Dr. Ariane Marelli, MD, Director, McGill Adult Unit for Congenital Heart Disease, McGill University

Of over 96,000 adult congenital heart disease (ACHD) patients 50% require ongoing expert care. In 1998, Canadian Guidelines were published recommending regionalization of ACHD care. Our goal was to determine the impact of this policy on structure and process measures of health care quality in ACHD patients in Canada. Survey methodology targeted all Canadian Adult Congenital Heart (CACH) network affiliated ACHD regional centers and/or clinics established from 97-2000. Clinics prospectively collected data in 2007. Structure related quality metrics included numbers of ACHD patient visits, clinics, sub-specialty clinics, multi-disciplinary management conferences and ACHD training capabilities. Procedural volumes were collected for percutaneous, surgical, electrophysiological interventions. Providers were defined as pediatric or adult, based on the certification with the Royal College of Physicians and Surgeons of Canada. Process measures of quality included waiting times for non-urgent ACHD consultations and procedures. These were compared to standardized recommendations for Canadian waiting times. All of the 15 centers registered with the CACH network responded. The total number of patients followed in Canada was 21,879 (median per clinic =3D 1,132 (IQR: 585, 1,816)). The total number of registered patients was 27,739 (median per clinic =3D 1,650 (IQR: 600, 2,246)). The ratio of patient visits to the active patient population for 2007, was 1:1.7. Of the total 80 adult and pediatric cardiologists affiliated to ACHD clinics, only 27% had received formal ACHD training. Waiting times for non-urgent consultations were 4±2 mths, and 4±3 mths for percutaneous and surgical procedures. These were beyond Canadian recommended targets at 11 sites (73%) for non-urgent consultations, at 8 sites (53%) for percutaneous interventions and 13 sites (87%) for surgery. Less than 30% of ACHD patients in Canada are meeting policy recommendations nearly 10 years after their publication. In spite of universal access to health care, structure and process measures of health care quality are not being met. Care gaps for life-long diseases need to be addressed.

E2: PRESENTATION - Regionally care for adults with congenital heart disease in Canada; the impact of policy on quality- A pan-Canadian study

E2: PRESENTATION - Variation in potential facility determinants of Emergency Department (ED) transfers - a survey of residential care facilities

Kia Salomons, Centre for Clinical Epidemiology and Evaluation; Michelle Cox, Centre for Clinical Epidemiology and Evaluation

RCFs provide care to frail elders. When ill, facility residents are often transferred to the nearest ED. These transfers strain health care resources and are often of questionable value for the patient. We examined variations in facility characteristics that in earlier studies were associated with ED transfers. We surveyed Directors of Care or managers in for-profit, non-profit and public RCFs in the Vancouver Coastal Health Authority. Survey questions were developed by reviewing the literature, through discussions with RCF managers and nursing experts, and by piloting the survey instrument. Participants could choose to self-administer the survey or participate in a telephone interview. The survey themes were: access to professional and medical expertise; nursing staff organization and staffing levels; end of life care support and staff training; team approach to care; and volunteer engagement. We sent out 62 surveys and received 44 (71%) responses. Sixteen (36%) facilities had some access to a nurse practitioner or clinical nurse specialist. Facilities had a mean of 1.7 physicians for every 10 residents (SD 1.2). Almost two-thirds reported telephone access to a resident’s usual physician as easy (66%), however a similar proportion reported that having a physician come in, in a timely manner, was somewhat difficult or difficult (66%). Less than one half (39%) of facilities had standing orders for palliative care. Care Aides participated in care conferences in fewer than half of (48%) facilities. Twenty-seven (61%) Directors of Care routinely held staff meetings with all three nursing groups (RNs, LPNs, Care Aides). One in five (20%) facilities contracted out nursing staff. The absence of timely on-site access to a resident’s usual physician, and standing orders for end of life palliative care in the majority of facilities may contribute to higher RCF ED transfer rates.

