Welcome to Rural and Northern Health Research: Bridging the Distance, the joint scientific conference of the Canadian Rural Health Research Society (CRHRS) and the Canadian Society for Circumpolar Health (CSCH).

Understanding rural, remote and northern health issues includes broadening our perspective to examine the social, political and physical context within which these issues are experienced. To accomplish this, the specific conference themes include: physical and work environments; challenges in conducting research in rural, northern and remote settings; aboriginal health; biomedical, clinical, policy, and population issues; delivery of health services; and partnerships and networking.

With over 150 papers and posters on these topics there is plenty to choose from and lots to learn. The themes have been divided into 19 separate sessions for oral presentations, and 2 sessions for poster presentations. The session schedules show each presentation, listed in order of date & time by presenter, followed by the respective abstracts.

Bienvenue à la conférence scientifique Recherche en santé rurale, nordique et circumpolaire: Faire le pont, une initiative conjointe de la Société canadienne de recherche en santé rurale (SCRSR) et la Société canadienne pour la santé circumpolaire (SCSC).

Une bonne compréhension des questions de santé dans un contexte rural, isolé et nordique comprend l’élargissement de nos perspectives pour inclure les contextes sociaux, politiques et physiques. Les thèmes spécifiques de la conférence comprennent donc: Environnement physique et du travail; Défis de la recherche en milieu rural et nordique; Santé des autochtones; Questions biomédicales, cliniques, de populations et de politiques; Accès aux services de santé; Partenariat et réseautage.

Avec plus de 150 présentations orales et par affiches, nous vous offrons un éventail d’opportunités pour apprendre. Les thèmes sont séparer en 19 sessions de présentations orales et 2 sessions par affiches. Les horaires de présentations indique chaque présentation par journée et heure avec présentateur. Les résumés suivre.
<table>
<thead>
<tr>
<th>Time/Heure</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>07:30-16:00</td>
<td>Conference Registration / Inscription</td>
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<tr>
<td>08:00</td>
<td>Continental Breakfast / Petit déjeuner</td>
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<tr>
<td>08:45-09:00</td>
<td>Conference Opening / Ouverture</td>
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<tr>
<td>09:00-10:00</td>
<td>Keynote Speaker / Conférencier principal (*simultaneously translated/traduction simultanée)</td>
</tr>
<tr>
<td>10:00-10:30</td>
<td>Poster Viewing / Exposition d’affiches</td>
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<tr>
<td>10:30-12:00</td>
<td>Concurrent Sessions / Sessions concomitantes</td>
</tr>
<tr>
<td>10:30-12:00</td>
<td>F-1: Rural Setting * Fran Racher</td>
</tr>
<tr>
<td>10:30</td>
<td>948 – Reconciling the Differences between Ethical Review Standards and the Reality of Research in Northern Settings. <em>Pertice Moffitt</em></td>
</tr>
<tr>
<td>10:45</td>
<td>949 – Taxonomies of Rural Communities Based on Health Determinant and Health Status Indicators. <em>Roger Pitblado</em></td>
</tr>
<tr>
<td>11:00</td>
<td>956 – Do Changing Intentions Pave the Road of Family Medicine Residency Training in Northern Ontario? <em>Denis Heng</em></td>
</tr>
<tr>
<td>11:15</td>
<td>920 – Northern Health: A Community Based Approach. <em>Cal Albright</em></td>
</tr>
<tr>
<td>11:30</td>
<td>902 – The Silent “S” in Health: the Place of Schools in the Health of Rural and Northern Children and Youth. <em>Kate Tilleczek</em></td>
</tr>
<tr>
<td>11:45</td>
<td>903 – Studying Rural Diversity in Health at a Local Scale: The Case of Portneuf. <em>Robert Pampalon</em></td>
</tr>
<tr>
<td>12:00-13:30</td>
<td>Networking Lunch / Dîner causerie</td>
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</tbody>
</table>

*F-1: Rural Setting
F-2: Climate Changes & Social Issues

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**Keynote Speaker / Conférencier principal**

Louis Fortier, ArcticNet, Université Laval

“High Latitude Fever: Is the Arctic Warming Faster than Expected?”
<table>
<thead>
<tr>
<th>Time/ Heure</th>
<th>Horaire des présentations</th>
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<tbody>
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<tr>
<td>08:45-09:00</td>
<td>Ouverture / Conference Opening</td>
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<tr>
<td>09:00-10:00</td>
<td>Keynote Speaker / Conférencier principal (*simultaneously translated/traduction simultanée)</td>
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<tr>
<td></td>
<td>“High Latitude Fever: Is the Arctic Warming Faster than Expected?”</td>
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<tr>
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<td>Poster Viewing / Exposition d’affiches</td>
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<td>Coffee Break / Pause café</td>
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<tr>
<td>10:30-12:00</td>
<td>Concurrent Sessions / Sessions concomitantes</td>
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<tr>
<td>12:00-13:30</td>
<td>Networking Lunch / Dîner causerie</td>
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</tbody>
</table>

**Escalier**

- Conference Registration / Inscription
- Continental Breakfast / Petit déjeuner

**Frontenac**

- Ouverture / Conference Opening
  - Welcome and Introductions / Bienvenue et salutations
  - Martha MacLeod, University of Northern British Columbia
  - Earl Nowgesic, President / Président, CSCH / SCSC

**Frontenac**

- Keynote Speaker / Conférencier principal
  - Louis Fortier, ArcticNet, Université Laval
  - “High Latitude Fever: Is the Arctic Warming Faster than Expected?”

**Ste. des Gouverneurs**

- Pregnancy and Perinatalitly
  - Caroline Duchaine

**Laval**

- Concurrent Sessions / Sessions concomitantes

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**F-3**

- **880** – An Epidemiological Survey of Gonococcal & Chlamydial Infections in a Canadian Arctic Community: Determinants of Sexually Transmitted Infections among Remote Inuit Populations. **Audrey Steenbeek**

- **946** – Cree Women’s Perceptions of Weight Gain in Pregnancy and Weight Loss following Pregnancy. **Helen Vallianatos**

- **910** – Epidemiology of Human Papilloma Virus Infection in Aboriginal Women of Nunavik, Québec. **Paul Brassard**

- **876** – Gestational Diabetes: Do Educational Programs for Health Care Providers Impact Use of Clinical Practice Guidelines. **Eilish Cleary**

- **893** – Picturing Health: Perinatal Stories and Photographs by Tlicho (Dogrib) Women. **Pertice Moffitt**

- **925** – Dietary Adequacy of Pregnant and Lactating Arctic Indigenous Women. **Harriet Kuhnlein**

**Champlain Bibliothèque**

- Networking Lunch / Dîner causerie
# Conference Session Schedule  
## Horaire des présentations

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<tbody>
<tr>
<td>13:30-15:00</td>
<td>Frontenac</td>
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<tr>
<td>13:30-15:00</td>
<td>Saint Louis</td>
</tr>
<tr>
<td>13:30</td>
<td>927 – Spatial Analysis on Rural Environmental Health: Challenges and Opportunities. Mikiko Terashima</td>
</tr>
<tr>
<td>13:30</td>
<td>1057 – Rural Determinants of West Nile Virus Transmission and Disease: A Risk Assessment Tool. Erin Laing</td>
</tr>
<tr>
<td>13:45</td>
<td>1008 – Genetic Epidemiology of Atopy and Variants in TLR4 and CD14 in a Rural Population. Merry-Lynn McDonald</td>
</tr>
<tr>
<td>14:00</td>
<td>990 – Examining Intrapersonal Correlates of Physical Activity in Elementary-Aged Rural Youth. Mark Bruner</td>
</tr>
<tr>
<td>14:45</td>
<td>941 – Partnering with Aboriginal Grandmothers to Inform the Development of a Culturally Relevant Dementia Clinic Protocol. Shawnda Lanting</td>
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<tr>
<td>15:00-15:30</td>
<td>Poster Viewing / Exposition d’affiches</td>
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<td></td>
<td>*authors in attendance / en présence des auteurs</td>
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<tr>
<td></td>
<td>— Coffee Break / Pause café</td>
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<td></td>
<td>Salon Rose &amp; hallway</td>
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</tbody>
</table>

- **F-4**  
  PHARE – Part 1  
  *James A Dosman*

- **F-5**  
  Childhood Health  
  *Kate Tilleczek*

- **F-5**  
  Benefits of the POD Educational System for Children with Fetal Alcohol Spectrum Disorder (FASD) in an Inuit Community in Labrador.  
  *Michael Jong*

- **F-5**  
  Dietary Intake in First Nation Children.  
  *Amber Arnold*

- **F-5**  
  The Manitoba Collaborative Project for the Prevention of Early Childhood Tooth Decay.  
  *Robert Schroth*

- **F-5**  
  Community Photovoice: Leaf Rapids Through the Eye of Youth.  
  *Fran Racher*

- **F-5**  
  The Relationship between Farming Activities and Asthma and Allergy in Children: The Humboldt Study.  
  *Pamela Farthing*

- **F-5**  
  Lower Incidence of Asthma among Canadian Children Living in a Farming Environment.  
  *William Midodzi*
### Conference Session Schedule

