected from a national survey that covered all individuals in the 18–84-year age group. A postal survey was thereafter conducted (The Statistics Sweden and The Public Health Agency in Sweden). General health Questionnaire (GHQ12) and Body Mass Index (BMI) were taken in the analyses. The statistically significant socio-geographical differences in health were presented as maps using GIS-software (ArcMap 10.2). Analysis of the data was related to local key codes where densely populated areas with a higher response rate were assessed as the most statistically relevant to processing.

**Finding:** There were clearly significant differences in health between socio-demographically vulnerable areas and the well-off parts of the municipality. The results were adjusted for age and sex.

**Conclusion and Significance:** The socio-demographic disparities in health seem to exist even in a long-lived population. A better overall health situation is not likely to affect the state considerably. Recommendations for a more effective public health platform have been passed on to the politicians.

### Biography

Amir Baigi has 28 years experiences in health surveys, evaluation and expertise in improving the health and wellbeing.

Anders Holmen has 30 years experiences in health and hospital care as well as supervising clinical trials by bio-statistical methods. Their scientific network extends from Gothenburg University in west to Lund University in south of Sweden.

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## BELIEFS ABOUT THE SHOOTER'S MOTIVES AND COLLECTIVE TRAUMA AMONG LGBTQ PEOPLE FOLLOWING THE 2016 PULSE NIGHTCLUB SHOOTING

**Christopher B Stults\***

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**Statement of the Problem:** The June 2016 mass shooting at Pulse Nightclub in Orlando, Florida was the deadliest terrorist attack in the United States since 9/11 and was an event that shocked LGBTQ people and their allies across the globe. Acts of mass violence that target marginalized groups may have consequences that extend beyond the geographic region immediately affected. Indeed, LGBTQ people may have experienced collective trauma, the psychological effects shared by a group or community after witnessing or experiencing a large-scale traumatic event (e.g. mass shootings). Furthermore, how LGBTQ people interpreted the shooting and the shooter's motives in particular, may relate to dimensions of collective trauma experienced in the aftermath of the shooting.

**Purpose:** The purpose of this study is to examine how beliefs about the shooter's motives are related to differences in dimensions of collective trauma.

**Methodology:** Using survey data collected from (n=1,395) LGBTQ-identified respondents from June 15 to September 20, 2016, three distinct multivariate regression models were constructed to predict dimensions of collective trauma (emotional distress, cognitive burden, and fear for safety) from beliefs about the shooter's motives, controlling for relevant sociodemographic and event-specific variables.

**Findings:** Beliefs that the shooter was motivated by anti-LGBTQ bias and racism, were associated with increased emotional distress and fear for safety whereas, beliefs that the shooter was motivated by mental illness and religious extremism were associated with decreased emotional distress and fear for safety.

**Conclusion & Significance:** LGBTQ people varied in their experiences of collective trauma in the aftermath of the 2016 Pulse massacre, based on their beliefs about the shooter's motives. As such, when working with victims of collective trauma (e.g. 2016 Pulse massacre, 2017 Manchester bombing), it is important for healthcare providers to examine patients' beliefs about the event, in order to assist in their post-traumatic adjustment.

### Biography

Christopher B Stults is a Doctoral Candidate in the Counselling Psychology program at New York University (NYU) under the mentorship of Dr. Perry Halkitis and a Licensed Mental Health Counsellor in independent practice in New York City. His research and clinical interests focus on the mental and physical health of LGBTQ people. More specifically, he has co-authored several publications examining Intimate Partner Violence (IPV) among young gay and bisexual men. He has recently completed a study exploring Consensual Non-Monogamous (CNM) relationships (e.g., open relationships) among gay and bisexual men. He has presented his work at multiple national conferences and has served in various leadership positions at NYU and the American Psychological Association (APA). His clinical training experiences include: Montefiore Medical Center, Harlem Hospital Center, Barnard College Counselling Center, Baruch College Counselling Center, The Maes Group, and Florida International University Counselling Center. Additionally, he is an Adjunct Instructor at NYU.

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## AN ASSOCIATION OF METABOLIC SYNDROME RISK FACTORS, HS-CRP, VARIATION OF BLOOD CIRCULATION INDEX IN PROLONGED FATIGUE

**Bok Nam Seo\*** and **Dasom Yu\***

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**Background:** Complications of the Metabolic Syndrome (MetS) consist of several factors that increase the risk of cardiovascular disease and diabetes. Functional changes in the vascular system are important factors in predicting cardiovascular disease. The hs-CRP (high-sensitive C-reaction protein) index is used as a cardiovascular risk prediction. MetS has been reported to be closely related to vascular damage. In this study, we investigated the association between MetS risk factors and blood circulation index in prolonged fatigue.

**Method/Design:** Total of 197 participants with prolonged fatigue were participated in this study, each individual was examined for physical measurements and blood tests. We identified metabolic syndrome by using the International Diabetes Federation (IDF, 2005). Eleven participants were deemed to have metabolic syndrome when 3 or more of the following criteria were satisfied. The groups were classified into 3 groups (non-MetS group, pre-MetS group, MetS group) according to the number of MetS of risk factors. This study was followed up at 6-month intervals.

**Result:** Relationship between hs-CRP and the risk factors of the metabolic syndrome were significantly positively correlated with waist circumference and glucose by adjusting sex and age ( $p < 0.05$ ). Repeated measures ANOVA does provide results that ECO, ECRI, CMBP, BP and PP in pulse wave showed significant in the comparison of the groups among MetS ( $p < 0.05$ ).

**Conclusion:** It has shown these findings suggest that blood circulation index, such as hs CRP, ECO, ECRI, CMBP, BP and PP could be a useful method for predicting MetS. MetS patients had a significantly increased risk of diabetes during follow-up. It is expected that the measurement of the pulse wave will become an important part of clinical application.

### Biography

Bok Nam Seo has her expertise in improvement of healthcare and research. She has built up the model after gaining experience in the planning and implementation of years of research, evaluation, training and clinical trials in Korean Oriental Medicine Institute which promotes evidence-based TM including its interactions with other medicines applied for complementary and alternative medicine.

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## ANALYSIS OF THE AFFECTIVITY, IN GROUPS OF MUTUAL ASSISTANCE FOR DIABETES, HYPERTENSION AND OBESITY IN HEALTH CARE CENTRES FROM THE COMMUNITIES OF JALISCO AND LOMA LINDA FROM ISESALUD ENSENADA, B.C

David Sergio Salas Vargas<sup>a</sup>, Norma Cristina Castanos<sup>a</sup>, Adriana Carolina Vargas Ojeda<sup>a</sup> and Alfonso Magana Mendez<sup>a</sup><sup>a</sup>Autonomous University of Baja California, Mexico

**Objective:** To assess the effectiveness of the Group of Mutual Support (GMS), two centers of health ISESALUD of Ensenada (Jalisco and Loma Linda) on the medical supervision of patients diagnosed with diabetes, hypertension and obesity, by the determination of the mean and the variance of haemoglobin glycosylated, BMI, capillary glycaemia in fasting measurement of waist, and systolic and diastolic.

**Material and Methods:** Observational, longitudinal, analytical, cohort retrospective study. The sample is not probabilistic, carried out in the period January - December 2011. Information from clinical records and record of mutual support group format was sought. With a total of 89 patients with diabetes, hypertension and obesity, of which and 27 are integrated into the GAM and 62 only attend the clinical consultation. It was determined the average and variance and analysed differences in haemoglobin, glycosylated, index, capillary fasting glycaemia of BMI (Body Mass Index), the circumference of waist.

### Biography

David Salas-Vargas has completed his Ph.D. at the age of 35 years at the Autonomous University of Baja California (UABC), Mexico. He was the Dean of the School of Health Sciences for almost eight years. He is currently the Coordinator of Postgraduate and Research Studies at the School of Health Sciences at UABC and lecture Epidemiology to undergraduate and postgraduate students.

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## PREVALENCE AND PREDICTORS OF SUSTAINED SMOKING AFTER CANCER DIAGNOSIS IN KOREAN MEN

**Hye Yeon Koo<sup>a</sup>**<sup>a</sup>Seoul National University Bundang Hospital, South Korea

**Background:** Recent studies have suggested that smokers with new cancer diagnosis are more likely to quit smoking compared with those without cancer. However, up to 70% of cancer survivors continue to smoke. Smoking has a significant impact on mortality and morbidity of cancer patients.

**Aim:** This study aimed to describe prevalence and predictors of sustained smoking after cancer diagnosis among smokers.