E2: PRESENTATION - Patient Safety in Saskatchewan: Adverse Event Rates and Their Cost to Healthcare System

Recep Gezer, Researcher, Health Quality Council

The study objectives are to: (a) report on adverse events rates for the province of Saskatchewan for fiscal years 2001/02 to 2007/08; (b) estimate the potential impact of adverse events on health care resource utilization and patient mortality. 10 Patient Safety Indicators developed by the US Agency for Health Research and Quality and Saskatchewan hospital administrative data were used to measure adverse event rates. Statistical process control charts were used to show significant improvements and declines in adverse event rates over time among Saskatchewan hospitals. Resource utilization and mortality rates were compared for patients who experienced an adverse event during hospitalization (cases) and matched controls who did not experience an adverse event. Cases and controls were matched on age, sex, major clinical category, and comorbidity. Generalized linear regression model was used to compare cases and controls. The most common adverse events were obstetric traumas: 16.2% of vaginal delivery with instrument discharges, 2.9% of vaginal delivery without instrument discharges, and 3.0% of cesarean section discharges resulted in a trauma. Rare adverse events included transfusion reaction and foreign body left in during procedure: 8 incidences and 52 incidences in 7 years for the province, respectively. Cases stayed longer in hospitals than controls: 20 days longer for postoperative sepsis and 19 days longer for postoperative pulmonary embolism. Cases were readmitted to hospitals more often than controls: 4.5 times more for postoperative sepsis and 2.7 times more for catheter-related infections. The relative risk of mortality was 4.0 times higher for transfusion reaction and 2.8 times higher for postoperative sepsis for cases. Hospital administrative data provides a potentially useful and inexpensive tool to monitor patient safety and show substantial variation across the province, suggesting a number of opportunities for improvement. Adverse events have negative consequences for patients and result in increased healthcare utilization, making them an important tool for health system evaluation and policy development.

E3: PRESENTATION - How can we explain variations in provision of primary care between urban and rural area?

Roxane Borges Da Silva, Direction de santé publique de Montréal

Context: Provision of care by GP varies very different in urban and rural area. Such differences presumably conceal other differences in primary care organisation. Objective: Determine the extent to which differences in providing care in urban and rural area can be explained by differences in practice settings configuration. Design: Data come from two files that have been linked, the Régie d’Assurance Maladie du Québec and Collège des Médecins du Québec. Using non parametric statistics (factorial analysis), the authors performed 2 taxonomies: one of organizational environment - 7 different profiles of practice settings configuration; one of geographical environment - 4 different profiles of environmental characteristics. They have evaluated the provision of care as measured by accessibility, continuity, productivity and comprehensiveness indicators. Results: Best accessibility and continuity indicator are offered in rural area. Comprehensiveness is better in urban place. Productivity is highest in metropolitan place. Configuration of practice settings is different from rural to urban area. In rural zone, most of the GP work in several places. In metropolitan area, lots of GP work in only one place: private clinic or hospital. Conclusions: These relationships hold even after controlling for other confounding variables like patients, etc. In order to evaluate geographic disparities in providing
primary care services, one must take into account more than the population/doctor ratios, namely changes in the distribution of organizational arrangements used by doctors in different environment contexts.

Co-Authors: André-Pierre Contandriopoulos, Université de Montréal; Raynald Pineault, Direction de santé publique de Montréal

**E3: PRESENTATION - Forging a Health Policy Geography: Applying a Geographic Lens to Provincial Policy Frameworks to Reform Adolescent Mental Health Services**

Amanda Slaunwhite, PhD Student, University of Victoria

The objectives of this research are to obtain a greater understanding of the child mental health reform agenda in the context of broader provincial and national health care restructuring, to determine differences in provincial policy frameworks, and to apply a critical health geography lens to determine what has been done to improve accessibility to child mental health care in Canada. This paper will take a policy oriented approach to applying aspects of the health geography literature to provincial frameworks for child mental health reform in order to assess how research in these fields has helped inform policy. This is based on the rationale that health geographers have much to contribute to policy making, and that the application of this lens will offer an untraditional method for assessing the effectiveness and scope of provincial policies to reform child mental health services. The paper will emphasize the need for policy to recognize that ‘place matters’ in the delivery of child mental health services. There is much variation in the scope and detail of the provincial frameworks for child mental health reform. While most plans addressed topics related to the evaluation criteria, there are varying degrees of emphasis placed on these subjects and the lack of implementation plans in Saskatchewan and Ontario are problematic for determining how changes will be made. While the importance of place to delivering and reforming child mental health services is recognized in the four provincial plans reviewed, the lack of local administrative infrastructure may impede the implementation of this goal. Due to the variation and differences in the approaches taken by the provinces to improve child mental health services, it is advantageous that efforts have already begun to develop a national strategy for mental health in Canada. At the end of the presentation, participants will have a greater understanding of the use of a geographic approach to evaluating health care policy, and the importance of place in designing mental health services for children.