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<tbody>
<tr>
<td>13:30-15:00</td>
<td>F-6 Challenges in Rural &amp; Northern Research Part 1 <strong>Kue Young</strong> F-7 Women’s Health &amp; Social Issues <strong>Pertice Moffitt</strong></td>
</tr>
<tr>
<td>13:30</td>
<td>1011 – The Sioux Lookout Anishinabe District Health Plan - Development of a Reinvestment Plan to Enhance Community Based Primary Health Care Services for the Sioux Lookout District. <strong>Janet Gordon</strong></td>
</tr>
<tr>
<td>13:45</td>
<td>877 – Lessons from the National Evaluation of the Health Transfer Policy. <strong>Josée Lavoie</strong></td>
</tr>
<tr>
<td></td>
<td>1049 – Canadian Inuit and Healing the Legacy of Residential Schools. <strong>Gail Valaskakis</strong></td>
</tr>
<tr>
<td>14:00</td>
<td>1033 – Effective Integration of Direct Clinical Care and Health Research in the NWT. <strong>Ewan Affleck</strong></td>
</tr>
<tr>
<td></td>
<td>967 – Remembrance of Illness and Recovery: Identity Changes of Inuit Men and Women Who Were Treated in Southern Hospitals in the 1950s. <strong>Ebba Olofsson</strong></td>
</tr>
<tr>
<td>14:30</td>
<td>978 – “This Is Important Work You’re Doing”: Rewards and Challenges of Doing Health Care Research in a Remote First Nations Community. <strong>Denise Tarlier</strong></td>
</tr>
<tr>
<td>14:45</td>
<td>898 – Working Together to Get the Word Out: An Innovative Example of Knowledge Transfer in Canadian Rural Women's Health Research. <strong>Rebecca Suthers</strong></td>
</tr>
<tr>
<td></td>
<td>968 – Young Rural Women’s Conceptualizations of their Health: An Historical Perspective. <strong>Deborah Stiles</strong></td>
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**Salon Rose & hallway**

**Poster Viewing / Exposition d’affiches**

*authors in attendance / en présence des auteurs*

—— Coffee Break / Pause café

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Program and Abstracts xxv

Programme et résumés
### Conference Session Schedule
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<tbody>
<tr>
<td>15:30-17:00</td>
<td>Frontenac</td>
<td>Saint Louis</td>
</tr>
</tbody>
</table>
| 15:30-17:00 | **F-8**  
PHARE – Part 2  
William Midodzi | **F-9**  
Cancer Plus 1  
Mary Ellen Andrews |
| 15:30      | 928 – Assessment of the Presence of Pathogens and Multi-drug Resistant Pathogens in the Air, Manure and Nasal Flora of Farmers Working in Swine Confinement Buildings using Different Production Systems. Valérie Létourneau | 905 – Bereaved Family Member Perspectives about Care in the Last Month of Life of Rural Saskatchewan Cancer Patients. Donna Goodridge |
| 16:00      | 886 – A Survey of Physicians’ Views on the Saskatchewan Cancer Agency’s Community Follow-up Program. Raegan Osicki | 1046 – Providing Cancer Education for Alaska Native People. Melany Cueva |
| 16:45      | 881 – Role of Dendritic Cells in the Viral-Induced Enhanced Antigen Sensitization in Hypersensitivity Pneumonitis. Melissa Girard | 1017 – Transportation Issues in Rural Areas: an Investigation into the Differential Effects of Lack of Transportation for Younger and Older Adults. Bonnie Dobbs |
| 17:00-18:00| CRHRS Annual Meeting  
Réunion annuelle de la S CRSR | |
<p>| 18:30      | Cocktails (cash bar) / Apéritifs (bar payant) | Place d’Armes |
| 19:00-22:00| Banquet and Entertainment / Souper soirée | Jacques Cartier |</p>
<table>
<thead>
<tr>
<th>Time / Heure</th>
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<tbody>
<tr>
<td>15:30-17:00</td>
<td>Ste. des Gouverneurs / Laval</td>
</tr>
<tr>
<td>15:30-17:00</td>
<td>Challenges in Rural &amp; Northern Research Part 2 / Knowledge and Modern Communication Strategies</td>
</tr>
<tr>
<td>926 – Health Information Processes of Urban Inuit: Bridging the Gap between the North and the South. Kelly McShane</td>
<td>874 – E-Mail Contact between Patients and Doctors in Primary Health Care. Thomas Stensgaard</td>
</tr>
<tr>
<td>CSCH Meeting Réunion de la SCSC</td>
<td>17:00-18:00</td>
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<tr>
<td>Place d’Armes Cocktails (cash bar) / Apéritifs (bar payant)</td>
<td>18:30</td>
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<tr>
<td>Jacques Cartier Banquet and Entertainment / Souper soirée</td>
<td>19:00-22:00</td>
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## Conference Session Schedule

**Saturday / samedi, 29 October / octobre – morning / matin**

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<thead>
<tr>
<th>Time/ Heure</th>
<th>Event/ Événement</th>
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<tr>
<td>07:30</td>
<td>Continental Breakfast / Petit déjeuner</td>
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<tr>
<td>08:00-12:00</td>
<td>Conference Registration / Inscription  =&gt; Escalier</td>
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<tr>
<td>08:30-09:30</td>
<td>Mini Symposium on Mercury / Symposium sur le mercure  =&gt; Frontenac (<em>simultaneously translated / traduction simultanée</em>)</td>
</tr>
<tr>
<td>08:30</td>
<td>1053 – Peripheral Biochemical Markers for Early Neurological Effects of Methylmercury: Results from a Fish-Eating Population from the St. Lawrence River, Canada. <strong>Christopher Stamler</strong></td>
</tr>
<tr>
<td>09:00</td>
<td>1052 – Mercury Exposure in Two Communities in Nunavut, Canada. <strong>Patricia Solomon</strong></td>
</tr>
<tr>
<td>09:30-10:00</td>
<td>Poster Viewing / Exposition d’affiches  =&gt; Salon Rose &amp; hallway</td>
</tr>
<tr>
<td>08:30-12:00</td>
<td>Concurrent Sessions / Sessions concomitantes  =&gt; Frontenac</td>
</tr>
<tr>
<td>10:00-12:00</td>
<td>Concurrent Sessions / Sessions concomitantes  =&gt; Saint Louis</td>
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### Frontenac

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<thead>
<tr>
<th>Time/ Heure</th>
<th>Event/ Événement</th>
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</thead>
</table>
| 10:00-12:00 | **S-1**  Santé publique en milieu rural  *Susie Bernier*  
*simultaneously translated / traduction simultanée* |
| 10:00       | 959 – Serving Cree Wild Game Meat at Chisasibi Hospital in Northern Québec: a Community Project Aiming to Increase Food Security. **Elizabeth Robinson & George Diamond** |
| 10:15       | 932 – Collaboration interdisciplinaire en région isolée: le Cas de l’Eeyou Istchee. **Lily Lessard** |
| 10:30       | 981 – Modes d’organisation et accès aux services pour les communautés rurales, éloignées et isolées: Itinéraire d’un programme de recherche. **Josée Gauthier** |
| 10:45       | 982 – Modes d’organisation et accès aux services pour les communautés rurales, éloignées et isolées: Prendre la route à témoin pour apprécier l’éloignement. **Josée Gauthier** |
| 11:00       | 983 – Modes d’organisation et accès aux services pour les communautés rurales, éloignées et isolées: Variations observées entre les communautés du Québec quant à l’utilisation des services. **Josée Gauthier** |
| 11:15       | 985 – Modes d’organisation et accès aux services pour les communautés rurales, éloignées et isolées: Quand les communautés rurales nous parlent d’accessibilité. **Jeanne Haggerty** |
| 11:30       | 984 – Modes d’organisation et accès aux services pour les communautés rurales, éloignées et isolées: Exploration guidée de l’organisation des milieux cliniques de 1ère ligne. **Paul Lamarche** |
| 11:45       | 986 – Interdisciplinarité et pratiques en collaboration interprofessionnelle dans le régions rurales, éloignées et isolées du Québec. **Hélène Sylvain** |