**Patients & Methods:** 15,201 men who were first diagnosed with cancer between January 1, 2004 and December 31, 2011 were included in the study. Data were obtained from The Korean National Health Insurance database. Changes in smoking status after diagnosis were investigated for patients with smoking related cancers and those with non-smoking related cancers. The association between sustained smoking and demographic, socioeconomic, and clinical variables were examined.

**Results:** Of the 4,680 smokers newly diagnosed with cancer, 2,265 (48%) quit smoking and 279 (6%) reduced the amount of smoking. Sustained smoking rate was higher among patients with non-smoking related cancer (54%) than among patients with smoking related cancer (41%). In univariate analyses, age at cancer diagnosis, pre-diagnosis smoking amount, socioeconomic status, cancer type, and fasting serum glucose level were associated with sustained smoking (all p-values<0.05). Multivariate logistic regression analysis showed that patients who were younger (OR =1.36, 95% CI: 1.20-1.54, p <0.001); smoking >20 cigarettes per day (OR =1.23, 95% CI: 1.08-1.40, p=0.001); in low socioeconomic status (OR =1.29, 95% CI: 1.14-1.45, p<0.001); diagnosed with non-smoking related cancer (OR =1.67, 95% CI: 1.42-1.95, p<0.001); and had high blood glucose level (OR =1.25, 95% CI: 1.05-1.48, p=0.012) were more likely to continue smoking after cancer diagnosis.

**Conclusion:** Almost half of male smokers continue to smoke after diagnosis of cancer. Patient age, amount of smoking, socioeconomic status, and type of cancer might need to be considered when implementing the intervention for smoking cessation.

### Biography

Hye Yeon Koo has her expertise in chronic disease care and health promotion of cancer survivors. She has been taking responsibility for long-term cancer survivorship care at the cancer center in Seoul National University Bundang Hospital. Her recent research in long-term survivors of breast cancer shows her passion in behavioural intervention for cancer patients.

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## ASSOCIATION BETWEEN COGNITIVE IMPAIRMENT AND POOR ANTIHYPERTENSIVE MEDICATION ADHERENCE IN ELDERLY HYPERTENSIVE PATIENTS

**Mi Hee Cho<sup>a</sup>, Jae Moon Yun<sup>a</sup>, Ji Eun Lee<sup>a</sup>, Dong Wook Shin<sup>b</sup> and Sang Hyuk Kim<sup>c</sup>**<sup>a</sup>Seoul National University Hospital, Republic of Korea<sup>b</sup>Samsung Medical Center, Republic of Korea<sup>c</sup>Seoul National University Bundang Hospital, Republic of Korea

Adherence to antihypertensive medication is critical factor to control blood pressure and prevent complications in the patients with hypertension. Medication management requires cognitive ability such as attention and working memory and cognitive impairment can negatively affect medication adherence. In this study, we investigated the association of cognitive function and antihypertensive medication adherence among the elderly hypertensive patients in Korea. This retrospective cohort study was conducted by using the Korean National Health Insurance Service-National Sample Cohort Data of the Elderly. Study population included the elderly who took the National Life-Transition Health Examination in 2007 and 2008. Cognitive function was screened by Pre-screening Korean Dementia Screening Questionnaire (KDSQ-P). A cut off score of 4 or more are subjective to further dementia screening test. Medication adherence of antihypertensive medications was calculated based on prescription data and the cut-off values for appropriate adherence was 80%. Multivariate logistic regression analysis was conducted to analyse association between cognitive function and medication compliance, adjusting for sex, income level, residential area, comorbidities, and level of depression. A total of 20,303 elderly patients with hypertension were included in the study. The prevalence of poor medication adherence of antihypertensive medications among the elderly patients was 16.5%. Lower cognitive function was associated with poor medication adherence (Adjusted odds ratio 0.980, 95% CI 0.961-0.999 per score). Patients with cognitive impairment are a vulnerable group to poor medication adherence. Clinicians involved in the geriatric care should evaluate the cognitive function of the elderly thoroughly and make more efforts to educate patients with cognitive impairment and their caregivers about the significant risk associated with inappropriate adherence. Further studies investigating the reasons for non-adherence are needed in order to establish effective interventions for improving medication adherence.

### Biography

Mi Hee Cho graduated from School of Material Science & Engineering, Purdue University, USA with PhD degree. Later, she started studying at School of Medicine, Pusan National University, Republic of Korea and graduated as Medical Doctor. After graduation from the medical school, she completed her residency with the specialty of Family Medicine and presently has been working as a Fellow at Department of Family Medicine, Seoul National University Hospital, Seoul, Korea.

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## RAPID AND ACTIVE SURVEILLANCE FOR THE CHARACTERIZATION OF MEASLES VIRUS (MV) STRAINS CIRCULATING IN MILAN, NORTHERN ITALY, MARCH-SEPTEMBER 2017

Elisabetta Tanzi<sup>a</sup>, Silvia Bianchi<sup>a</sup>, Elena R. Frati<sup>a</sup>, Giulia Ciceri<sup>a</sup>, Daniela Colzani<sup>a</sup>, Mirella Pontello<sup>a</sup> and Antonella Amendola<sup>a</sup><sup>a</sup>University of Milan, Italy

**Statement of the Problem:** A large measles outbreak has been on-going in Milan and surrounding areas. Rapid and active surveillance was set up by the Subnational Reference Laboratories (SRL) Milan, established as part of the measles and rubella surveillance network MoRoNet in March 2017. The task of the SRL is the confirmation of measles cases (MV) and genotypic characterization of the circulating MV strains. This study reports the virological surveillance data of the MV outbreak from March to September 2017.

**Methodology:** Serum, urine and oropharyngeal swabs collected during the acute phase of the disease (4-10 days after the onset of rash) were analyzed for serological (MV IgM on serum) and molecular (RT-PCR on RNA from urine and oropharyngeal swabs) confirmation of MV cases. The genotype of MV strains was identified by sequencing the highly variable region of nucleoprotein (N) gene (N-450).

**Findings:** From March to September 2017, 386 suspected cases of measles were investigated and there were 327 (84.7%) laboratory-confirmed cases (median age: 30 years; range: 2 months–77 years). Overall, 60% of the confirmed cases were individuals aged 15–39 years and 6% were ≤ 1 year of age; 88% were not vaccinated. The genotype of MV strains was identified in 294/327 (89.9%) confirmed cases. The most common genotype was D8 (Osaka lineage; 85%, 250/294 cases), while genotype B3 (Dublin variant) was identified in 44/294 (15%) cases.

**Conclusion & Significance:** Eliminating measles and rubella is a core goal of WHO European Region Member States. Since the beginning of 2017 and up to 19 September, the Italian Ministry of Health has reported 4,532 cases of measles and three deaths. Timely measles surveillance is critical to disease control. Moreover, a high-quality and sensitive virological surveillance is a tool for monitoring the outbreak and achieving the elimination of the disease.

### Biography

Elisabetta Tanzi is a professor of Hygiene at the University of Milan, Italy. She has a consolidated research activity focused mainly on the study of the biological, epidemiological and preventive aspects of infectious diseases relevant to Public Health. She is the coordinator of the Research Center "EpiSoMI, Molecular Epidemiology and Surveillance of Infections" of the University of Milan. She has published over 200 papers, more than 110 of which in national and international indexed journals, and is a member of editorial board in scientific journals.

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## OPTIMAL HAEMOGLOBIN A1C CUTOFF VALUE FOR DIABETES MELLITUS AND PRE-DIABETES IN PUDONG NEW AREA, SHANGHAI, CHINA

**Xianfeng Zhou\***

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**Introduction:** The latest China Guideline for Type 2 diabetes mellitus (T2DM) in 2013 didn't recommend HbA1c for diagnosis of diabetes and pre-diabetes. It requires considerable research to evaluate HbA1c diagnostic threshold for diagnosis of hyperglycaemia.

**Materials & Methods:** We included 7909 subjects aged  $\geq 15$  without known diabetes from the baseline of Pudong community cohort in 2013. Participants took oral glucose tolerance test (OGTT) and HbA1c assay. Receiver operating characteristic curve determined the HbA1c threshold in the diagnosis of hyperglycaemia.