Co-Authors: Aleck Ostry, University of Victoria

**10:45am – 12:00pm STREAM E4 - METHODS**

**E4: PRESENTATION - Building methods to measure and improve equitable access to quality colorectal cancer services in Nova Scotia**

Dr. Eva Grunfeld, Ontario Institute for Cancer Research and Dept. of Family and Community Medicine, University of Toronto

Team ACCESS is an interdisciplinary team studying access to quality colorectal cancer (CRC) services in Nova Scotia. One objective of Team ACCESS is to develop tools to measure and improve timely and equitable access to, and quality of, CRC services at transition points along the cancer care continuum. We identified all patients diagnosed with CRC between 01Jan01-31Dec05 through the Nova Scotia Cancer Registry. This five-year population-based staged cohort was anonymously linked to 15 administrative health databases, including hospital discharge abstracts, physicians’ billings, and cancer centre, census, and local palliative care and radiology data. Nine pilot studies are examining different transition points to measure three overarching themes (access, quality, equity) related to CRC care. The methods being developed to measure these themes include: wait times framework and variations by subpopulations (access); quality indicators and adherence to practice guidelines (quality); and a clinical application of the Horizontal Inequality Index (inequality). 3501 patients comprise the study cohort. Descriptive analyses were completed for health services use during the diagnostic, surgery, and treatment periods. We are currently measuring wait times, quality indicators, adherence to practice guidelines, and inequity of CRC services at transition points across the care continuum (e.g., from screening or first signs and symptoms to follow-up care or end-of-life care). We are also developing methods to study how access to, quality of, and inequity in CRC services at each phase of the continuum affects outcomes. Linking data from numerous sources allows us to more appropriately examine care events across the continuum and measure access, quality, and inequity for entire populations. Our system-wide perspective enables us to better understand how health system factors at different stages of the care continuum may contribute to differences in outcomes.

Co-Authors: Robin Urquhart, Cancer Outcomes Research Program, Cancer Care Nova Scotia; Jingyu Bu, Cancer Outcomes Research Program, Cancer Care Nova Scotia; André Maddison, Department of Community Health and Epidemiology, Dalhousie University; Yukiko Asada, Department of Community Health and Epidemiology, Dalhousie University

**E4: PRESENTATION - Another study showing that the EQ-5D and SF-6D are not interchangeable. But why would we expect them to be?**

Dr. Stirling Bryan, Professor of Health Economics, University of British Columbia

Preference-based measures of health-related quality-of-life are necessary for economic evaluation. Two common preference-based measures, the EQ-5D and the SF-6D, have been shown to have poor agreement. Our objective was to provide further insight into the nature of between-measure discrepancies, using index scores collected from patients with nonspecific neck pain. The expected ‘poor agreement’ was explored using intraclass correlation coefficients (ICC) and Bland & Altman plots. Subsequently, techniques were used to investigate the reasons for poor agreement, which focused on practical agreement, which focused on practical considerations and the respective descriptive and valuation components of the two measures. Techniques included the assessment of response rates, item-completion rates, question formats, dimension-to-dimension correlations, floor and ceiling effects, and construct validity. In addition to exploring index scores, a number of analyses focused on responses to the respective pain dimensions. Data for our analysis came from a randomised control trial of alternative therapies for nonspecific neck pain. As expected, a poor level of agreement was confirmed. The two measures do not permit respondents to value their health state in the same manner, due, primarily, to differences in the contextual framing of items and the number of available response options. Ceiling effects were identified within EQ-5D dimensions. The EQ-5D and SF-6D were indistinguishable with regard to the statistical significance of linear trends across theoretical constructs. Response rates were consistently better for the EQ-5D; there was a 10% difference between the two measures with regard to the ability to generate QALY scores over the trial period (74% EQ-5D, 64% SF-6D). Poorer completion on the SF-6D was related to a single item - the physical component of the role limitations dimension. The non-interchangeable nature of EQ-5D and SF-6D index scores is not surprising given the differences in their descriptive content. Selecting the ‘better’ measure is problematic. In their current format, the wider scoring range and better completion rates of the EQ-5D are sufficient for it to remain the industry standard.