### Saint Louis

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<thead>
<tr>
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<tbody>
<tr>
<td>9:00</td>
<td>897 – Congestive Heart Failure in Rural Communities: The Need for Rural-Models of Care. <strong>Alexander Clark</strong></td>
</tr>
<tr>
<td>9:30</td>
<td>937 – Living Well: Diabetes and Cardiovascular Disease in First Nations People - An Ethnographic Study. <strong>Julianne Sanguins</strong></td>
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<tr>
<td>10:00-12:00</td>
<td><strong>S-2</strong>  Diabetes and Cardiovascular Disease  <em>Grace Egeland</em></td>
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<tr>
<td>10:00-12:00</td>
<td>--- Coffee Break / Pause café</td>
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<tr>
<td>10:00-12:00</td>
<td>CRHRS Board Luncheon Meeting  Réunion du conseil de la SCRSR</td>
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**12:00-13:00**  Lunch (on your own) / Dîner (libre)
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<th>Time/Heure</th>
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<td>Mini Symposium on Mercury / Symposium sur le mercure (<em>simultaneously translated / traduction simultanée</em>) – Yvon Cormier</td>
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<td>10:00-12:00</td>
<td>Concurrent Sessions / Sessions concomitantes</td>
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<tr>
<td>S-3</td>
<td>Health Care Professionals</td>
<td>Judith Kulig</td>
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<td>S-4</td>
<td>Mental Stress and Depression</td>
<td>Bruce Minore</td>
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<tr>
<td>10:00</td>
<td>1004 – Rural/Urban Job Shadowing: Collaboration in Understanding. Pam Little</td>
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<tr>
<td>10:00</td>
<td>923 – Depression and Depressive Symptoms in Older Persons Living in Rural Areas: A Systematic Review. Phil St. John</td>
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<td>10:15</td>
<td>943 – Male Nurses in Rural and Remote Canada. Mary Ellen Andrews</td>
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<tr>
<td>10:15</td>
<td>922 – Community and Individual Factors Associated with Depressive Symptoms in Older Persons in Rural Manitoba. Phil St. John</td>
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<tr>
<td>10:30</td>
<td>957 – Aboriginal Nurses: Insights from a National Study. Judith Kulig</td>
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<tr>
<td>10:30</td>
<td>1058 – Health Status and Unmet Needs for Health Care in the Canadian North. Jungwee Park &amp; Connie H Nelson</td>
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<tr>
<td>10:45</td>
<td>1054 – Profound but Obvious: Enhancing Quality of Life for People with Serious Mental Illness Living in Rural Areas. Jean Renée Robinson</td>
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<tr>
<td>11:00</td>
<td>907 – The Role of Preceptorships in the Education of Health Professionals for Rural and Remote Health Care Delivery. Meg McDonagh</td>
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<tr>
<td>11:00</td>
<td>914 – Towards Using Family Health Teams to Care for Chronic Mental Health Clients in Northern Ontario: Barriers, Opportunities and Training Needs. Bruce Minore</td>
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<tr>
<td>11:15</td>
<td>917 – Exploring How Nurses Influence Continuity of Care and Health Outcomes in a Remote First Nations Community. Denise Tarlier</td>
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<tr>
<td>11:30</td>
<td>942 – Examining Stress Leave in Rural and Remote Canadian Registered Nurses. Mary Ellen Andrews</td>
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<tr>
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<td>Lunch (on your own) / Dîner (libre)</td>
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<tr>
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</table>
| 13:00-13:30 | Poster Viewing / Exposition d’affiches  
*Rauthors in attendance / en présence des auteurs*  
— Coffee Break / Pause café  

⇒ Salon Rose & hallway |
| 13:30-15:00 | Concurrent Sessions / Sessions concomitantes |
| ⇒ Frontenac | ⇒ Saint Louis |
| 13:30-15:00 |  
*S-5*  
**Aging and Palliative Care**  
*Mary Lou Kelley*  
**1036** – The Helping Hands Program: a Culturally Appropriate, Volunteer-Focused, Medically Supported Palliative Care Program for Alaska’s Aboriginal People and Others Living in Remote Communities.  
*Christine DeCourtney*  
**921** – Development and Evaluation of a Culturally- Relevant Alcohol Abuse Early Intervention Program for Mi’kmaq First Nation Youth.  
*Nancy Comeau*  
| 13:30 |  
**1035** – Measuring Palliative Care Knowledge, Attitudes, Behavior and Training Needs among Healthcare Providers Caring for Aboriginal Elders in Remote Alaska Communities.  
*Christine DeCourtney & Melanie Merriman*  
| 13:45 |  
**919** – Use of Classroom Amplification in Nunavik Schools.  
*Hannah Ayukawa*  
| 14:00 |  
**971** – Life and Health Expectancy of the Inuit-Inhabited Regions of Canada.  
*Philippe Finès*  
**1031** – The Sioux Lookout Zone Experience in Preventing Early Childhood Caries.  
*Herenia Lawrence*  
| 14:15 |  
**931** – Developing Palliative Care Services in Rural Communities: A Conceptual Model.  
*Mary Lou Kelley*  
**1009** – Health and Environmental Indicators for Children and Youth in the Circumpolar Arctic.  
*Margaret Moyston Cumming*  
| 14:30 |  
**1028** – Life Expectancy and Related Summary Measures of Health: Are there Difference between Rural and Urban Canadians?  
*Claudia Lagacé*  
**992** – Folic Acid and Birth Defects in the North: Are We Doing Enough?  
*Laura Arbour*  
| 14:45 |  
**947** – A Study of Hospice Volunteering in Rural and Remote Communities.  
*Margaret McKee*  
| 15:00-15:45 | Closing Plenary Speaker / Conférencier de la fin (en plénière)  
— *Mark Bisby*, Vice-President of Research / Vice-président à la recherche Canadian Institutes of Health Research / Instituts de recherche en santé du Canada  
“One Third and 95%: Health Research beyond the City Walls”  
| 15:45-16:00 | Conference Closing Remarks / Mot de la fin  
⇒ Frontenac  
| 16:00-18:00 | Research Group Meetings  

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* Program and Abstracts  
Programme et résumés
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<td>894 – Management of Preterm Labour in Remote Health Centres in the Qikiktalluq Region of Nunavut. <strong>W Alexander Macdonald</strong></td>
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<td>13:30-15:00</td>
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<td>1050 – Returning Safe Birth Closer to Communities: A Policy Journey over the Past Three Years. <strong>Dawn Walker</strong></td>
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<td>S-7 Maternity Care</td>
<td>963 – Meeting the Maternity Care Needs of Rural Women: an Integrated Systems-Based Response. <strong>Jude Kornelsen &amp; Stefan Grzybowski</strong></td>
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<td>13:30-15:00</td>
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<td>913 – Rural Maternity Care Services: the Experiences of Care Providers in a System under Stress. <strong>Stefan Grzybowski</strong></td>
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<td>13:30-15:00</td>
<td>S-7 Maternity Care</td>
<td>1059 – Bringing Birth Back to the Communities: Midwifery in the Inuit Communities of Nunavik. <strong>Vicki Van Wagner</strong></td>
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<td>888 – MOM: Managing our Mood, Distance Treatment for Postpartum Depression. <strong>Patrick McGrath</strong></td>
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<td>951 – The Impact of the Rural Church on the Social Health and Well-Being of Young Rural Women of Nova Scotia. <strong>Anita Unruh</strong></td>
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<td>993 – Collaboration: The Agency of Bridging Cultures. <strong>Hendricus Van Wilgenburg</strong></td>
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Conference Session Schedule
Horaire des présentations
Community-based researchers, particularly those working with Aboriginal people in northern settings, are asked to adhere to various ethical standards. For example, the Association of Canadian Universities for Northern Studies (ACUNS) has published Ethical Principles for the Conduct of Research in the North; research institutes have been established in each of the northern territories to review projects being undertaken within territorial boundaries; the Aboriginal Ethics Working Group of the Canadian Institutes for Health Research have recently developed new guidelines for researchers and, for those affiliated with academic settings, institutional review boards (IRBs) exist to review and approve research on ethical and scientific grounds. This paper looks at the experience of ten academic researchers currently undertaking research projects in northern Canada. These projects were subjected to review by more than ten different review institutions and processes. The aim of the work is to highlight the ethical and procedural dilemmas faced by researchers who must adhere to ethical standards, particularly those put in place by University IRBs, but who have found that these standards may not represent optimal ethical practice in the field. The paper raises the question of the appropriateness and applicability of University IRBs and other ethical protocols when taking into account the reality of collaborative, community-based research in the north. Each of the ten researchers provided narrative descriptions of their experience negotiating ethical review for research projects in the north, with particular focus on their thoughts regarding the process of informed consent. Results from an analysis of these narratives indicate that IRBs reviewing health research are often better suited for biomedical rather than social or behavioural research proposals and that reviews did not always align well with community-based, collaborative research approaches. This paper is an important step in bringing these issues forward, highlighting the dilemmas faced by northern researchers and discussing what researchers can do, and are doing, to reconcile the differences between ethical review standards and the reality of research in northern settings.

**949**

*Taxonomies of Rural Communities Based on Health Determinant and Health Status Indicators*

Roger Pitblado¹, Irene Koren², Denis Heng³, Claudia Lagacé⁴

¹Department of Geography, Laurentian University; ²Sudbury & District Public Health Unit; ³CRaNHR, Laurentian University; ⁴Public Health Agency of Canada

In terms of the health of populations, the premise of this paper is that “place matters”. Previous analyses equating “community” at the health region level have differentiated regions at the extremes of the rural-urban continua in Canada. But health regions are relatively large and heterogeneous, consisting of smaller rural and urban areas. Studies have noted that different conclusions can be reached depending on the level of geography analyzed. Based on work from the study, “Canada’s Rural Communities: Understanding Rural Health and Its Determinants”, this paper explores the differentials within rural areas across Canada at the smaller geographic level of census subdivisions (CSD). Data for approximately a third of Canada’s rural census subdivisions (n=1438), as defined for the 1996 census, were analyzed. A numerical taxonomy of these communities was constructed based on measures of non-medical determinants of health (census data and selected Canadian
Community Health Survey variables) using a combination of principal components analysis, hierarchical cluster analysis, and discriminant analysis. The associations between this taxonomy and those based on both determinants and health outcomes from the Canadian Community Health Survey, as well as selected site-specific cancer incidence and cause-specific mortality measures were then tested. These latter tests once again employed multivariate statistical as well as selected univariate statistical tests to examine the multifaceted relationships between the determinant-outcome associations of Canada’s rural communities. In addition to the results of the statistical analyses, two- and three-dimensional scatter plots of the CSD determinant factor scores and maps of the distribution of both the health determinant and health status indicator groupings are used to illustrate the fact that we should not accept the simple equation “Rural = Poor Health”. Equating health region geographies with “community”, though more convenient, may not be appropriate. Comparisons with the taxonomies generated using CSDs suggest that critical features of “rural” are masked by the larger health region aggregations previously studied.