**Results:** The optimal HbA1C threshold for diagnosing newly diagnosed diabetes (NDD) and pre-diabetes in this population was 6.0% (AUC=0.798, 95%CI: 0.779-0.818,  $P < 0.001$ ) and 5.6% (AUC=0.655, 95%CI: 0.638-0.671,  $P = 0.008$ ). The sensitivity (pre-diabetes: 51.78%, NDD: 63.60%) and specificity (pre-diabetes: 72.63%, NDD: 84.86%) of pre-diabetes was lower than NDD. The AUC of HbA1c for diagnosing NDD and pre-diabetes in subjects  $< 60$  years was larger than older ( $\geq 60$  years) subjects (NDD:  $P = 0.002$ , pre-diabetes:  $P = 0.02$ ). There were 13.81% and 14.34% of participants would be newly detected as NDD and pre-diabetes via HbA1c criteria; meanwhile almost 3.20% and 15.52% diagnosed as NDD and pre-diabetes by OGTT criteria would be missed diagnosis.

**Conclusions:** The optimal HbA1c thresholds for NDD and pre-diabetes were lower than ADA criteria. HbA1c and OGTT are discordant for diagnosis of hyperglycaemia. It is necessary to carefully consider whether choose HbA1c as a diagnostic criterion or combine two diagnostic standards. Age-specific diagnostic thresholds should be considered when HbA1c was recommended as diagnostic standard.

### Biography

Xianfeng Zhou has her expertise in disease surveillance and passion in chronic disease prevention and control. She and her project team built a cohort based on the community and contained ten thousand people in Pudong New Area. Since 2013, she and her project team carried out a follow-up survey every three year to observe the incidence and prevalence of chronic diseases such as hypertension, diabetes, chronic obstructive pulmonary disease and the dynamic change trend of risk factors related to chronic diseases. At the same time, they built Biobank. She is focused on the study of internal and external environmental exposure factors of chronic disease, further provide data support for chronic disease prevention and control in Pudong New Area.

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## RELATIONSHIP BETWEEN FAMILY HISTORY OF HYPERTENSION AND CARDIOMETABOLIC RISK FACTORS IN ADOLESCENTS

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This study aimed to investigate the relationship between parental hypertension and cardiometabolic risk factors in adolescents. We analysed data of 554 adolescents aged 13–19 years from Korean National Health and Nutrition Examination Survey 2013. The associations between parental hypertension and cardiometabolic abnormalities in adolescents were evaluated through multivariate logistic regression. Parental hypertension was noted in 16.2% of subjects. The adjusted odds ratios (ORs) and 95% confidence intervals (CIs) for overweight (OR 2.08, 95% CI 1.01–4.28) and obesity (OR 2.11, 95% CI 1.09–4.07) were significantly higher in subjects with parental hypertension. The adjusted ORs for abdominal obesity (OR 2.36, 95% CI 1.01–5.56), high blood pressure (OR 3.05, 95% CI 1.19–7.78), and elevated alanine transaminase defined as >35 IU/L (OR 2.86, 95% CI 1.03–7.95) were significantly higher in subjects with parental hypertension. Prevention of cardiometabolic risk factors should be reinforced in offspring of hypertensive parents.

### Biography

Jung Eun Yoo has her expertise in evaluation and passion in improving the health and wellbeing. She always tries to provide a personalized healthcare for each patient, including prevention and early diagnosis of diseases resulting from one's lifestyle problems, degenerative illnesses, and cancers. In addition, she offers professional help for patients and their family's well-being, including matters related to nutrition, exercise, smoking and drinking, stress, and aging.

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## HEALTH IMPACT ASSESSMENT BY INCOME LEVEL DUE TO HEATWAVE

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Health impact of high temperature has been reported since the early 20th century. In South Korea, it is reported that mortality increases with temperature above city-specific thresholds during the hot season in Seoul. However, the health impact of high temperature according to vulnerability on morbidity has been inconclusive in South Korea. The goal of this analysis was to examine health impact of high temperature, according to vulnerability on morbidity in summer (May-September) Seoul, South Korea, from 2003 to 2013. To examine the distributed lag effects, we fitted a constrained distributed lag model that included lagged exposure variables as covariates, applying a function of days of lag according to B-spline bases. In our study, morbidity data are episode data based on patients, with applying the episode of care in National Health Insurance Service – National Sample Cohort (2002~2013). We examined heat stroke in two age categories: all ages and those over age 65, low level of income, high region of deprivation. The summer temperature thresholds were 26.1°C in Seoul. A 1°C increase in temperatures above morbidity-specific thresholds was associated with increase in heat stroke episode counts for all ages, and for those over age 65 of 35.86% and 50.05%, 44.56% and 52.42% for low level of income, 42.28% and 62.62% for high region of deprivation. Associations were stronger for low level of income and high region of deprivation in heat stroke, to a lesser extent, total group. Our study found that high temperature was associated increased risk of heat stroke, according to vulnerability in Seoul. Consequentially, evidence of this study has the potential to inform public health efforts, such as heat warning systems for differential high temperature according to vulnerability.

### Biography

Haeyong Pak has his expertise in health evaluation and air pollution in Public Health and Environmental. He was a Practitioner of Health Impact Assessment for four years at KEI (Korea Environmental Institute). He is currently studying health insurance policies at the National Health Insurance Service Ilsan Hospital. His recent areas of interest include artificial intelligence and climate change modeling clinical trials.

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## THE RELATIONSHIP BETWEEN RETIREMENT PLANNING AND QUALITY OF LIFE AMONG THE MIDDLE-AGED AND OLDER RETIREES IN TAIWAN

**Wan Chen Hsu\*** and **Susan C Hu\***

\*National Cheng Kung University, Taiwan

**Introduction:** Retirement leads to many impacts on the middle-aged and older adults, such as role change, social relationship, a lot of free time and financial planning. Previous studies showed that well-retirement planning would lower the anxiety and improve quality of life. However, fewer studies explore the association between retirement planning and quality of life in Asia countries. Hence, this research aimed to examine the relationship between retirement planning and quality of life for the middle and older adults in Taiwan.

**Methods:** This study analysed 3141 samples aged 50-74 years old from “Retirement planning on life adaptation and health status of post retirement” database in Taiwan. These participants received pension from Public Insurance or Labor Insurance. Pre-retirement planning was grouped into 4 types: (1) no planning, (2) plan 1-2 items, (3) plan 3-5 items, (4) plan 6 and above items. Quality of life was measured by SF-12 and summarize to PCS (Physical Component Summary,) and MCS (Mental Component Summary). Descriptive statistics, Chi-Square, T-test and multiple regressions were used in this study.

**Result:** Results showed that 68% retiree had no retirement planning, 11.1% retiree planned 1-2 items, 11.1% retiree planned 3-5 items, and 9.8% retiree planned 6 and above items. In MCS score, prepare 3-5 items retirement planning and 6 and above items were significantly higher than no planning ( $\beta=1.07$  and  $1.51$ , respectively). However, pre-retirement planning showed no relationship in PCS score.

**Discussion:** According to the result, pre-retirement planning of retirees presented better mental health and displayed a dose-response relationship between items of pre-retirement planning and mental health scores. It is suggested that workplace should offer more kinds of pre-retirement planning but not only financial planning to improve life adaptation of retirement life.

### Biography

Wan Chen Hsu is a full-time Research Assistant in the Department of Public Health, National Cheng Kung University. Before studying at the graduate school, she is interested in studying the health issues of older population which made her chose this topic about mobility of caregivers as her research.

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## PROMOTING EVIDENCE-BASED HEALTH AND WELFARE POLICIES FOR PEOPLE WITH DISABILITIES: A PROPOSED “DEFINITION OF HEALTH” FOR A CARE-FOCUSED MATURE SOCIETY

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**Background** and aim: Disease structure has been changing in many countries, and the global burden is shifting to non-infectious diseases. Due to the growing ratio of the aged population in Japan, medical and social security systems need to be transformed from “cure” to “support”. The definition of “health” in care-focused mature societies is discussed based on Japan’s current health policies.

**Methods:** Evidence-based public health policies were compared between cancer and trauma (injuries, damage, and sequelae).

**Findings:** Public health policy for cancer follows the Cancer Control Act. Evidence such as survival rates is useful not only for health care providers and policymakers but also for cancer patients in executing the right to self-determination in promoting health. Meanwhile, evidence about long-term outcomes of trauma in Japan is overwhelmingly lacking, although the incidence of trauma is estimated to be comparable to that of neoplasms in the 2014 National Patient Survey. We have proposed to review health and welfare policies for people with disabilities from the viewpoint of longitudinal epidemiological studies that understand disease conditions from the viewpoint of the people concerned as ordinary citizens by redefining the prognoses of trauma as “the outcomes of acquired disability”. To realize this review in the community-based integrated care system, we focus on the database of diagnoses, treatments, treatment effects, etc. of patients visiting medical institutions, and intend to develop a disability registry.

