

P1-179 THE SOUTHAMPTON WOMEN'S SURVEY: FROM EPIDEMIOLOGY TO POLICY

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Introduction Epidemiological studies inform understanding of influences on health. Findings can lead directly to policy changes, but such changes need assessing, using formal intervention studies.

Methods The Southampton Women's Survey is a longitudinal birth cohort with data collected on the mothers before conception. 12 583 women aged 20–34 years were assessed when not pregnant; 3159 were then followed through pregnancy and the children are followed-up.

Results Maternal vitamin D levels in pregnancy were positively associated with markers of bone development in the children. Women's educational attainment was strongly related to the quality of their diets before conception, which in turn predicted the quality of the diets of their infants and children. Variations in infant diet were related to body composition at the age of 4 years. Our findings have led to intervention studies. Firstly, we are conducting a randomised controlled trial of vitamin D supplementation in pregnancy (MAVIDOS). Secondly, in relation to our diet quality findings, we are conducting a complex intervention, in collaboration with local policy makers, in which staff working in centres for women and children in disadvantaged areas are trained to engage in 'healthy conversations' with young women visiting the centres, to enable them to improve their diets and lifestyles (Southampton Initiative for Health). A school intervention (LifeLab) is also being developed.

Conclusion The Southampton Women's Survey, a large epidemiological study, has led to the development of interventions to improve health of women and their children. These are being evaluated to inform policy, locally, nationally, and internationally.

P1-180 COULD INFLUENZA TRANSMISSION BE REDUCED BY RESTRICTING MASS GATHERINGS? AN EVIDENCE REVIEW

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Introduction Droplet spread and direct contact are crucial factors in influenza transmission. Mass gatherings (MG) seem to provide ideal conditions for transmission. This systematic review examined the evidence for an association between MG and influenza transmission, and assessed whether restricting MG is effective at reducing or preventing transmission.

Methods The published literature to July 2010 was reviewed by searching major databases (Pubmed, EMBASE, Scopus, and CINAHL), producing a combined list of 1670 articles that was sifted for relevance by title, abstract, and full-text assessment. A narrative approach was adopted for data synthesis.

Results 18 papers met the inclusion criteria, covering MG of varying sizes and settings, and including 5 observational studies, nine outbreak reports, three event surveillance reports, and a quasi-experimental study. There is evidence that some MG are associated with increased risk of influenza transmission. MG can also be "seeding" events for introducing new strains to an area, and may instigate community transmission in the early stages of a pandemic. Restriction of MG, in combination with other social distancing interventions, may help reduce transmission, but evidence is lacking on the effect of MG restriction alone.

Conclusion The evidence suggests that crowd density and event duration may be the key characteristics of an MG that determine the risk of influenza transmission. The type of venue

(indoor or outdoor) also seems crucial. These considerations could potentially underlie the development of evidence-based, risk-dependent, policy-making frameworks for restricting MG in pandemic situations. Voluntary rather than legislated restrictions may be suitable.

P1-181 MORTALITY AND EPIDEMIOLOGICAL TRANSITION IN BANGLADESH: LESSONS AND EXPERIENCES TO THE DEVELOPING COUNTRIES IN THE NEW MILLENNIUM

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Background This study aims to examine the stages of mortality and epidemiologic transition in Bangladesh where detailed studies are not well documented but significant decline in fertility and mortality have been achieved at a rather low level of income.

Methods With the application of time-series and cross sectional analyses by using the nationally representative data (Bangladesh Demographic and Health Survey, 1993–2007, Sample Vital Registration System, 1981–2007) this study investigates the patterns, levels and trends of mortality and morbidity and the causes of death. Author's own field work—a mix of quantitative and qualitative methods have been referred for disease or health transition at grassroots level.

Results Study shows that the changing pattern of diseases observed over recent years, from acute infectious and deficiency diseases to the chronic non-communicable diseases, is a continuous process of transformation with some diseases disappearing and others appearing or reappearing. Although infectious diseases are still an important public health concern but non-communicable diseases are also coming to the forefront as causes of illness and death, where it is possible to control many communicable diseases.

Conclusion Bangladesh is now entering well into the third phase of mortality transition while the epidemiological transition where the place is taking in between the age of degenerative and manmade diseases followed by the transitional variant of delayed model. This study may help to understand the process of the stated transitions in Bangladesh comparing with other developing countries identifying the changes and challenges to achieve the MDGs and further for appropriate policy options.

P1-182 A TAXONOMY OF BIAS IN SYSTEMATIC REVIEWS

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Introduction The goal of a systematic review is to compile and summarise all relevant reports on one well-defined topic. Selection bias is minimised by carefully defining search strategies, keywords, and eligibility criteria. However, remaining sources of bias may lead to the omission or under representation of relevant literature.

Methods The objective of this study was to identify and classify sources of selection bias in systematic reviews. The search methods and stated limitations of more than 50 systematic reviews were examined and catalogued.

Results Some forms of bias result from systemic barriers in the research dissemination process. These include (1) pipeline biases, such as those that hinder the dissemination of null association reports, and (2) indexing biases, such as the exclusion of non-English journals from major abstract databases. Other forms of bias result from methodological choices made by researchers. These include (3) search biases, such as those related to the use of hand-searches and

grey literature searches, and (4) eligibility biases, such as those based on the language of publication or on particular indicators of quality, which may result in the exclusion of non-English reports and small-scale studies from regions with less developed health research infrastructure. **Conclusion** A systematic review must set strict inclusion criteria, but the process used to select eligible studies may introduce a wide variety of biases. Awareness of the factors that restrict the comprehensiveness of systematic reviews will allow researchers to weigh and address these limitations. Improved systematic reviews will form a stronger foundation for evidence-based policy.