956
**Do Changing Intentions Pave the Road of Family Medicine Residency Training in Northern Ontario?**

Denis Heng¹, Raymond Pong¹, Miriam McDonald², Tom Crichton³

¹Centre for Rural and Northern Health Research, Laurentian University; ²Northeastern Ontario Medical Education Corporation; ³Northeastern Ontario Family Medicine Program

Aspirations and stated intentions are often used to predict future behaviours and facilitate future planning. If intentions are predictive of future decisions, intention-based research may provide a meaningful proxy of a complex reality. An important factor that affects the predictive power of intentions though, is temporal stability (i.e., changes across time) of those intentions. This paper presents findings from an ongoing multi-year tracking study of the residents and graduates of the Northeastern Ontario Family Medicine (NOFM) program, a rural/northern family medicine program located in Sudbury, Ontario. It focuses on changes in intentions and interests after a 2-year period of five classes of residents who began their training between 1999 and 2003. Data collected at the year of completion of their residency training (2001-2005) were compared to baseline data collected at entry. In general, between entry and completion of the NOFM program, the percentage of residents indicating: (1) Intentions to practice in northeastern Ontario immediately, 2 years, and 5 years after graduation increased; (2) The size of community that residents intended to practice remained similar, with most graduates intending to work in either small cities or towns; (3) Interest in selected areas of additional residency training usually decreased and the range of areas of interest narrowed; (4) Intention to include a particular component in future practice usually decreased and the number of practice components to be included narrowed. Other findings will also be presented. Our research provides evidence that during the 2-year period of training, there is a modest level of change in intentions and attitudes. Findings of this research will have implications on the interpretations of intentions and their predictive power of future behaviours in this highly selected group of individuals.

920
**Northern Health: A Community Based Approach**

Cal Albright¹, Tammy Lee Marche²

¹NAPHWI Executive Director; ²NAPHWI Communications

The Northern and Aboriginal Population Health and Wellness Institute (NAPHWI-napway) is a group of 65 partners representing MKO (Manitoba Keewatinook Ininew Okimowin), NGO's, RHA's (Manitoba Regional Health Authorities) and various federal and provincial government departments working in partnership with NAPHWI’s board and staff to address the unacceptable health problems that exist for all northern people; people living north of the 52nd parallel in Manitoba. We have 3 key projects that focus on program and service delivery, population health, research and education. The projects are traditional healing, youth suicide and
diabetes. We work closely with 11 communities gathering information by initiating community consultations and conducting focus groups and researching preventative information. One of our objectives is to develop community driven approaches and action plans stemming from best practice models. We are working to go beyond jurisdictional barriers and gaps in culturally appropriate service. In the ensuing months we are reviewing with our stakeholders common policy areas that can reflect true collaboration and best health practice regardless of the constitutional status of the individual. We would like to use NAPHWI as an example of how northern groups are working together to create new interdisciplinary research teams, and we would like to reveal the challenges and barriers to conducting this research. As well, we would like to share the results of our collaboration with our 65 partners, and the outcomes of the information gathered from the 11 communities of which we are focused on within our 3 key projects.

902
The Silent “S” in Health: the Place of Schools in the Health of Rural and Northern Children and Youth
Kate Tilleczek
Department of Sociology and Centre for Rural and Northern Health Research
This paper will address the place of the school in the health of rural children and youth. It addresses conceptualizations of health, and the need to broaden the concept as it relates to the rural child. A complementarity of method will be utilized to illustrate quantitative and qualitative insights into the issues. The data to be presented is based on three separate studies of the inter-relations of schooling and developmental health in rural areas. The first study is the Northern Ontario Child and Youth Health Report which was a quantitative study of Ontario’s rural and northern children and youth. The selected data help to discuss inter-relations between the school and health which require further examination as described through 2 further studies. The first of these studies is a qualitative investigation of the transition from elementary to secondary schools in a northern community. This study examines the place of schools and families in the developmental health of children, from the point of view of youth, teachers and parents. Focus group data describes the place of school in developmental health and the ways in which school helps and hinders their making of critical transitions toward adulthood. The second qualitative study is an in-depth interview examination of the rural and northern Ontario children’s mental health system. The data illustrates the perspective of 30 service providers from a range of front line and administrative staff. Schools and education are seen as both a barrier and facilitator to access of mental health services. The three studies will be used to illuminate the issues of the silence of schooling in current discourses on rural health. Beyond the notion of “educating” or “training”, it is argued that education needs to be re-thought. The school is conceptualized as a too silent partner that should be named. The silence itself is seen as a barrier to developmental health. Recommendations for strengthening these ties, both theoretically and methodologically will be made. Practical considerations for child health researchers and practitioners will be made.

903
Studying Rural Diversity in Health at a Local Scale: the Case of Portneuf
Robert Pampalon, Alexandre Lebel, Denis Hamel
1INSPQ, 2CRAD, Université Laval
This paper addresses the place of the school in the health of rural children and youth. It addresses conceptualizations of health, and the need to broaden the concept as it relates to the rural child. A complementarity of method will be utilized to illustrate quantitative and qualitative insights into the issues. The data to be presented is based on three separate studies of the inter-relations of schooling and developmental health in rural areas. The first study is the Northern Ontario Child and Youth Health Report which was a quantitative study of Ontario’s rural and northern children and youth. The selected data help to discuss inter-relations between the school and health which require further examination as described through 2 further studies. The first of these studies is a qualitative investigation of the transition from elementary to secondary schools in a northern community. This study examines the place of schools and families in the developmental health of children, from the point of view of youth, teachers and parents. Focus group data describes the place of school in developmental health and the ways in which school helps and hinders their making of critical transitions toward adulthood. The second qualitative study is an in-depth interview examination of the rural and northern Ontario children’s mental health system. The data illustrates the perspective of 30 service providers from a range of front line and administrative staff. Schools and education are seen as both a barrier and facilitator to access of mental health services. The three studies will be used to illuminate the issues of the silence of schooling in current discourses on rural health. Beyond the notion of “educating” or “training”, it is argued that education needs to be re-thought. The school is conceptualized as a too silent partner that should be named. The silence itself is seen as a barrier to developmental health. Recommendations for strengthening these ties, both theoretically and methodologically will be made. Practical considerations for child health researchers and practitioners will be made.

Studies published throughout the world, including Canada and Québec, all show that rural areas are characterized by their diversity, in terms of geography, socio-economic conditions and population health status. The present paper explores this diversity not at a national, provincial or regional level, but at a much smaller scale, that of a rural county. The selected county is Portneuf, located at about 40 kilometers from Québec City and comprising 45 000 inhabitants. As a first step, a definition exercise for small units, called neighborhoods, was undertaken using historical, socio-economic and perception criteria, namely the point of view of local actors. This exercise pointed out 8 neighborhoods in Portneuf. As a second step, a general health portrait was produced on the basis of these neighborhoods, exploiting data on mortality, disability, hospitalization and birth.
This portrait reveals statistically significant differences between neighborhoods that can reach, for example, up to 8 years of healthy life expectancy at birth. In Portneuf, the best scores go to the municipality of Pont-Rouge and its surroundings while the worst pertain to Saint-Raymond and the hinterland of the municipalities of Donnacoma and Saint-Marc-des-Carrières. In conclusion, possibilities and limitations for measuring population health status at a local scale in rural areas are discussed.

Friday/ vendredi, Session 2
– Climate Changes & Social Issues

Christopher Furgal, Moderator / Modérateur

10:30-12:00

976
Surveillance and Management of Climate Change Impacts in the North: Implications for Northern Public Health Policy

Sandra Owens1, Pierre Gosselin2, Don Wigle1, Chris Furgal3

1Unité de recherche en santé publique CHUL; 2Médecine social et préventive, Université Laval; 3Institute of Population Health, Ottawa University; 4Political Science, Université Laval

This public health research initiative is funded by the ArcticNet Network Centres of Excellence. The vision is to work towards that Community Health and Environmental Surveillance (CHES) programs for NWT (Inuvialuit), Nunavut, Nunavik and Labrador be planned, designed, put in place and made operational by northern managers with the assistance and support of southern expertise. A participatory research approach has been adopted in order to promote capacity building in the regions. The programs may be designed to be sensitive to climate related health-events as well as those of predicted major ecological shifts such as the opening of the northern passage and related economic activity. The first phase will produce case studies describing the current state of public health surveillance systems and related environmental monitoring in each region. This baseline will inform the development of proposals for pilot projects for capacity building in collaboration with northern managers. These proposals will focus on improving specific components of health surveillance programs, depending on local priorities and opportunities. For instance, Nunavik authorities have already expressed a need and interest for developing gastroenteritis surveillance as risks may be affected by climate change.