**Interpretation:** Developing this registry utilizing clinical effect information is expected to enhance quality as evidence in health and welfare policies for people with disabilities. In care-focused mature societies such as Japan, the following concept needs to be included in the definition of health: Taking into consideration the disease burden, and various other “social, physical and psychological problems,” health pertains to maintaining the patient’s quality of life, enabling his/her control over his/her own life, offering things that he/she can do him/herself, and fostering his/her self-actualization.

### Biography

Tomoko Tachibana has her expertise in research and passion in improving the health and wellbeing. Her research on regional models for progressing toward establishment of a “Disability Registry,” using the Clinical Efficacy Database creates new pathways for improving health and welfare policies for people with disabilities. She has been building this model over years of experience in clinical medicine, research, evaluation, teaching and administration in a hospital, public health centres and an education institution. For supporting independent decision-making and activities by people with disabilities, and putting into practice evidence-based health and welfare policies for them, she has been advancing research to promote accumulation and utilization of epidemiological evidence data which are needed for policy evaluation, cooperation between medicine and welfare, etc. The National Institute of Public Health, whose mission is to carry out human resources development and to conduct research in public health, was established in 2002, integrating the (former) National Institute of Public Health, National Institute of Health Services Management, etc.

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## THE FACTORS OF PRE-RETIREMENT PLANNING AMONG MIDDLE-AGED AND OLDER ADULTS IN TAIWAN

Yan Ping Lin<sup>a</sup> and Susan C Hu<sup>a</sup><sup>a</sup>National Cheng Kung University, Taiwan

**Introduction:** Past studies indicated that pre-retirement planning is helpful to release anxiety and adapt retired life of retirees. However, few studies examined the factors of pre-retirement planning among middle-aged and older adults. Therefore, the aim of this study is to find out the factors affecting middle-aged and older adults to prepare pre-retirement planning.

**Methods:** This study used a nationally representative dataset from “Retirement Planning, Life Adaptation and Health Status Survey”. This survey of 3141 retirees aged 50-74 years in Taiwan. Pre-retirement planning was designed with 20 items and could be grouped as five types. If retirees answered any one of these 20 items, they were categorized as pre-retirement planners, else as non-preretirement planners. The effect factors of pre-retirement planning were investigated in three dimensions: social demographic characteristics, work condition before retirement, and lifestyle. Descriptive statistics, chi-square test, T test, and logistic regression analysis were used in this study.

**Results:** In this study, more than half of the participants were male and 32% of participants prepared pre-retirement planning before retirement (the average number of planning items was  $4.29 \pm 2.95$ ). A majority type that participants planned before retirement was “Health promotion and leisure” (77%). Compared with the group of non-preretirement planners, participants who had pre-retirement planning were significantly associated with age, skill level of pre-retirement occupation, occupation types of pre-retirement, working pressure of pre-retirement, working time controlled by yourself, company provide information of retirement planning, drinking, exercise, and perceived health. Especially, information provided by company is the most effective factors of pre-retirement planning (OR= 3.09, 95%C.I.=3.09-5.39).

**Discussion:** According to the result, “Information provided by company” was the most important reason affect people to prepare pre-retirement planning. Therefore, future interventions and policies should assist companies to provide more kinds of information about pre-retirement planning and establish pre-retirement planning courses.

### Biography

Yan Ping Lin is a full-time Research Assistant in the Department of Public Health, National Cheng Kung University. Her past research has focused on the relationship between MSM groups, drug users and AIDS when she was an undergraduate student in Kaohsiung Medical University. As a Graduate Student in National Cheng Kung University, she has involved in research of health issues related to the older population, especially in the relationship between working transition and health.

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# EPIDEMIOLOGY & PUBLIC HEALTH

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## PERSISTENT ORGANIC POLLUTANTS IMPAIR INSULIN SECRETORY FUNCTION OF PANCREATIC BETA-CELLS: HUMAN AND IN VITRO EVIDENCE

Yu-Mi Lee<sup>a</sup>, Chae-Myeong Ha<sup>a</sup>, Se-A Kim<sup>a</sup>, Themis Thoudam<sup>a</sup>, Sungmi Park<sup>a</sup>, In-Kyu Lee<sup>a</sup>, Duk-Hee Lee<sup>a</sup>, Dae-Jung Kim<sup>b</sup>, Hyeon-Chang Kim<sup>c</sup>, Hyo-Bang Moon<sup>d</sup> and Young-Ran Yoon<sup>a</sup>

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Persistent organic pollutants (POPs), especially organochlorine pesticides (OCPs) and polychlorinated biphenyls (PCBs) have emerged as a new risk factor of type 2 diabetes (T2D). We evaluated whether chronic exposure to low-dose POPs affects insulin secretory function of beta-cells in humans and in vitro cells. Serum concentrations of OCPs and PCBs were measured in 200 non-diabetic adults. Mathematical-model-based insulin secretion indices were estimated using a 2-hour 7-sample oral glucose tolerance test. Insulin secretion by INS1E beta-cells was measured after 48-hour treatment with 3 OCPs or a PCB mixture. Static second-phase insulin secretion significantly decreased with increasing serum concentrations of OCPs. Adjusted means were 63.2, 39.3, 44.1, 39.3, 39.7, and 22.3 across six categories of a summary measure of OCPs (Ptrend = 0.02). Dynamic first-phase insulin secretion remarkably decreased only among insulin-sensitive individuals with increasing concentrations of OCPs (Ptrend = 0.02); the insulin levels among subjects with high OCPs were about 30% of those with low OCPs. Compared to OCPs, PCBs showed weaker associations. The decreased insulin secretion by INS1E beta-cells was observed for even 1 pM OCPs. Our data from human subjects and in vitro cell experiments suggest that chronic exposure to low-dose POPs, especially OCPs, can induce pancreatic beta-cell dysfunction

Acknowledgement: This work was supported by the Korea Ministry of Environment (MOE) as “the Environmental Health Action Program (2016001370002).”

### Biography

Yu-Mi Lee is an Assistant Professor in the Department of Preventive Medicine, School of Medicine, Kyungpook National University. He was a Clinical Fellow in Kyungpook National University from 2013 to 2015. He took residency training in Kyungpook National University from 2010 to 2013 and also took MD training at Kyungpook National University from 2003 to 2009.

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# EPIDEMIOLOGY & PUBLIC HEALTH

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## EPIDEMIOLOGICAL STUDIES OF POISONING BY PESTICIDES IN MOROCCO

**Z Abidli<sup>a</sup>, D Kharbouch<sup>a</sup>, L Amiar<sup>b</sup>, M Windy<sup>c</sup>, N Rhalem<sup>c</sup>, A Soulaymani<sup>a</sup>, A Mokhtari<sup>a</sup> and R Soulaymani Bencheik<sup>c,d</sup>**<sup>a</sup>Ibn Tofail University, Morocco<sup>b</sup>University Abdelmalek Essaadi, Morocco<sup>c</sup>Moroccan Anti-poisoning and Pharmacovigilance Center, Morocco<sup>d</sup>Mohammed V-Souissi University, Morocco

In Morocco, a first assessment of the extent of pesticides poisoning, although not exhaustive, is made possible by the Moroccan Anti-poisoning and Pharmacovigilance Center (MAPPC). This work aims to study the epidemiological characteristics of volunteers poisoned by pesticides and to analyse their impact on human health. This is a retrospective study of all cases of pesticide poisoning reported in Morocco between 2008 and 2014, compiled by the MAPPC. The data carriers used in this study are the Toxicovigilance sheets and the medical records that are set up for Toxicological Information. The methodology used is based on the descriptive statistics and the Principal Component Analysis (PCA). During the study period, the MAPPC had collected 2690 cases of poisoning by pesticides, this type of poisoning mainly affects adults (61.97% of cases) and 68% of addicts are female, with a sex ratio of 2, ( $P < 0.001$ ). However, suspect products are insecticides with about 55.86% cases of poisoning, the majority of which presented in a moderate condition (Grade 2) with 32.10%. The central and peripheral nervous system is the lead of the systems affected with 52.66% of cases, with a specific lethality of 7.5% (the number of deaths being 6 subjects). Patients presented several neurological signs including Convulsions and clonic seizures, Obnubilations, Agitation, Headache, and Coma respectively with 17.61%; 10.56%; 7.75%; 7.04%; 6.34% of cases. The principal component analysis makes it possible to distinguish two large groups, the male ones with different signs according to the period of poisoning, in winter with signs like nausea of asthenia and they generally are adults. The second group consists essentially of intoxicated children who usually show signs of vomiting, chills especially in spring and autumn. According to our results, pesticide poisoning is responsible for serious neurological effects, which should prompt us to implement regulations on the sale of pesticides in order to reduce the poisoning rate in Morocco.

