



RESIDENTS RESEARCH DAY – FALL 2010

Friday, November 5th, 2010
9:00 a.m.– 1:30 p.m.
Room B151 – 2206 East Mall (new SPPH Building)

Brian Ng (9:00 a.m.) -

The Impact of Population-based STI interventions on Prevention of HIV: A Cochrane Review*

Abstract

BACKGROUND The transmission of sexually transmitted infections (STI) is closely related to the sexual transmission of HIV. STI control, especially at the population or community level, may have the potential to contribute substantially to HIV prevention. **OBJECTIVES** To determine the impact of population-based biomedical STI interventions on the incidence or prevalence of HIV infection. **METHODS** We searched PubMed, EMBASE, Cochrane "Central," Web of Science/Social Science, PsycINFO, the Aegis database of conference abstracts, clinicaltrials.gov, the European Trials Registry and LILACS, for the period of January 1, 1980-August 16, 2010. We also checked the reference lists of included articles. **SELECTION CRITERIA** Randomized controlled trials involving one or more biomedical interventions in general populations in which the unit of randomization is either a community or a treatment facility and in which the primary outcome is incident HIV infection. Studies were excluded if individuals (and not communities) were randomized, it took place in a special venue, or it focused on special populations. **RESULTS** We included four trials. Overall, pooling the data of the four studies showed no significant effect of any intervention (RR = 0.97, 95% CI 0.78 - 1.22). Pooling the data for the three trials which did not involve mass treatment, showed no significant effect of any intervention (RR = 0.94, 95% CI 0.71 - 1.26). Only one out of the four studies (Grosskurth, et al) showed a significant effect of intervention (RR = 0.58, 95%CI 0.42-0.79). **CONCLUSIONS** There is limited evidence for biomedical STI treatment interventions for all community members in reducing HIV incidence.

** This abstract was awarded the prize for best presentation at the 2010 Community Medicine Residents' Research Day*

Lisa Mu (9:20 a.m.) -

Inspiring advocacy in family medicine: a qualitative pilot study

Abstract Mu L, Shroff F, & Dharamsi S

OBJECTIVE Physicians are increasingly called upon to address the social determinants of health, but are often ill equipped to do so, as there are no formal strategies for incorporating health advocacy into medical curricula. Literature is limited in these areas: health advocacy pedagogy, sources of inspiration for health advocacy (HA) and its role in medical education. This study aims to develop a better understanding of how physicians can be inspired during their residency training to engage in health advocacy. **DESIGN** In-depth, qualitative interviews. **SETTING** Urban family medicine residency program **PARTICIPANTS** Family medicine residents, educators and physicians who self-identify or were identified by peers as health advocates within the University of British Columbia's Department of Family Medicine. **METHOD** Semi-structured interviews were conducted with a purposive sample of four residents, three physicians and two educators. Interviews were audio-recorded, transcribed and analysed using framework analysis. The primary investigator was assisted in the analysis by the co-authors. A variety of viewpoints provided data triangulation. Transcripts were made available to the participants to ensure transcript accuracy. **MAIN FINDINGS** Health advocacy was seen as ranging from advocating for individual patients to lobbying for political change. Inspiration to engage in advocacy generally came from influences preceding medical training. Recommendations for promoting health advocacy in postgraduate training: integrating HA within the curriculum, cultivating a culture of respect among educators, experiential learning opportunities throughout medical training and fostering a community of practice for physician health advocates. **CONCLUSION** There are varied perceptions of HA and its role in medicine. Creating an enabling and nurturing environment prior to and during residency training is necessary to sustain the inspiration to engage in HA. This study sets the stage for a resident-guided participatory curriculum development process.

Joanna Oda (9:40 a.m.) -

Prevalence Driver Distractions in High School Students in Three Canadian Cities

Abstract J. Oda, A Macpherson, T. Middaugh-Bonney, S. Piedt, M. Brussoni, I. Pike.

INTRODUCTION Motor vehicle crashes are a leading cause of injury and hospitalization for Canadian youth. Graduated Drivers' Licensing have been implemented in several Canadian provinces. **PURPOSE** To assess the prevalence of compliance with rules and driving distractions among high school students in three Canadian cities (Halifax, Barrie and Vancouver) representing different geographic, socioeconomic, and jurisdictional settings. **METHODS** Observations were made at schools in the three cities. Schools were identified using school board websites and DMTI, a company that partners with universities to disseminate spatial data. Schools were classified into tertiles based on the income of their neighbourhood

census tract, (2006 census). Trained observers attended each site for 30 minutes at end of the school day in May and June, 2009. Information on: driver's sex, driver seatbelt use, presence of an adult, number of youth passengers, and four driver distractions: cell phone use, loud music, eating, and smoking were noted. **RESULTS** 417 observations were made at 40 schools. Among young drivers, the presence of at least one driver distraction was common (30.2% of cases). However, the type of distractions varied by province. The most common distraction was cell phone use in Vancouver. In Barrie and Halifax, the most common distraction was loud music. Distractions were seen more frequently among male drivers and drivers living in Vancouver. The effect of socioeconomic status varied by city. Seatbelt use was high in all sites. **CONCLUSION** Although many young drivers follow the rules, distractions remain common. Ongoing education and enforcement may improve youth driving behaviours further.