1051
Food Security in Nunavut: Impacts of Environmental Changes and Possible Interventions

Laurie Chan1, Sue Hamilton1, Karen Feduk1, Tanya Nancarrow1, Joan Marshall1, Grace Egeland1, Harriet Kuhnlein1, Amy Caughey2, Eric Loring2, Scot Nickels2, Fred Hill2, Chris Furgal3

1McGill University; 2Government of Nunavut; 3Inuit Tariqiti Kanatami; 4DIAND; 5Université Laval

Inuit in Nunavut in Canada have observed their diet change to include a number of processed foods. Environmental and socio-economic changes are believed to be the major factors. This dietary shift may have negative impacts on the health status of Aboriginal communities. Dietary household surveys have revealed a high level of food insecurity across the north. The quality of market food in many of the communities is often poor. The paper will discuss potential environmental changes as observed in the communities that may affect food security in Nunavut. Results of focus groups conducted in 6 communities in Nunavut in April 2004 on the investigation of factors associated with the availability and accessibility of traditional and market foods will be presented. Our results showed that environmental changes may have both positive and negative impacts on food species availability depending on the characteristics of the community. Most participants perceived that better food security could be gained through increased economic support for local community hunts, freezers and educational courses on land and food preparation skills. The sale of country food in the market was considered acceptable with caveats. Primary barriers to better quality of perishables in stores were reflective of transportation and weather issues. Costs of living and food costs remain a barrier to better nutrition. Interventions to improve the dietary quality of the communities are urgently needed and the design for pilot study for intervention will be discussed. (Funding for the project is provided by CIHR and ArcticNet).
1027
Solid Waste Disposal in First Nations Communities: The Issues and Future Directions
Lalita Bharadwaj1, Suzie Nilson2, Ian Judd-Henrey3, Gene Oullette4, Ciel Tournier4, Chief Dary Watson5, Chief Darcy Bear6, Chief Gilbert Ledoux7, Chief Austin Bear8

1Institute of Agricultural Rural and Environmental Health, Department of Medicine and Toxicology Group, University of Saskatchewan; 2Department of Science, First Nations University of Canada; 3Saskatchewan Research Council; 4Saskatoon Tribal Council Health and Family Services INC.; 5Mistawasis First Nation; 6Whitecap Dakota First Nation; 7Muskeg Lake Cree Nation; 8Muskoday First Nation

First Nations interests have traditionally had little voice at various points of authority that maintain the equilibrium or balance necessary to obtain environmental protection laws ratified, regulations distributed and enforcement actions initiated on their lands. Combined and compounded with both the lack of adequate funding available to address human and environmental issues and the past industrial exploitation of First Nations lands, the safety and acceptability of many solid waste management practices in Canadian First Nations Communities has become a serious concern for many members from both the human and environmental health perspective. The historical poor management, monitoring and remediation of solid waste facilities across Canada’s First Nations Communities and the lack of current resolve over this issue has left First Nations people feeling the consequences of pollution to their environment; rivers, land and air. First Nations people are traditionally connected to the land and consequently the degradation of the environment also leads to declines in a way of life for the people and thus declines to cultural health of communities. There are many issues surrounding waste management on First Nations Communities. These include past and present waste disposal practices, policy for waste management programs in First Nations Communities, impacts of industrial waste and the larger issues of environmental degradation that First Nations communities face throughout Canada.

1023
Building Capacity for Arctic Health Research: Lessons from the Nasivvik Centre for Inuit Health and Changing Environments
Christopher Furgal, Susie Bernier, Eric Dewailly
Nasivvik Centre / Public Health Research Unit, Laval University Hospital Research Centre

Introduction: To enhance Inuit community capacity in addressing environmental health issues, a Centre focusing on education, training, research and the enhancement of communication abilities was established at Laval University in 1993. As Inuit share a variety of unique issues, this Centre engages all Canadian Inuit regions and is directed by a, Advisory Board comprised of representatives from the major Inuit land holding corporations and national organizations. Funded by the Canadian Institutes for Health Research – Institute for Aboriginal Peoples Health, the Nasivvik Centre aims to enhance Inuit research and communication/information capacity, through providing experiences and training for students and communities in such issues at all levels. Objectives: The goal of the centre is to engage and train Inuit in order to move along the spectrum from research on Inuit, to research with Inuit and ultimately to research by Inuit on health issues. Methods / Activities: Under the following three themes: changing environments and health, Inuit knowledge and science for health research and education, and environmental health surveillance and monitoring, the Nasivvik Centre has conducted a variety of education and training activities for students, and community researchers. Small scientific projects directed by outside researchers as well as community lead projects have been supported and the Centre has established a small summer student and graduate student scholarship program to encourage community-based research on priority Inuit environmental health issues. Results: The Centre is an experiment in building capacity among Inuit communities for identifying, conducting and using research to address priority environmental health issues. A review of potential indicators of capacity and critical aspects of the Centre’s objectives, structure and activities as a model for supporting the development of Inuit capacity in the areas of environmental and public health research and communications will be presented.
Sexually transmitted infections (STIs), such as gonorrhea and chlamydia are significant health concerns for Inuit people; this is compounded by ineffective disease prevention strategies and screening programs. **Objectives:** Determine a more accurate prevalence of gonorrhea and chlamydia among Inuit communities, and identify key determinants of transmission. **Methods:** a) A cross-sectional survey (Aug.1st- Sept. 30th, 2003) was conducted among males and females (ages 15 - 65) in the Test Community. All study participants (n = 181) were screened for chlamydia/gonorrhea and, were interviewed. The questionnaire extracted information on: demographics, sexual histories, STI/ contraceptive knowledge, and high-risk behaviours among others. All positive and/or symptomatic individuals were treated and, all efforts were made to contact partners of index cases through the “snowball” sampling technique. b) A random sample (n = 99) was selected from (Part A) to comprise the longitudinal survey. Individuals were followed every two months post baseline visit for an additional 4 visits. During each visit, participants were screened for gonorrhea and chlamydia and were queried about the number of sexual and social contacts since the last visit; strength and type of relationship with social and sexual partners and places of social interaction. Univariate and multivariate analysis using the logistic regression method was used to look at the strength of associations between the response variable and covariates of main interest. The output is presented with the odds ratios and respected 95% confidence intervals. **Results:** 21 chlamydia cases were detected in (Part A) and 14 chlamydia cases in (Part B) giving a combined prevalence of 15.63%; no gonorrhea was detected. Females had an OR of 2.25 (0.66, 7.66) and older participants had an OR of 0.90 (0.83, 0.97). Other predictors included: previous STI infections OR: 1.42 (0.95, 2.12); risk behaviour score OR: 1.00 (0.82, 1.20); age of first sex OR: 1.01 (0.80, 1.28). **Conclusion:** Chlamydia rates were higher then previous years indicating that screening programs are under-capturing STIs. Women and younger age groups were more likely to be infected with STIs. Knowledge gaps on contraceptives and STIs existed among both males and females and across different age groups.
Data were collected through individual, semi-structured interviews, which were then transcribed and thematically coded to categorize naturally occurring commonalities and differences in narrative data using inductive analysis to interpret and name emergent themes. Women’s perceptions of appropriate weight gain were higher than medical recommendations. Almost all women thought losing weight post-pregnancy was important, however they spoke of difficulties achieving such weight loss. Challenges to weight loss following pregnancy included lack of time, energy, childcare, and consistent, affordable community programs for pregnant and new mothers. Furthermore, breastfeeding complicated post-pregnancy weight loss, because customarily nursing women continued high food consumption to ensure adequate milk supply. Hence many women spoke of the importance of not losing weight when nursing. The barriers hindering weight loss following pregnancy could be categorized at individual and community levels. Not explicitly described were the macro-level factors affecting how individuals and communities are able to pursue health-promoting activities. However, we contextualize women’s experiences via community mapping of resources and through interviews with elders, who discussed historical changes on diet and weight during women’s reproductive years. The information provided by Cree women can be the basis for development of interventions to prevent high weight before and during pregnancy. It is clear that a multi-pronged approach for supporting healthy weights among mothers is required that addresses both individual behaviors and community resources.

910
Epidemiology of Human Papilloma Virus Infection in Aboriginal Women of Nunavik, Québec

Paul Brassard1, Colin Steensma1, François Coutlée2,3, Michel Roger4, Janet R Kornegay5, Eduardo L Franco1,2
1Departments of Medicine, Epidemiology & Biostatistics, McGill University; 2Department of Oncology, McGill University; 3Department of Microbiology, Centre Hospitalier de l’Université de Montréal; 4Department of Microbiology, Centre Hospitalier de l’Université de Montréal; 5Roche Molecular Systems, California, USA

Objectives: We began a study of the natural history of cervical human papillomavirus infection (HPV) among a group of Inuit women in northern Québec (Nunavik) known to be at high risk of cervical cancer. Methods: We assembled a cohort of Inuit women seeking routine care and living in four different communities. Baseline demographic and lifestyle data was collected and cervical specimens were tested for HPV-DNA using the PGMY and Line blot assay. HPV-16, 52, and 58 variants were assessed by PCR-sequencing. Results: From January 2002 to September 2004, 336 women were recruited and had their cervical specimen tested. The mean age was 31.4 years (SD=10.9). Of 330 women with completed results, baseline HPV infection was found in 89 (27%). The number of infections with exclusively high risk (HR) HPV types was 44 (49% of all HPV-positive cases). Coinfections with both high and low risk HPV types were detected in another 24 women (27% of HPV positive subjects). The most common HPV type was HPV-16 (n=16). Infections with HPV-16 and/or HPV-18 (n=22) comprised 25% of all HPV infections and 50% of those with HR-HPV types. Other common HPV types included HPV-52 (n=14) and HPV-31 (n=9). HPV-16, 52, and 58 isolates were all from European lineage. Incidence rates were 14.6 cases /1000 women-months and 10.8 cases/1000 women-months for acquiring HPV and HR-HPV infection respectively. In multivariate logistic regression adjusted for age, having single marital status (OR: 2.8; CI: 1.6-4.7), and having had 10 or more lifetime sexual partners (OR: 2.0; CI: 1.2-3.3) were associated with HPV infection. Conclusions: HPV prevalence in this population was found to be similar to that observed in Inuit of Nunavut, Canada and female university students in Montréal. Regardless of age, markers for sexual promiscuity appear to have an important effect on HPV infection status in this population.
**Abstracts / Résumés**