### Biography

Z Abidli is a PhD candidate in the Biology Department at Ibn Tofail University in Morocco. He has recently obtained a Master's degree in Human Neurocognition and Population Health. He also serves as an active member of the Genetics and Biometry Laboratory. He took part in multiple congresses as a Poster Presenter, including the 6th International Congress on Toxicology in Marrakech and the National Congress on Pharmacovigilance in Rabat. He is currently conducting a research on risk management of anti-tuberculosis drug and the objective is to decrease the side effects of drug treatment.

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## OCCUPATIONAL GROUP'S WORKPLACE SOCIAL CAPITAL AND MENTAL HEALTH: CONNECTIONS IN EMPLOYEE'S WORK ABILITY

**Jing Wang<sup>a</sup>, Li Zhang<sup>a</sup> and Denglai Yu<sup>a</sup>**<sup>a</sup>Center for Disease Prevention and Control, Pudong New Area, China

**Background:** There are a variety of factors from work and daily life who affect the physical and mental health of occupational groups, then affect their work ability. Social capital as a characteristic of social life includes network, norms and trust. Researchers have reported that social capital is an important social factor that affects health, but the impact mechanism is not very clear at present. The purpose of this study is to explore and clarify the connections between workplace social capital and the physical and mental health of employees and work ability, and to provide new directions and strategies for Occupational Health Promotion and Workplace Health Management.

**Methods:** 3988 employees from 14 workplaces in Pudong New Area were investigated with professional scale questionnaire through stratified cluster sampling. We used the structural equation modeling to examine the associations between worker's basic information, occupational characteristics, physical and mental health, workplace social capital and work ability.

**Results:** Worker's basic information, the physical and mental health and the level of workplace social capital are the direct influencing factors of work ability, and the employee's self-rated health and mental health level are the most important factors. In addition, employee's workplace social capital directly affects their mental health.

**Conclusions:** Workplace social capital is an important factor in employee's health and work ability. Policies and measures for raising workplace social capital would help improve employee's mental health level and their work ability. The study provides an important research direction for Occupational Health Promotion and Workplace Health Management; also it provided a strong evidence for the measures of improving the team cohesion to increase enterprise productivity.

### Biography

Jing Wang, Chief Physician, has her expertise in health education and promotion and passion in improving the health and wellbeing. During more than 20 years, in her career as Director of the Department of Health Education and Promotion in Shanghai Pudong CDC, she organized and participated in various research projects of a national and provincial level. For her knowledge ability and seasoning after years of experience in research, practice and administration, she has been appointed as the member of branches of Chinese Preventive Medicine Association, Shanghai Preventive Medicine Association and Shanghai Physicians' Association, while holding the title of concurrently tutor in public health, adjunct professor and extramural academic advisor at universities. Majoring in health education and promotion, she has been studied on theories and models of health-related behaviour intervention among specific population groups for years. Dozens of related articles and papers are published in core journals and others.

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## ANALYSIS OF INJURY INCIDENCE AND ITS INFLUENCING FACTORS AMONG PRIMARY SCHOOL STUDENTS IN SHANGHAI, PUDONG NEW AREA

**Pinqing Bai\***

\*Center for Disease Prevention and Control, Pudong New Area, China

**Objective:** To explore epidemiological characteristics of injury and its influence factors among primary school students in Pudong district of Shanghai city, thus providing effective prevention measures.

**Methods:** Using a random stratified cluster sampling method to investigate the injuries among primary school students in Shanghai, Pudong New Area. By self-designed questionnaire to study the incidence and influence factors of injury in the past one year among the students, then used Chi-square test and unconditional logistic regression methods to analyse the data. We issued 6225 questionnaires, and 6093 valid questionnaires were recovered (the recovery rate was 97.88%).

**Results:** The incidence of injury among primary school students was 22.99%. The incidence rate of male (24.86%) was higher than that of female (21.03%), the difference was statistically significant. There was no statistical difference in the distribution of injury among different ages. The main injury types were fall (14.21%), collision/crush (7.41%) and sharp injury (2.64%). The injury occurred mainly in May and July to October. Home and school were the most common place where the injury occurred. On the other hand injury usually occurred on lower limbs and fingers/toes. The unconditional Logistic regression showed that the risk factors were the only child in the family, fighting on campus frequently, punished by corporal punishment and often talked about injuries by their parents. Parents put the study pressure on their children, and often instructed children to pay attention to safety in school, which could prevent injury effectively.

**Conclusions:** The incidence of injury among primary school students in Pudong New Area is high, and intervention measures should be taken for the main types of injury such as fall. Parents' attention to injury problems and safety education for their children can prevent injuries effectively.

### Biography

Pinqing Bai is mainly engaged in school health, food and nutrition health. He has his expertise in foodborne illness prevention and control. He and his project team carry out food safety risk monitoring and food safety risk assessments in Pudong New Area. Since 2014, he and his project team carry out heavy metal contamination and exposure assessment in edible fungi and vegetables. They also investigate does the dietary pattern of Pudong residents and further assess dietary quality. He is focused on the study of adolescent health risk behaviours too, further provide data support for children and adolescent health in Pudong New Area.

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## HCV INFECTION AMONG MEN WHO HAVE SEX WITH MEN WITH OR WITHOUT HIV IN SHANGHAI, CHINA

**Xichang Zhao**<sup>a</sup><sup>a</sup>Center for Disease Prevention and Control, Pudong New Area, China

**Background:** Hepatitis C virus (HCV) infection among human immunodeficiency virus (HIV) infected men who have sex with men (MSM) has emerged as a public health challenge worldwide. In China, there have been few studies focusing on HCV infection between HIV-positive and HIV-negative MSM.

**Methods:** A total of 249 MSM visited HIV voluntary counseling and testing clinic (VCT) in Shanghai, China was examined to determine their prevalence of HIV and HCV. Socio-demographics and sexual behaviors were investigated to determine potential association with HCV infection in HIV-positive and HIV-negative groups.

**Results:** The overall prevalence of HIV and HCV was 19.3% and 4.4%, respectively. Furthermore, HCV prevalence was 12.5% in the HIV-positive group whereas 2.5% in the HIV-negative group. There was no significant difference between HCV-positive and HCV-negative participants in socio-demographics or sexual behaviors. In the HIV-positive group, HCV infection was identified associated with marriage, less receptive anal sex with the male casual partner, and more female regular partners; whereas in HIV-negative group, it was only associated with the local residents. Eight HCV NS5B 377-nt partial sequences were amplified and determined as subtype 1b, 2a, 3a and 3b in HIV-positive group and subtype 1a, 1b and 3b in HIV-negative group.

**Conclusions** HCV infection is highly correlated with HIV infection among Chinese MSM. Though HIV-negative MSM are at lower risk of HCV acquisition compared to HIV-positive MSM, they still have higher risk compared to general population. An expanded screening for HCV among MSM who visit VCT may be necessary.

### Biography

Zhao Xichang worked in the CDC for many years, mainly engaging in AIDS prevention and treatment. As an experienced doctor, he is well versed in AIDS crowd propaganda education, high-risk people intervention, AIDS discovery and follow-up. Furthermore, he has established the self-management model of AIDS patients to improve the quality of their life and reduce the risk of HIV transmission.

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## AN EVALUATION OF THE IMPACTS OF MINIMUM AGE OF TOBACCO SALES LAWS ON YOUTH SMOKING IN CANADA, 2000-2014

Russell C Callaghan<sup>a</sup>, Jodi Gatley<sup>a</sup>, Marcos Sanches<sup>b</sup> and Claire Benny<sup>a</sup><sup>a</sup>NMP UNBC, Canada<sup>b</sup>CAMH, Canada

**Background:** Recently, experts from the United States and Canada concluded that raising the minimum age for tobacco sales (MATS) from 18-19 years to 21 years of age would have a substantial impact on reducing smoking among young people. Currently, MATS laws are 18 years of age in Alberta, Saskatchewan, Manitoba, Québec, the Yukon and Northwest Territories, and 19 years of age in the rest of the country. Research on MATS laws is lacking.

**Aims/Hypotheses:** The current proposal used a regression-discontinuity approach to assess the impacts of current Canadian MATS laws on youth smoking behavior. It was expected that immediately following the release from MATS restrictions, there would be significant and abrupt increases in self-reported current-smoker status in the youth population.