P1-183 INFLUENZA VACCINATION IN PROSTATE CANCER SURVIVORS IN THE ELECTRONIC HEALTH RECORD ERA

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Introduction While most men diagnosed with prostate cancer die from causes other than their cancer, many think that subsequent care focuses on their prostate cancer-related issues. We investigated whether influenza and pneumococcal vaccination practices were diminished in a cohort of men following their diagnosis of prostate cancer, in an environment that has implanted an electronic health record with multiple redundant reminders.

Methods We used information collected as part of the California Mens Health Study, a prospective cohort study of nearly 40 000 men ages 45–69 years at baseline in 2002 who were recruited through the Kaiser Permanente Southern California Health Plan. We identified all 1636 men who were newly diagnosed with prostate cancer from 2002 through 2008 and examined the use of influenza vaccine in the year prior to and subsequent to their cancer diagnosis, in the period before and after the introduction of the electronic health record.

Results Of the 973 and 663 men with prostate cancer in the pre- and post-electronic era, 312 (33%) and 391 (59%) had an influenza vaccine in the year prior to diagnosis compared to 374 (39%) and 406 (61%) in the years following (Matched OR (95% CI) 4.84 (3.62 to 6.47) and 1.64 (1.14 to 2.36)). Similar results were obtained when expanded to 2 years.

Conclusion These data suggest that once diagnosed with prostate cancer, no less attention is paid to preventive care as measured by influenza vaccination. Moreover, even with the dramatic increases in vaccination rates associated with the electronic record, there remained a significant improvement following cancer diagnosis.

P1-184 A META-ANALYSIS OF THE PREVALENCE OF HIV/SYPHILIS AMONG CHINESE BISEXUAL MEN WHO HAVE SEX WITH MEN (MSM)

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Introduction In China, sexual transmission has become the major route of HIV transmission, prevalence of HIV is rapidly increasing among China men who have sex with men (MSM). This study investigate the bisexual behaviour among MSM and explore their HIV/syphilis prevalences stratified by sexual behaviour in order to inform the development of targeted preventive strategies.

Methods The Pubmed, Chinese Biomedical (CBM), Chinese National Knowledge Infrastructure (CNKI), VIP, Wanfang database, and Google Scholar databases were searched through June 2010 to

identify relevant articles. Data of eligible citations was extracted by two reviewers. All analyses were performed with Stata 10.0.

Results Fifty studies (including 28 739 total MSM subjects) met the selection criteria. Aggregated findings indicated that the estimated prevalence of bisexual behaviour among MSM in China is 31.2% (95% CI 28.1% to 34.5%). HIV and syphilis prevalences were 5.4% and 11.4%, respectively among MSM engaging in bisexual behaviour and 3.8% and 9.3% among MSM only having sex with men, in which HIV prevalence among MSM engaging in sex with both men and women was significantly higher than those who only have sex with men (OR 1.30; 95% CI 1.04 to 1.62; $p=0.02$).

Conclusion There is a high prevalence of bisexual behaviour among men who have sex with men in China, and bisexual behaviour is significantly associated with increased HIV infection risk. The results of this meta-analysis highlight a critical pattern of HIV transmission among MSM in China and indicate that targeted interventions aimed at encouraging safe sex practices and promoting societal and family acceptance of MSM are urgently needed.

P1-185 ESTIMATING THE ATTRIBUTABLE BURDEN OF CARDIOVASCULAR DISEASE FOLLOWING REDUCING THE PREVALENCE OF DIABETES TO THEORETICAL AND FEASIBLE MINIMUM RISK LEVEL

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Introduction Knowledge of the magnitude of attributable burden to cardiovascular disease (CVD) by diabetes, especially based on updated data are needed for health policy, priority setting and preventing CVD. This study aimed to estimate the contribution of diabetes to the attributable burden of cardiovascular disease in Iran.

Methods WHO Comparative Risk Assessment (CRA) methodology was used to calculating Potential Impact Fraction (PIF). Data on the Prevalence of newly diagnosed diabetes mellitus (NDM) and known diabetes mellitus (KDM) were obtained from 3rd Iranian surveillance of risk factors of non-communicable diseases and data on corresponding measures of effect were derived from a national-specific study with age and multivariate adjusted HRs. PIF were estimated on both theoretical minimum and feasible minimum risk. Uncertainty for the attributable burden was estimated by Monte Carlo simulation-modelling techniques incorporating sources of uncertainty.

Results Based on multivariate- adjusted HRs, by reducing the per cent of Iranian women with diabetes from 10.05% to the feasible minimum risk level that is, 5%, 6.8% (95% uncertainty intervals: 3.5 to 9.8) of attributable Disability Adjusted Life Years (DALYs) to CVD are avoidable and the corresponding value for men were 3.1% (95% uncertainty intervals: 1.4 to 4.8).

Conclusion Although data on the Prevalence of diabetes and corresponding measures of effect were obtained from an updated and country-specific source, but to better priority setting, PIF should be applied to updated and revised burden of CVD.

P1-186 CHALLENGES IN NATURAL EXPERIMENT RESEARCH: POTENTIAL LESSONS FROM THE H1N1 PANDEMIC

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Introduction Research on natural experiments (NEs) allows investigation into topics that are important for policy-makers, including