**Oral Presentations / Présentations orales**

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**876**

**Gestational Diabetes: Do Educational Programs for Health Care Providers Impact Use of Clinical Practice Guidelines**

Eilish Cleary\(^1\), Nichole Riese\(^1\), Sora Ludwig\(^2\), Lorna Grant\(^3\)

\(^1\)Department of Community Health Sciences, University of Manitoba; \(^2\)Manitoba Health, Manitoba; \(^3\)St Boniface Hospital, Winnipeg, Manitoba

**Introduction:** Gestational Diabetes is a major health concern particularly in Aboriginal Communities. There are significant short and long term adverse effects for both mother and child. Optimal care can improve the outcome. Evidence based standards have been developed to provide Clinical Practice Guidelines for health care providers. This study examines the use of these guidelines in screening for gestational diabetes in Norway House, Manitoba and evaluates the impact educational reinforcement has on changing practices. **Method:** A chart audit was performed before and after an educational session offered to physicians and nurses involved in prenatal care. The session focused on the management of gestational diabetes. In addition flow charts designed to facilitate use of the guidelines were provided. **Results:** The initial chart audit showed that in general screening for gestational diabetes was not consistent with Clinical Practice Guidelines. Screening improved following the educational session although in many cases screening and follow up was still suboptimal. Several systemic weaknesses in care were exposed. **Conclusion:** This study provided valuable insight into the importance of addressing systemic infrastructures in addition to providing education when introducing changes in standards of practice.

**893**

**Picturing Health: Perinatal Stories and Photographs by Tlicho (Dogrib) Women**

Pertice Moffitt

PhD Candidate, Faculty of Nursing, University of Calgary

The perinatal experience of aboriginal women in the Northwest Territories is about a journey away from home. Travel was a predominant theme in the nomadic lifestyle of the Dene people but today's journey is located in a historical colonial context far removed from traditional perinatal health practices. Where is the voice of the women within this journey through pregnancy and childbirth and within the health care system? This presentation outlines a focused ethnographic study that explored the relationship of perinatal health beliefs and practices of Tlicho (Dogrib)women from a remote community in the Northwest Territories. Photovoice, a participatory and collaborative technique, was used within the design of this research to promote discourse between the women and give voice to their circumstance and priorities through photographs and stories. Images and stories about Tlicho perinatal health will be shared: to highlight the journey of perinatal health for Tlicho women; to develop processes that foster culturally safe clinical guidelines; to inform health and health promotion policy; and, to affect transitions that emancipate and empower Tlicho women, their families and ultimately the community.

**925**

**Dietary Adequacy of Pregnant and Lactating Arctic Indigenous Women**

Harriet Kuhnlein, Tomoko Nakano, Rula Soueida

Centre for Indigenous Peoples' Nutrition and Environment, McGill University

There is little information on dietary patterns of pregnant (P) or lactating (L) Arctic indigenous women. We therefore referred to our CINE database of 24 hr recalls in the Canadian Arctic collected for assessment of extent of adult traditional food (TF) and market food (MF) use and nutrients, and extracted data specifically for this group. Research with Dene/Métis, Yukon First Nations and Inuit took place from 1985 - 1999, but to date these data for P or L women were not reported (n=180; 135 of these were Inuit). Overall, TF intake as % energy was 23% for both groups of women. Assuming that dietary patterns are slow to change we used these
data with current nutrient fortification, food composition data bases and the DRIs for evaluation to provide evidence of need for health promotion. For consistency with the DRIs, data for those 19-50 yr were considered; younger women (n=19) were excluded from analysis. 16 were both P and L, and included in both categories. 53% P and 17% L consumed a supplement. Repeat recalls were used to adjust to usual intakes without supplements. EAR nutrients at greatest risk (>60%).

Friday / vendredi, Session 4
– PHARE, Part 1

James A Dosman, Moderator / Modérateur

13:30-15:00
Frontenac

Spatial Analysis on Rural Environmental Health: Challenges and Opportunities
Mikiko Terashima
Department of Community Health and Epidemiology, Dalhousie University

Advances in Geographic Information System (GIS) and statistical methodology have created new opportunities in the investigation of spatial variations in diseases by taking into account environmental and socio-demographic factors that are spatially distributed. By employing GIS and spatial analysis methods, my research attempts to spatially analyze health risks of exposure to naturally occurring arsenic in groundwater in Nova Scotia. The research will consider multiple factors—including social, environmental, and demographic—that are likely to be spatially associated with occurrences of such diseases as bladder and lung cancers, and various birth anomalies. It will use water sampling data, underlying geology data, socio-demographic data, and disease case (and control) data, in order to analyze comprehensive health risks of the exposure which may be exacerbated or moderated by rural socio-environmental conditions. This research is in its initial stage where available environmental data are being sought out and prepared for spatial interpolation—estimating values in no-data areas based on observed values using spatial statistics models. One of the main challenges of this research is likely to be the availability of spatial data that are accurate enough to make a meaningful interpolation given the geochemical characteristics of arsenic. The first major task will be the geo-coding of water sampling data that can allow for more detailed allocations of observed point patterns, which can then be used for spatial interpolation. Another challenge facing this research will be the small size of rural population data. Studies using small population data are more susceptible to errors of location variations in the quality of both the case (numerator) and the population (denominator) data than studies conducted over larger areas. Data of rural area populations—whether census subdivisions or other enumeration areas—are often unavailable due to privacy concerns. For the conference, I will present the data preparation process for spatial analysis using the arsenic exposure health risk as an example scenario, and discuss current challenges and opportunities in the spatial analysis of diseases in rural contexts. CIHR Strategic Training Fellow in PHARE, research funded by the CIHR Strategic Training Program and Partner Institutes.

1057
Rural Determinants of West Nile Virus Transmission and Disease: A Risk Assessment Tool
Erin Laing¹, Phil Curry², Nazeem Muhajarine¹, Cheryl Waldne³
¹Department of Community Health & Epidemiology, College of Medicine, University of Saskatchewan; ²Population Health Branch, Saskatchewan Health; ³College of Veterinary Medicine, University of Saskatchewan

The heterogeneity of West Nile Virus prevalence was investigated using multi-level modeling. Data from 2003-2005 is assessed at the community, rural municipality and eco-region level using characteristics such as surrounding agricultural land use, climatic information, population demographics, as well as surveillance data for birds, horses and mosquitoes. Variables were chosen to reflect both human determinants of disease as well as factors affecting the ecology of West Nile Virus transmission with special attention paid to vector behaviour and distribution.
Risk Factors for Asthma in School Children Involved in Repeated Surveys, 2000 and 2003

Joshua Lawson, DC Rennie, A Senthilselvan, HH McDuffie, DW Cockcroft

1Department of Public Health Sciences, University of Alberta; 2Institute of Agricultural Rural and Environmental Health, University of Saskatchewan; 3College of Nursing, University of Saskatchewan; 4Department of Public Health Sciences, University of Alberta; 5Department of Medicine, University of Saskatchewan

Background and objective: Asthma is a prevalent disease that can result in morbidity and health resource utilization. The risk factors for asthma are not well established and are controversial. The objective of this analysis was to investigate the risk factors for asthma in children who took part in two repeated surveys.

Methods: Nearly identical cross-sectional studies were completed in Grade 1 to 6 children in 2000 (baseline) and 2003 in Estevan, Saskatchewan. Data was provided by parents who completed questionnaires at both time points. We selected 317 children who were in Grades 1 to 3 in 2000 and who participated in both time points. The outcome considered was “current” asthma, which was defined by a prior physician diagnosis and report of either an asthma episode, symptom or medication use, or health services utilization in the past 12 months. Personal and environmental characteristics were examined in relation to current asthma using a multivariate generalized estimating equations approach.

Results: In 2000, all 317 children were between the ages of 6 and 9 years with 49.5% being female. Current asthma was reported for 17.0% of the cohort in 2000 but only 13.6% in 2003 (p=0.06). Results from the multivariate analysis showed that living in a rural area, respiratory allergy, family history of asthma, exposure to mold or dampness, and higher education were significantly (p<0.05) associated with increased risk of current asthma. Age, being Caucasian, and attending child care showed significant (p<0.05) inverse relationships with current asthma. Children with current asthma were less likely to be exposed to passive smoking.

Conclusions: While some of the associations were to be expected (age, respiratory allergy, family history of asthma), other associations add to the evidence regarding risk factors for asthma. Some studies have suggested that rural exposures may be protective of asthma; our study indicates that rural exposures later in childhood may result in episodes of current asthma. The increased risk associated with mold or dampness and the inverse association with child care add support to emerging evidence regarding these exposures.