**Data sources:** The project relied on smoking-related data from 7 merged cycles of the 2000-2014 Canadian Community Health Survey (CCHS), a national population-based health survey of Canadians aged 12+ years.

**Findings:** In comparison to youth slightly younger than Canadian MATS laws, those just older had significant and abrupt increases of approximately 5 percentage points in current-smoker prevalence—from approximately 20% to 25% ( $p < 0.001$ )—immediately following the MATS age. There was no evidence showing significant impacts of the MATS laws on number of cigarettes smoked or days smoked among current smokers ( $p > 0.05$ ).

**Conclusion:** Release from MATS restrictions was associated with significant and immediate increases in population-level current-smoker prevalence among young people. As a result, it seems reasonable to suggest that higher MATS laws might have tremendous potential to reduce youth smoking initiation and subsequent long-term general-population prevalence of smoking in Canada.

### Biography

Russ Callaghan is an Associate Professor in the Northern Medical Program at the University of Northern British Columbia. Over the last 15 years, his substantive area of research has focused on alcohol and drug addiction, especially the long-term health trajectories associated with substance use and the impacts of alcohol and drug policies on population-level outcomes. His current work on Canadian youth tobacco-control policies aims to understand the effects of current age-based tobacco-sales restrictions on youth smoking.

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## FACTORS ASSOCIATED WITH SUBJECTIVE LIFE EXPECTANCY: COMPARISON WITH ACTUARIAL LIFE EXPECTANCY

**Jaekyoung Bae<sup>a</sup>, Jin-Seok Lee<sup>a</sup> and Yeon-Yong Kim<sup>b</sup>**<sup>a</sup>Seoul National University of Medicine, Korea<sup>b</sup>National Health Insurance Service, Korea

**Objectives:** Subjective (Self-estimated) life expectancy (SLE) has been associated with mortality significantly. In this study, we aim to investigate the associations between major factors affecting SLE. And we also examined whether any differences between SLE and estimated life expectancy in Korea exist.

**Methods:** Cross-sectional survey of 1,000 individuals in Korea aged 20-59 was evaluated. Participants were asked self-reported questionnaire about SLE, general characteristics including socioeconomic factors, stress, environments. Life expectancy from the National Health Insurance database in Korea was also used to evaluate the differences. Age-adjusted least square mean, correlations and regression analyses tested the relationship of SLE with four categories of predictors: demographic factors, socioeconomic factors, health behaviours, and psychosocial factors.

**Results:** Among 1,000 participants, women (mean age, 83.43; 95% Confidential Interval (CI), 82.41 to 84.46 years; 48.0% women) expected life expectancy 1.59 years longer than men. Variables within socioeconomic factors, salary, house type were related to SLE. For health behaviour, smoking status, alcohol status and physical activity were associated with SLE. Variables within Psychosocial factors, stress, self-rated health, social connectedness were related to SLE. In comparison with actuarial estimates, they had strong correlation ( $r=0.61$ ) and men expected SLE higher than women.

**Conclusions:** Demographic factors, socioeconomic factors, health behaviours, and psychosocial factors had significant association with SLE in expected direction. Men and women showed differences with SLE compared to their actuarial estimate. Further studies are needed to determine the reasons for this.

### Biography

Jaekyoung Bae is a research candidate of Department of Health Management and Policy, Seoul National University College of Medicine, Seoul, Korea.

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## e-Posters

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## CLIMATE CHANGE: TEMPERATURES ON EARTH CONTINUE TO RISE

**Marian Hanna\***

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Understanding the development of the biosphere and the dependence of health and well being on natural systems display the importance of environmental health issues such as global climate change. The balanced carbon exchange between the Earth's surface and atmosphere offers the planet's habitability. This balance constantly varies due to expansion of agriculture, industrialization, deforestation, and anthropogenic burning of fossil fuels, like gas, coal and oil, which triggers variations in the Earth's climate system. A Literature review reevaluated data from twelve well-cited articles in the climate impacts literature, which ascertain impacts on numerous components, including agricultural yield, health impacts, economic development, and civil concerns. The impacts of global climate change result in further recurring wildfires, extended events of drought, upsurges of tropical storms, shrinking glaciers, sea elevation, broken up lakes, modified ranges of plants and animals and plants flowering prematurely. Conclusion & Significance: Global climate change has also caused negative effects on human health, and lengthier, more severe heat waves. The literature published demonstrates that the climate change expenses will rise throughout time. Environmental health issues should be described by means of methods understood by the general public. Humans, wildlife and vegetation are obligated to adapt to the impacts of climate change to survive, as well as protecting and preserving their habitats to prevent further damage from occurring. Recommendations are made to decrease or evade critical health impacts through adaptation and modification of behaviors.

### Biography

Marian Hanna has her expertise in global health and disaster management. She recognizes that balance is critical amongst global systems of air, water, land and life. She is working in increasing awareness regarding crises of immensely rising populations fighting in opposition to inadequate food and natural resources. Climate change has brought irregularity and severe events which may be improved through education and lifestyle changes to cultivate resilience in the face of varying environments.

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## THE RISK OF HEMOBLASTOSIS IN OFFSPRING OF RADIATION-DANGEROUS PRODUCTION STAFF

Svetlana F Sosnina<sup>a</sup>, Nailya R Kabirova<sup>a</sup>, Mikhail E Sokolnikov<sup>a</sup> and Pavel V Okatenko<sup>a</sup><sup>a</sup>Southern Urals Biophysics Institute, Russia

**Statement of the Problem:** Parental preconceptional exposure is considered as one of the potential risk factors for hemoblastosis in offspring. Employees of Mayak Production Association (Mayak PA), the first nuclear cycle enterprise in Russia, constitute a unique cohort for calculating the carcinogenic risk in offspring. The purpose of this study is to evaluate the contribution of parental chronic preconceptional external gamma exposure to the risk of hemoblastosis in offspring.

**Methodology & Theoretical Orientation:** We conducted retrospective study using nested case-control approach. Source cohort included all people who were born in the city of Ozersk located near Mayak PA or became residents during 1949-2009. Cases were defined as incident of hemoblastosis occurred in person under age 25 in 1949-2009 (n=81), controls were matched on sex, year of birth, parent's age at birth (n=324). The excess relative risk (ERR) was calculated per unit dose of external gamma exposure with a 95% confidence interval using the EPICURE program module PECAN.

**Findings:** Acute leukemia prevailed in the structure of hemoblastoses. There was no significant dose-response found. The ERR/Gy coefficients were insignificant both in the analysis of the accumulated maternal dose: ERR/Gy = -7.95 (<0; 178.8), and while analyzing the accumulated paternal dose: ERR/Gy = -24.6 (<0; 153.9). Non-parametrical analysis by dose categories did not show any elevated risk as well.

**Conclusion & Significance:** The dose dependence between prolonged preconceptional external gamma exposure of parents and the risk of hemoblastosis in offspring was not revealed. However, a small number of cases of hemoblastosis in offspring up to the age of 25 limit the strength of the findings. The presence of predisposition to neoplasms in offspring and the manifestation of the effect in the form of solid cancer at older age cannot be excluded, which requires continued monitoring.

### Biography

Svetlana Sosnina has extensive experience in practical healthcare as a pediatrician and Head of the pediatric department, experience in teaching medical disciplines. Area of her scientific interests comprises epidemiology, pediatrics, oncology, preventive health care. On the basis of unique cohort of employees of the Production Association Mayak Svetlana carries out a multifaceted assessment of health status in descendants of workers in radiation hazardous industries, as well as the assessment of radiogenic risks. This will improve medical monitoring of children's health and the radiation safety of Mayak personnel.

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## DOES CO-PAYMENT BY CONSUMERS AFFECT ADHERENCE TO, AND OUTCOMES OF, PSYCHOLOGICAL TREATMENT?

**Bridget Bassilios<sup>a</sup>, Jane Pirkis<sup>a</sup>, Meredith Harris<sup>b</sup> and Harvey Whiteford<sup>b</sup>**<sup>a</sup>University of Melbourne, Australia<sup>b</sup>University of Queensland, Australia

**Statement of the Problem:** It is well known that many people who have mental health care needs do not receive mental health services. There is evidence to suggest that multiple socio-demographic (e.g., age, sex, socio-economic disparity) and clinical characteristics (e.g., type, severity and comorbidity of mental disorder) are associated with mental health service use. Partial and full fee-for-service by consumers is among the socio-economic disparity factors that may influence utilisation of mental health services but has not been widely studied, with existing research producing inconsistent findings. This study aims to determine whether partial fee-for-service ('co-payment') by consumers affects their adherence to, and outcomes of, psychological treatment delivered via a major Australian primary mental healthcare initiative – the Access to Allied Psychological (ATAPS) Services program.