Tim Foggin (10:00 a.m.) - **Evaluating WorkSafeBC.com from the injured worker perspective**

Abstract

BACKGROUND Over 140,000 workers are injured in British Columbia yearly. While prevention of a first injury is most desirable, there is believed to be a window of opportunity for effective interventions following injuries. Having historically focused efforts on primary prevention, WorkSafeBC is now exploring post-injury secondary injury preventive strategies. WorkSafeBC has enjoyed growing acceptance, by employers, of its web presence (www.worksafebc.com) yet little is known about worker acceptance. The author was therefore asked by WorkSafeBC's Evidence Based Group to initiate a review of the website from an injured worker perspective. **METHODS** Website content was analyzed by page classification. Online publications were reviewed for relevancy to injured workers. Potential enhanced worker engagement during initial treatment period was explored in light of a knowledge-to-action framework. **RESULTS** Less than three percent of subcategories and <0.5% of web pages were targeted to injured workers' health and treatment concerns and most pages were directed at health care providers, followed by insurance and claim issues. No publications were found to address injured workers' immediate concerns regarding treatment and recovery. One page of evidence-based reviews aimed at health care providers was found. **CONCLUSIONS** The WorkSafeBC website addresses employers regarding primary prevention and regulations, workers regarding claims, and health care providers regarding treatment. Injured workers' concerns regarding injury, treatment and recovery are not adequately addressed. Addressing the concerns of injured workers may improve recovery for some and capitalize on a window of opportunity for preventing future injuries for most. Sample online educational aids and decision aids are demonstrated.

Piotr Klakowicz (10:40 a.m.) - **Mapping Childhood Cancer Cases and Industrial Carcinogens in Alberta, Canada**

Abstract P Klakowicz, J Serrano Lomelín, M Palma M, L Morales, K Stobart, A Osornio-Vargas, I Buka.

OBJECTIVES Mapping is a powerful way of delivering information on distributions of environmental pollutants and disease cases in a region of interest. This research project addressed questions focused on the distribution and co-location of childhood cancer cases and air-releases of carcinogens from industries in the province of Alberta. **METHODS** Data from three databases –the Alberta Cancer Registry, Statistics Canada, and the National Pollutant Release Inventory (NPRI)—was mapped and analyzed for childhood cancers (except cervical type), population distribution (age 0 to 18), and known carcinogens (IARC group 1) released into air by industries, in Alberta from 1994 to 2005. The geographic unit of FSA (FSAs) –the first three digits of the postal code –was used for mapping and analysis to ensure the privacy of individual cases.

RESULTS We found heterogeneous distributions of children, carcinogenic air emissions and cancers throughout Alberta. High carcinogen releases and cancer rates occurred in urban areas; and 90% of the cancer cases were living at the time of diagnosis within 11km of a industrial facility. **CONCLUSIONS** Existing cancer registry and industrial pollution databases can be used to construct maps to identify potential regions of concern for further detailed research and monitoring. Given that working with the geographic unit of FSA prevented adequate spatial analysis, issues around individuals’ privacy vs. the community’s right to know will need to be balanced with any related future research.

Jason Wong (11:00 a.m.) - **Updating the BC Cancer Agency Protocol to Investigate Cancer Clusters: A Review of the Literature and Practices in Other Jurisdictions**

Abstract J Wong, R Gallagher

The BC Cancer Agency (BCCA) frequently receives inquiries to investigate potential cancer clusters. As a result, the BCCA has developed a protocol to guide investigations of potential cancer clusters; however, this protocol has not been updated since 1998. The objectives of this study are to: 1) review the literature for novel frameworks for investigating cancer clusters, 2) review a sample of protocols used by other jurisdictions to investigate cancer clusters, and 3) recommend revisions to the BCCA cancer cluster investigation protocol. A review of the literature found a protocol developed in the Netherlands for investigating health events. An internet search was used to identify cancer cluster investigation protocols established by other jurisdictions. Protocols from USA (Washington, South Carolina, and New Jersey) and New Zealand were found. There were no protocols for cancer cluster investigation identified in Europe. However, the European Congenital Anomalies Taskforce (EUROCAT) Working Group reviewed 10 protocols to investigate

potential clusters of congenital anomalies. These protocols were reviewed for this study. Overall, this study found that the BCCA protocol for investigation cancer clusters is generally still current. A number of recommendations are presented, such as clarifying when to calculate an excess of cases and the addition of a communication strategy to guide the dissemination of information to the public.