Genetic Epidemiology of Atopy and Variants in TLR4 and CD14 in a Rural Population

Merry-Lynn McDonald, Donna Rennie, Lalita Bharadwaj, Marcy Speer, Jim Dosman

1Institute of Agricultural Rural and Environmental Health (I.ARE.H), University of Saskatchewan; 2Center for Human Genomics, Duke University Medical Center

Allergic diseases are on the rise in industrialized nations. According to the hygiene hypothesis, allergic diseases are becoming more prevalent in these countries because of increased cleanliness that results in reduced exposure to bacterial antigens or a general absence of bacterial infection early in life. This has been postulated to result in an improperly trained immune system. Studies of rural versus urban dwellers in industrialized nations have shown that the rural lifestyle is protective for allergic disease. Thus, it has been postulated that the rural lifestyle permits the proper training of the immune system in response to allergens and supports the hygiene hypothesis. However, researchers and physicians know that some percentage of individuals that live in rural areas that have had persistent contact with antigens, e.g. cow dander or bacteria in farm animal feces, still develop allergic disease. The following comprises the association of polymorphisms in the TLR4 and CD14 genes in a population of children from Humboldt, SK with atopy.
Examining Intrapersonal Correlates of Physical Activity in Elementary-Aged Rural Youth
Mark Bruner, Kevin Spink, Louise Humbert, Karen Chad, Kara Spencer
College of Kinesiology, University of Saskatchewan

In Canada, only 33% of youth and adolescents (13-17 years) are considered active enough to meet the physical activity guidelines for healthy growth and development (Craig, Russell, Cameron, & Beaulieu, 1999). Considering the well-established list of mental and physical health benefits associated with being active (Wharf Higgins et al., 2003), the identification of salient correlates of physical activity in youth becomes an important area of research. One subpopulation meriting particular attention is rural youth. It has been argued that examining different settings and populations may improve our prediction of physical activity behaviour (Baranowski et al., 1998), and when this is coupled with rural youth being under researched, examination of this population is fully justified. The purpose of the present study was to examine the intrapersonal correlates influencing the physical activity behaviour of rural youth. A random sample of grade 6 and 8 participants (N=94) from three rural elementary schools completed questionnaires that assessed physical activity and intrapersonal correlates. The Physical Activity Questionnaire for Children (Crocker et al., 1997) was used to evaluate youth physical activity. Intrapersonal correlates assessed included biological and demographic variables (e.g., gender, grade), psychosocial variables (e.g., self perceived health, quality of home life) and behavioural variables (e.g., eating breakfast, smoking, and drinking) (Spink et al., in press). The results from a multiple regression revealed that the intrapersonal correlates significantly predicted physical activity in rural youth (F (7) = 4.720, p<.01), accounting for nearly 22% (Adjusted R2=.219) of the variance in physical activity. Examination of the beta weights revealed that perception of health (p<.01) and grade (p<.01) were found to be the strongest predictors of activity. The results of the study provide preliminary evidence that selected intrapersonal correlates are associated with rural youth physical activity.

Partnering with Aboriginal Grandmothers to Inform the Development of a Culturally Relevant Dementia Clinic Protocol
Shawnda Lanting1, Allison Cammer2, Margaret Crossley1, Debra Morgan3, Louise Dufour4
1Department of Psychology, University of Saskatchewan; 2Department of Community Health and Epidemiology, College of Medicine, University of Saskatchewan; 3Institute of Agricultural Rural and Environmental Health (I.ARE.H), University of Saskatchewan; 4Saskatoon Community Clinic

In a recently established multidisciplinary Rural and Remote Memory Clinic, a culturally appropriate assessment protocol was developed for use with Aboriginal and other non-majority culture older adults. One challenge in developing a culturally relevant procedure is the lack of brief and reliable measures which are sensitive and specific for detecting cognitive impairment and not confounded by educational or cultural factors. An additional challenge is the paucity of research exploring experiences of members of Aboriginal communities in providing care to older adults with dementia. This knowledge is essential to guide appropriate care recommendations for older Aboriginal adults referred to the Rural and Remote Memory Clinic. This research describes the development of a culturally appropriate assessment protocol, facilitated through a partnership with an Aboriginal Grandmothers Group affiliated with the Saskatoon Community Clinic. Three Aboriginal grandmothers, representing diverse ethnic identities, geographical backgrounds, and ages, participated in 6 focus groups over 8 months. Goals of the partnership included development of culturally appropriate clinic procedures, revision of assessment material to reflect Saskatchewan Aboriginal identity and experience, facilitation of accurate diagnosis, and cultivation of a culturally-based understanding of dementia for Aboriginal persons. The focus groups were transcribed and analyzed according to Luborsky’s thematic analysis (1994). Key findings include the experience of family and caregiving roles in dementia, the importance of incorporating humour and colour into neuropsychological assessment tools, and the identification of appropriate translation procedures for the Rural and Remote Memory Clinic. The clinic protocol and
assessments were significantly modified as a result of this successful partnership. The focus groups provided an increased understanding of cultural perceptions of dementia and the various approaches to provision of care in Aboriginal communities. This knowledge informs the care recommendations provided to individuals and family members referred to the Rural and Remote Memory Clinic.

### Friday / vendredi, Session 5

#### Childhood Health

Kate Tilleczek, Moderator / Modérateur

#### 890

**Benefits of the POD Educational System for Children with Fetal Alcohol Spectrum Disorder (FASD) in an Inuit Community in Labrador**

Michael Jong¹, David Martin², Steven Alexander³, Michael Francis³, Dean Coombs²

¹Discipline of Family Medicine, Memorial University of Newfoundland; ²Labrador School Board; ³Labrador Grenfell Regional Integrated Health Authority

**Introduction:** The cost of a FASD to society is high. School-aged children with FAS may have severe information processing deficits, resulting in problems with information input, integration, memory and output. FASD is prevalent in Labrador. In one community, FASD was found in 35% of the school children. In Hopedale, 24 of the 36 children referred for learning disorder were found to have FASD. The teachers in Hopedale devised a pod system of education to respond to the difficulties in providing education to the children. In the pod system, children with the same level of achievement in each subject were taught together in the same class regardless of age.

**Study design:** This is a descriptive study of the outcomes of children with FASD before and after the introduction of the pod system in 2004 September.

**Methods:** Psychometric assessments were done on the 11 children with FASD children at yearly intervals. School attendance and behavioural changes were noted. Teachers’ and parents’ satisfaction were assessed.

**Results:** Improvements in school attendance, behaviour, spelling, math and completion of assignments are being observed in children with FASD.

**Conclusion:** The pod system of education is working well in Hopedale for Inuit children with FASD.

#### 989

**Dietary Intake in First Nation Children**

Amber Arnold¹, Linda McCargar¹, Denise Lam³, Noreen Willows³

¹Department of Agricultural, Food and Nutritional Science, University of Alberta; ²Centre for Health Promotion, University of Alberta; ³Department of Agricultural, Food and Nutritional Science, University of Alberta

Limited dietary intake information exists in First Nation children despite evidence that many children have excess weight that might place them at risk for Type 2 Diabetes. We collected three 24-hour dietary recalls on non-consecutive days, including one weekend day, in 102 Cree children in grades 4-6 in Québec. Food recalls were analyzed using Food Processor ESHA software (version 9.5) and averaged over 3 days. Children were asked the household availability of healthy and low nutrient-density foods and where they ate their meals. We describe the relationship of caloric intake and percentage of energy from fat to food availability, where a meal was eaten and weight categories. According to body mass index and the International Obesity Task Force’s cutoffs, 30.8% were overweight and 36.5% were obese. The mean caloric intake was 2531 ± 772 Kcal. The mean percentage of energy from fat was 30.9 ± 4.8%. Normal weight children consumed significantly more calories than did overweight children (2772 ± 873 vs. 2308 ± 703, p = 0.04). The following items were always available in children’s homes (% of total): potato chips (8.7%), fruits and vegetables (67.3%), chocolate and candy (6.7%), fruit juice (57.7%), soft drinks (16.5%) and milk (83.7%). Children who stated that vegetables were always on their dinner plate (27.9%) had a lower percent of energy from fat than children who sometimes or never were served vegetables (28.7 ± 4.6% vs. 31.7 ± 5.0%, p <0.05). Children from households without soft
drinks had a lower percent of energy from fat than children from households where soft drinks were always available (28.6 ± 5.5% vs. 33.3 ± 3.2%, p <0.05). Only 11.9% of the children ate all three meals at home during the three day diet recall. Those children who ate all meals at home had a lower percentage of energy from fat than did children who ate meals away from home. Based on this data, childhood obesity is a concern in Cree communities and interventions promoting healthy child development are required.

909
The Manitoba Collaborative Project for the Prevention of Early Childhood Tooth Decay
Robert Schroth1, 2, Doug J Brothwell2, Jeanette M Edwards3, Bernadette A Mellon4, Lisa M Kehler5, Michael EK Moffatt6
1Departments of Dental Diagnostic & Surgical Sciences; 2Department of Preventive Dental Science, Faculty of Dentistry, University of Manitoba; 3Winnipeg Regional Health Authority; 4Manitoba Health; 5First Nations & Inuit Health Branch, Health Canada; 6Departments of Pediatrics & Child Health and Community Health Sciences, Faculty of Medicine, University of Manitoba

Early childhood caries (ECC) is a common childhood disease. This tooth decay in children < 72 months of age, formerly called baby-bottle tooth decay, is influenced by multiple risk factors. A more rampant form, severe early childhood caries (SECC) requires treatment under general anesthesia. Recent Canadian studies report aboriginal children having a higher prevalence of ECC. ECC is a concern in Manitoba as 2000 children undergo surgery annually, while more than 1200 preschoolers must wait for surgery. The Manitoba Collaborative Project for the Prevention of Early Childhood Tooth Decay began in 2000 to deal with the mounting problem of ECC using a community development approach. Partners include the University of Manitoba, Manitoba Health, Winnipeg Regional Health Authority, Burntwood Regional Health Authority, Manitoba Dental Association, and First Nations and Inuit Health Branch, Health Canada. In 2001, a baseline survey was conducted in 4 Manitoba communities. Two northern and two southern communities participated. In each region one was a First Nation while the other was an urban centre. This ethically approved project was supported by the leadership from the two First Nations. 53.9% of children had ECC and the mean deft score was 4.2 ± 5.0. While both prevalence and rates of decay were higher in the First Nations locales, these results did not statistically differ (p>0.05) from findings in the urban centres. Baseline results were shared with the communities to assist them in establishing community-base oral health promotion initiatives to prevent ECC. The project assisted communities in developing various resources that would serve to raise awareness, improve knowledge, and change behaviours relating to early childhood oral health. In 2004 these resources were combined into a comprehensive resource entitled the “Prevent Early Childhood Tooth Decay Action Plan Workbook & Toolkit”.