**Methodology:** We will use routinely-collected data from 1 July 2014 to 30 June 2016 (representing approximately 700,000 scheduled sessions and 140,000 episodes of care) sourced from the ATAPS minimum dataset to determine whether co-payment and other socio-demographic and clinical characteristics predict these outcomes.

**Significance:** Improving our understanding of factors that may improve access to, and outcomes from, psychological treatment is policy-relevant and has direct implications on primary mental health service delivery.

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## RISK FACTORS FOR 14-DAY REHOSPITALIZATION FOLLOWING TRAUMA WITH NEW TRAUMATIC SPINAL CORD INJURY DIAGNOSIS: A 10-YEAR NATIONWIDE STUDY IN TAIWAN

Carlos Lam<sup>a</sup>, Ping-Ling Chen<sup>a</sup>, Jiunn-Horng Kang<sup>a</sup>, Kuang-Fu Cheng<sup>a</sup>, Ray-Jade Chen<sup>a</sup> and Kuo-Sheng Hung<sup>a</sup><sup>a</sup>Taipei Medical University, Taiwan

**Objectives:** Fourteen-day rehospitalisation with new traumatic spinal cord injury (tSCI) diagnosis is used as an indicator for the diagnostic quality of the first hospitalization. In this nationwide population-based cohort study, we identified risk factors for this indicator.

**Methods:** We performed a nested case-control study by including patients who had first hospitalization for trauma in the National Health Insurance Research Database between 2001 and 2011. Variables including demographic and trauma characteristics were compared between patients diagnosed with tSCI at the first hospitalization and those having 14-day rehospitalisation with new tSCI diagnosis.

**Results:** Of 23617 tSCI patients, 997 had 14-day rehospitalisation with new tSCI diagnosis (incidence rate, 4.22%). The risk of 14-day rehospitalisation with new tSCI diagnosis was significantly lower in patients with severe (injury severity score [ISS] = 16–24; odds ratio [OR], 0.17; 95% confidence interval [CI], 0.13–0.21) and profound (ISS > 24; OR, 0.11; 95% CI, 0.07–0.18) injuries. Interhospital transfer (OR, 8.20; 95% CI, 6.48–10.38) was a significant risk factor, along with injuries at the thoracic (OR, 1.62; 95% CI, 1.21–2.18), lumbar (OR, 1.30; 95% CI, 1.02–1.65), and multiple (OR, 3.23; 95% CI, 1.86–5.61) levels. Brain (OR, 2.82), chest (OR, 2.99), and abdominal (OR, 2.74) injuries were also identified as risk factors. In addition, the risk was higher in patients treated at the orthopaedic department (OR, 2.26; 95% CI, 1.78–2.87) and those of other surgical disciplines (OR, 1.89; 95% CI, 1.57–2.28) than in those treated at the neurosurgery department.

**Conclusions:** Delayed tSCI diagnoses are not uncommon, particularly among trauma patients with ISSs <16 or those transferred from lower-level hospitals. Further validation and implementation of evidence-based decision rules is essential for improving the diagnostic quality of traumatic thoracolumbar SCI.

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## SEX/GENDER ANALYSIS IN COCHRANE REVIEWS OF INFECTIONS ASSOCIATED TO MEDICAL DEVICES IS UNCOMMON

Jesus Lopez-Alcalde\*

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Healthcare-associated infections (HAIs) are commonly associated with medical devices such as catheters, mechanical ventilation, and feeding tubes. These HAIs increase morbidity, mortality and healthcare costs and their control continues to be an unresolved issue worldwide. Evidence suggests that medical device epidemiology shows sex/gender differences. These sex and gender differences are often not considered in research design, study implementation and reporting, which limits the applicability of the research findings to decision making. We aim to describe the extent to which sex/gender based analysis (SGBA) is considered in Cochrane reviews of interventions for preventing medical device related infections in the healthcare setting. This study is a methodological review. We searched the Cochrane Database of Systematic Reviews for active reviews published before January 1, 2017. We screened 6694 records and included those reviews evaluating any intervention attempting to prevent infections related to medical devices in a healthcare setting. To extract key information about sex and gender we considered the domains of the 'Sex and Gender in Systematic Reviews Planning Tool' (SGSR-PT). The preliminary analysis of the 25 included reviews showed that SGBA was absent. The reviews met no SGSR-PT criteria. Sex and gender terms were used interchangeably in most of the included reviews. The background never described the relevance of sex/gender to the review question. The inclusion/exclusion criteria for studies in the reviews never considered sex/gender differences. Data were never disaggregated by sex. There were no subgroup analyses by sex, and no review highlighted any sex/gender differences as research gaps. SGBA was absent in Cochrane reviews on preventing medical device related infections. This raises concerns about the value and applicability of these reviews and highlights that there is much room for improvement to support informed decision making in this field.

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## EMERGING DRUG RESISTANCE SALMONELLA STRAINS FROM CHICKEN MEAT

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This work was carried out to study the occurrence of salmonella infections in chicken and human suffering from gastroenteritis in Egypt. A total of 349 chicken meat and 40 stool specimens of children were collected, samples were subjected to bacteriological examination and identified biochemically as salmonella then subjected to serological identification, also were tested for their antibiotic susceptibility by disc diffusion method Also, genotyping by PCR to detect *salmonella enterotoxine gene (stn)* and their expression by infant mouse assay. the study revealed that 14 (4.01%) and 2 (5%) were positive for *Salmonella species* in chicken meat and children respectively and serological identification were (*Salmonella Infantis*, *Salmonella Typhi*, *Salmonella Kentucky*, *Salmonella Rubislaw*, *Salmonella Poona*, *Salmonella Typhimurium*, *Salmonella Virginia*, *Salmonella Enteritidis* and *Salmonella Montevideo*) and (*Salmonella Kentucky* and *Salmonella Enteritidis*) in chicken meat and children isolates respectively. Disc diffusion method showed that 3 (21.4%) in chicken meat isolates and 2 (100%) in children isolates were multidrug resistant in which *S. Kentucky* have resistance to ciprofloxacin, the drug of choice for treating salmonellosis in children. Also, genotyping showed that 9 (64.28%) and 2 (100%) isolates confirmed to be enterotoxigenic strains in chicken meat and children respectively and this (*stn*) gene have been expressed (100%) by infant mouse assay. Sequencing and phylogenetic tree of 4 studied isolates resulted in assessment the relations between different isolation sources. Special attention must be paid to antibiotics that are used exclusively in poultry farms, appropriate measures must be taken to control the spread of resistant bacteria to human.

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## ELIMINATION OF MEASLES IN MALAYSIA BY 2018: HOW CLOSE ARE WE?

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**Introduction:** Measles Elimination Programme (MEP) in Malaysia was started in 2004 and targeted elimination by 2010. However, this target has not achieved and revised target was set as 2018. Study was conducted to assess the measles elimination progress and factors affecting it.

**Methodology:** By multistage stratification, two districts (urban and rural) were identified from each of seven states in all regions of country. Measles data from 2006-2016 were analyzed from web based surveillance system (e-notification, e-measles). Outbreak reports, immunisation coverage were reviewed and personnel involved in surveillance and immunisation programme were interviewed. MEP Surveillance indicators for 2016 were assessed.

**Results:** Measles incidence in 2016 was 3 per million populations (target 1/1million) with cyclical peak every 3–4 years. No gender differences reported. Measles were high in  $\leq 15$  years (76%), among them 29% were children below one year. Fifty percent of cases were not vaccinated. Reason for non-vaccination being vaccine refusal and preference for alternative medicine. MCV1 coverage for state and district level was above 95% but few health centers revealed lower coverage (75%-90%). All MEP targets achieved except for reporting of laboratory result within 4 days (achieved 72%, target >80%).

**Conclusion and Recommendations:** Measles is still endemic in Malaysia and showed triennial peak. Low vaccine coverage at the health centers and delayed laboratory result hinder measles elimination. Measles supplementary immunization activity (children 1-15 years) for low coverage areas with three yearly mopping up campaign, health education on importance of immunisation and prompt reporting of laboratory result will ensure measles elimination in Malaysia is achieved by 2022.

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## MEASLES EPIDEMIC IN BRAZIL IN THE POST-ELIMINATION PERIOD: COORDINATED RESPONSE AND CONTAINMENT STRATEGIES

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The measles virus circulation was halted in Brazil in 2001 and the country has routine vaccination coverage against measles, mumps and rubella higher than 95%. In Ceará, the last confirmed case was in 1999.