Siavash Jafari (11:20 a.m) - **Burden of Injuries due to Motor Vehicle Accidents in British Columbia**

Abstract

BACKGROUND In Canada, around 160,000 motor vehicle related accidents occur every year that results in up to 2,900 deaths. In BC, Motor vehicle collision is the leading cause of death among 5 to 45 years old and accounts for over 6,200 hospitalizations and 450 deaths per year. **OBJECTIVES** The main objective of this study is to explore the burden of injuries due to motor vehicle collisions and to identify the risk factors of motor vehicle collisions among the residents of Vancouver Coastal Health Authority (VCHA), in British Columbia. **METHODS** Data for motor vehicle collision related hospitalizations from 1997 to 2006 and ICBC claims and traffic accidents report from 2003 to 2007 were obtained from the Ministry of Health. **RESULTS** A total of 10,346 MVC related hospitalizations (3748 females and 6598 males) were reported in VCHA from 1997 to 2006. Motor vehicle occupants experienced the highest number of hospitalizations (38.4%) followed by cyclists (20.5%) and Pedestrians (17.5%). Majority of accidents (59.60%) occurred during the day light. Driver related problems such as inattentiveness, confusion, and lack of experience were the most common contributing factors (33.0%) followed by environmental factors (6.72%) and alcohol and drugs (6.6%). Cellphone use contributed to only 0.04% of accidents. A total of 1.7% of all accidents had fatal outcome. December (9.3%), November (9.2%) and October (9.1%) were the months when most of the accidents occurred. However, November was the most fatal month when 10.4% of the deaths occurred.

CONCLUSION Findings of this study highlights the major contributing factors for MVC related injuries among the residents of VCHA. Identification of these risk factors would shed light on development of a sustainable network of partners to address the burden of injuries related to MVC in the related communities.

Naomi Dove (11:40 a.m) - **Energy Drinks & Children/Youth: What's the Big Deal?**

Abstract

OBJECTIVES Energy drink consumption is becoming increasingly prevalent among children and youth. Concerns have centred around accessibility, lack of adequate labeling and potential health effects due to high caffeine content of these beverages. Available literature was reviewed to elucidate acute and chronic health effects of caffeine and energy drink ingestion by children/youth.

METHOD Electronic databases and reference lists were searched for relevant English language papers published between 1980-2010, limited to individuals under 18 years of age.

FINDINGS Limited research exists for children/adolescents in this area. Small randomized placebo controlled trials have demonstrated minor beneficial effects of acute low dose caffeine administration in some individuals, along with adverse effects similar to those experienced by adults at low and high doses. Evidence from case series and cohort studies suggest that children/youth experience tolerance and withdrawal effects related to chronic caffeine exposure. Cross-sectional studies indicate an association between caffeine intake and disrupted sleep patterns. There are no studies investigating the health effects of energy drinks on children/youth.

CONCLUSION Limited evidence suggests that adverse health effects can result from acute and chronic caffeine ingestion in this population, including the potential for acute intoxication, tolerance and withdrawal symptoms. The impact on daily functioning and long term growth and development is not clear. There is currently no research on the health impacts related to energy drink usage in children/youth. While more research is required in this area, the precautionary principle should be employed to limit the accessibility of these products to children/adolescents.

Audrey Campbell (12:00 p.m) - **Immunization coverage and vaccine-preventable diseases among children in the Sunshine Coast Local Health Area (LHA)**

Abstract

Background: Routine immunization rates, and occurrence of VPDs in the Sunshine Coast LHA, are uncertain. The objectives of this study were to determine immunization rates for the 2005-07 birth cohorts, explore 'drivers', and determine counts and incidence rates of VPDs among children 0-6 years.

Methods: This study utilized the iPHIS database, and defined completion from the perspective of "program delivery" (i.e., receiving recommended routine immunizations to age 18 months). Counts of selected VPDs were determined for 2006-10, and incidence rates were calculated using population estimates.

Results: In the two largest municipalities, there were 199-233 children in each birth cohort. Immunization rates for most series were ~80% or lower. However, certain groups may be missing from the numerator \pm denominator. Among the 2005 cohort, 12.2%-16.1% had no immunizations registered. There was also evidence of decreasing uptake with increasing dose number. Six cases of pertussis were reported in the LHA, two in 2008 (1.3/1000 children/year) and four in 2010 to-date (2.6/1000 children/year). One case of pneumococcal, invasive was reported. No other VPDs were reported (diphtheria, tetanus, polio, *haemophilus influenzae* type b, measles, mumps, rubella, hepatitis B, or meningococcal C disease).

Interpretation: Comparatively low immunization rates are due to children with no immunizations registered, along with decreased uptake of doses later in series; however, additional data sources are required for missing groups. Future research should assess immunization from the perspective of “up-to-date for age”. An essential next step is to determine vaccination history of children with pertussis to explore the relationship with immunization.