This article describes the strategies adopted and the effectiveness of surveillance and control measures implemented during a measles epidemic in the post-elimination period. The epidemic started in December 2013 and lasted 20 months, reaching 38 cities and 1,052 confirmed cases. The D8 genotype was identified. More than 50,000 samples were tested for measles and 86.4% of the confirmed cases had a laboratory diagnosis. The beginning of a campaign vaccination was delayed in part by the availability of vaccine.

The classic control measures were not enough to control the epidemic. The creation of a committee of experts, the agreement signed between managers of the three spheres of government, the conducting of an institutional active search of suspected cases, vaccination door to door at alternative times, the use of micro planning, a broad advertising campaign at local media and technical operative support contributed to containing the epidemic. It is important to recognize the possibility of epidemics at this stage of post-elimination and prepare a sensitive surveillance system for timely response.

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## DE NOVO POST-DIAGNOSIS VITAMIN D USE AND BREAST CANCER MORTALITY

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**Introduction:** Experimental data suggests a protective effect of vitamin D on breast cancer progression but epidemiological evidence is emerging. A recent meta-analysis however suggested a large reduction in breast cancer mortality (HR: 0.65; 95% CI: 0.44-0.98) in those in the highest quartile of circulating 25(OH) D levels compared to the lowest quartile when measured at diagnosis.

**Aim and Methods:** In this study we investigate, in a large linked national cancer registry and prescribing database in Ireland, associations between vitamin D use initiated after a diagnosis (de novo) in women with stage I-III breast cancer and all-cause and breast cancer-specific mortality (n=5417); see Figure 1. Initiation of vitamin D post-diagnosis was identified from the linked national prescription data (n=2570 (48%) initiating vitamin D). Multivariate cox proportional hazards models were used to estimate hazard ratios (HRs) for associations between de novo vitamin D use and mortality while adjusting for patient, tumour characteristics and treatment.

**Results:** Initiation of vitamin D was significantly higher among those in receipt of statin, bisphosphonate and anti-estrogen therapy. Those with a perceived better prognosis also had a higher initiation rate (e.g. ER/PR positive and HER2 negative). After appropriate adjustment for confounders, there was a significant association between de novo vitamin D use post-diagnosis (yes/no time-varying) and, breast cancer-specific (HR: 0.69; 95% CI: 0.55-0.86) and all-cause mortality (HR: 0.76; 95% CI: 0.65-0.90). After additional analysis correcting for imbalance between treatment groups using propensity score analysis, a significant association persisted between vitamin D use post-diagnosis and breast cancer-specific mortality (HR: 0.70; 95% CI: 0.52-0.93), but not for all-cause mortality (HR: 0.82; 95% CI: 0.67-1.01).

**Conclusion:** Breast cancer-specific mortality in de novo vitamin D users post-diagnosis was significantly lower than non-users. Vitamin D has the potential as a non-toxic treatment to improve survival in breast cancer patients.

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## LIFESTYLE FACTORS AND GENDER-SPECIFIC RISK OF STROKE IN CHINESE ADULTS WITH HYPERTENSION: A NATIONAL CASE-CONTROL STUDY

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Limited studies investigated the relationship between lifestyle factors and risk of stroke in hypertensive people. Moreover, Estrogen was shown to counteract the unfavourable effects of lifestyle factors on stroke in general people by several studies. Therefore, we conducted a case-control study to investigate the relationship between lifestyle factors and gender-specific risk of stroke in hypertensive people based on the China National Stroke Screening Survey. Stroke cases and types were defined by self-report and were confirmed by a neurologist using neuroimaging according to the criteria of the World Health Organization. Demographic data and information on risk factors were collected using structured questionnaires and physical examinations. Hypertensive participants who were diagnosed with ischemic stroke or haemorrhagic stroke were considered cases. The controls (1:1 frequency-matched for age and urban/rural ratio) were non-stroke subjects who were randomly selected from the hypertensive participants. A total of 7,631 ischemic stroke cases (7,769 controls) and 994 haemorrhagic stroke cases (1,015 controls) were included. Among smoking, overweight and physical inactivity, the lifestyle factor that showed the strongest association with the risk of ischemic stroke was physical inactivity (OR=1.42) in men and smoking (OR=1.46) in women. The strength of the association between physical inactivity and risk of haemorrhagic stroke was higher in men (OR=1.91) than in women (OR=1.55). In conclusion, the strength of the association between physical inactivity and both types of stroke was higher in men, but the association between smoking and risk of ischemic stroke was higher in women.

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## ASSESSMENT OF THE SURVEILLANCE AND CAUSAL FACTORS OF THE PEDESTRIAN'S INJURIES IN GEORGIA

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**Background:** Road traffic injuries cause an estimated 700 to 1,000 young people to die every day. Among the total road traffic fatalities, more than 270 000 are pedestrians constituting 22% of all road deaths. Road traffic accidents (RTA) and pedestrian road injuries are a devastating burden on Georgia. The purpose of this project was investigating the incidence of and causal factors in fatal and non-fatal pedestrian and proposes recommendations for prevention and reduces the burden of road injuries among this group.

**Methods:** A retrospective review of medical records of injured pedestrians from road traffic crashes for 2014 was done in several hospitals in three cities of Georgia, Tbilisi, Batumi and Rustavi to provide a cross-sectional profile of the non-fatal injury burden. The medical records will be collected, by limiting to the following ICD-10-AM codes: S00-T98 & V01 to V89.

**Results:** A total 374 medical records of hospitalized injured pedestrians were studied. 54% of patients were 0-40 age. 4.8% (18) of hospitalized injured pedestrians died. Risky behaviour of pedestrians and drivers were revealed in 32% and 30% respectively. Children aged 0 to 7 are the most likely to be risky behavior and in this age group a significant number of pedestrian occurred in the yard (PRR=3.1; 95%CI=2.4-3.9) and (PRR=11.1; 95%CI=6.2-19.7) respectively. The risk of fatal outcome is higher among hospitalized pedestrians who injured in due to excessive speed of the vehicle (PRR=3.7; 95%CI=1.5 - 9.2), than among of other injured pedestrians.

**Conclusion:** This study identified some key factors associated with pedestrian collisions. There is overwhelming evidence that speed and some behavioural risk factors of pedestrians and drivers have a great impact on pedestrian safety and play a role in injury severity. The results will be used to develop national road safety strategies to reduce pedestrian trauma on Georgia's roads.

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## DENGUE OUTBREAK INVESTIGATION IN SUKUMA DISTRICT OF CHAMPASAK PROVINCE, LAO PDR (APRIL, 16TH – JULY, 15TH 2016)

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**Background:** Lao PDR is a dengue endemic country and all four dengue serotypes have been reported in the country. April-25th of 2016, the death of 12 years-old boy from suspected dengue infection in Champasak hospital was reported to the Champasak Provincial Health Office. Rapid response team was formed with the objective of investigating and controlling the outbreak after many people reported cases of sickness in the same village with him (At Boungkeo village, Sukuma district, Champasak province).

**Methods:** This retrospective study reported a dengue outbreak investigation that occurred in four villages (Maivangmakxao, Hiang, Boungkeo, Hauyphai) where most of the cases were reported during April-July 2016 in Sukuma district. Data was obtained through a created line list of suspected cases, recorded books in district and health center, active case finding, entomological survey and blood sample collections. Descriptive analysis was used to describe an epidemiological situation of the outbreak through time, place and person.

**Results:** It was shown that the current outbreak was due to dengue virus serotypes 4 which caused 236 infections (age mean: 15 years) and 3 deaths. Of these cases, 100% of them had fever, headache and myalgia followed by positive tourniquet test (70.8%), abdominal pain (10%), epistaxis (4%), shock (3%), bleeding gums (2%), melena (2%) and vomiting (2%). Values of the BI were in different degree associated with the outbreak in each village and mostly were >5. The control measures taken were included of peridomestic space spraying with thermos fog, Temephos distribution, health education, weekly environmental cleaning to destroy mosquito breeding sites. However, this outbreak was only reported in four out of 46 affected villages of the same district, although dengue 4 is responsible for the outbreak in these settings, the serotype of dengue 1 is confirmed in another village during the same period. This long period of outbreak occurred in these villages or in the district as a whole could probably due to a coincident infection of dengue 4 and 1. Initial preparedness for outbreak prevention is needed especially before the rainy season.

**Notes:**