This resource is available on-line at:
http://umanitoba.ca/faculties/dentistry/ccoh/ccoh_earlyChildCare.html

The project also assisted Roseau River First Nation in developing the “Think About Your Baby’s Teeth” poster available on-line at:
http://umanitoba.ca/faculties/dentistry/ccoh/ccoh_earlyChildCare.html

Recently, the project produced a resource to train community workers to carry out early childhood oral health promotion. This presentation will focus on the resource development and the outcome of community development in conjunction with partner collaboration.
1001
Community Photovoice: Leaf Rapids Through the Eye of Youth
Fran Racher
School of Health Studies, Research Affiliate, Rural Development Institute, Brandon University

14:15
Friday / vendredi
F-5
Saint Louis

Youth in the northern Manitoba community of Leaf Rapids took photographs to give “voice” to their perspectives about their community. Students in grades 6 to 12 used cameras provided to take photographs to answer three questions: What is important to you in your community? What pictures would you take to tell people about your community? and What would you like to change in your community? The goal of the photovoice project was to inform the Leaf Rapids community assessment being undertaken through a partnership between the community and the Rural Development Institute of Brandon University. The project tested the use of photovoice methodology with youth and the capacity of photography to facilitate the voices of youth in community planning. The Leaf Rapids Youth Centre and the Exhibition Centre co-facilitated the project. Youth selected photographs for enlargement and display at the Exhibition Centre as a forum for discussion for the community at large. Youth demonstrated their perspectives on the importance of people and place, people in relation to place and their connection to the northern environment. Through analysis of photos and corresponding journals, researchers identified a variety of themes including people - family, friends and roles in the community; community structure - the town centre, residential areas, community services and transportation; the “big back yard” of trails, bush and rock gardens; culture within and history of the community; and youth appreciation for the natural environment. The photographs and the subsequent community display not only gave voice to the thoughts and experiences of the youth, but provided a forum for discussion by the community at large and gave researchers insight into the experiences of Leaf Rapids youth.

891
The Relationship between Farming Activities and Asthma and Allergy in Children: The Humboldt Study
Pamela Farthing1, Donna Rennie1, Yue Chen4, James Dosman5
1College of Graduate Studies, University of Saskatchewan; 2College of Nursing, University of Saskatchewan; 3Institute of Agricultural Rural and Environmental Health (LARE.H), University of Saskatchewan; 4College of Medicine, University of Ottawa; 5College of Medicine, University of Saskatchewan

14:30
Friday / vendredi
F-5
Saint Louis

Previous research has shown a negative association between early farm life and allergies and asthma in children. There is conflicting information concerning the relationship between current farming activities and respiratory symptoms in children. This analysis examines data for 661 children ages 6 to 13 who participated in a third cross-sectional study in 1993 of residents of Humboldt, an agricultural based community in Saskatchewan. Parents, on behalf of children participating in the study, completed a questionnaire that included information on doctor diagnosed asthma, respiratory symptoms (current history of cough, phlegm and wheeze) and farm related activities. A history of allergy was determined by a positive response to: “Has this child ever had an allergic reaction to things that are ingested, inhaled, or in contact with the skin?” Exposures of one hour or more in the past 12 months to a variety of farming activities including: haying, harvesting, moving bales, cleaning pens, cleaning or playing in barns and feeding livestock or poultry were examined as one variable (regular farming activity) or individually. The prevalence of asthma, wheeze and allergy was 11.0 percent (%), 19.2%, and 36.5%, respectively. There were 208 children (31%) who had participated as a bystander or in a farming activity on a regular basis. There was no association between asthma and participation in regular farming activity. However, when we examined specific activities following adjustment for potential confounders including; age, sex, parental smoking, parental asthma, home dampness and pets, the adjusted odds ratio (adjOR) for asthma and wheeze in relation to feeding livestock was 3.11 [95% confidence interval (CI): 1.15-8.41 for asthma and adjOR: 3.90; 95% CI: 1.68-9.1 for wheeze. There was a negative association between cleaning pens with allergy (adjOR: 0.10; 95% CI: 0.27-0.37) and asthma (adjOR: 0.09; 95% CI: 0.01-0.83). Similar to farming adults, exposure to animals and their feeds can contribute to respiratory symptoms and asthma. Children could be avoiding animal by-products because of their asthma or allergies.
Lower Incidence of Asthma among Canadian Children Living in a Farming Environment

William Midodzi1, Brian H Rowe2, Carina M Majesic3, A Senthilselvan1
1Department of Public Health Sciences, University of Alberta; 2Division of Emergency Medicine, University of Alberta

Objectives: To examine the relationship between dwelling in farming environment and incidence of asthma among children. Setting: A prospective cohort study was conducted among 13,5124 Canadian children of ages 0 to 11 years who participated in the first and second cycles of the National Longitudinal Survey of Children and Youth (NLSCY). Methods: The dwelling environment of children was classified into rural farming, rural non-farming and non-rural environments. After excluding children who reported prior history of asthma and/or wheeze at the first cycle in 1994/1995, the remaining children were followed-up until the second cycle in 1996/1997. Results: The cumulative incidence of asthma was 2.3%, 5.3% and 5.9% in children dwelling in rural farming, rural non-farming and non-rural environments respectively. After controlling for several potential confounders, children dwelling farming environment had a reduced risk of asthma incidence in comparison to children dwelling in non-farming environment in rural areas. This association was modified by a parental history of asthma with odds ratios 0.26 (95% CI, 0.13 to 0.54) for children with a parental history of asthma and 0.42 (95% CI, 0.24 to 0.74) for children without a parental history of asthma. No significant difference was observed in asthma incidence between children dwelling in non-rural and non-farming environments. Infant-toddler age group, male sex, allergy, socio-economic status, crowding index, home needing repairs and residing in Atlantic region were significantly associated with asthma incidence. Conclusion: The results from this study extend the previous findings from cross-sectional studies that asthma prevalence is lower in farming environment to asthma incidence in a longitudinal study.

The Sioux Lookout Anishinabe District Health Plan - Development of a Reinvestment Plan to Enhance Community Based Primary Health Care Services for the Sioux Lookout District

Janet Gordon, Florence Tarrant
Sioux Lookout First Nations Health Authority

The primary goal of the project is to develop a District Health Plan within a Primary Health Care Framework that will guide the reinvestment of federal dollars into community based services in order to enhance and improve the current Primary Health Care delivery system. The objectives of this project are as follows: (1) To design a comprehensive integrated primary health care model and implementation plan for the communities of the Sioux Lookout Zone. (2) To design a district physicians plan within an integrated primary care framework which will include access and referral mechanisms to specialized clinical services and ensure the integration of physician services with nursing and other health programs provided by and/or funded by FNIHB at the community level. (3) To design a nursing services plan within an integrated primary health care framework which includes a service delivery implementation plan. The project will conduct a comprehensive review of the existing federally delivered nursing programs at the community level and other primary health care models, which include an expanded nursing role. (4) To design a mechanism for the governance and management of the primary health care systems that is First Nation centered. A multi-disciplinary, collaborative approach involving health professionals, First Nations representatives, federal and provincial government representatives will help define the new approach to primary health care in Sioux Lookout Zone. The District Health Plan will identify how service delivery will be enhanced in the areas of health promotion, disease and injury prevention,
and the management of chronic disease. The development and implementation of a Primary Health Care framework will ensure that all the Anishinabe of the Sioux Lookout District will have equitable access to 24/7 services. The project will enable the Anishinabe to define a comprehensive range of Primary Health Care services that will be delivered to the whole population through an organized primary health care system. A well defined Primary Health Care framework will ensure the coordination and integration of a wide range of health services where care is provided by the right provider at the right time in the right place.

877
Lessons from the National Evaluation of the Health Transfer Policy
Josée Lavoie, John O’Neil
Centre for Aboriginal Health Research, Department of Community Health Sciences, Faculty of Medicine, University of Manitoba

This presentation will discuss the results of the 2005 National Evaluation of the First Nations and Inuit Health Transfer Policy (HTP). The HTP was approved in 1989. Its goal was to allow on-reserve/community-based First Nation and Inuit governance structures to take over the planning and delivery of existing on-reserve services, with funding from the federal government. Sixteen years after its adoption, it is clear that the policy has at least partially met First Nations and Inuit aspirations in achieving some level of self-administration, on the path towards self-government. The policy, as implemented, has 1) improved communities' ability to design health programs, establish services and allocate funds according to community health priorities; 2) strengthened and enhanced the accountability of First Nations and Inuit in health related matters; and 3) in many provinces but not all, has resulted in greater integration between community/on-reserve services and the provincial public health system. In the 16 years since it was announced, inequities in financing have however cumulated. The current picture is that of a patchwork of targeted programs defined nationally and delivered locally. The administrative cost of such an approach is high for both FNHB and First Nations and Inuit organizations, and yields few benefits. This presentation will explore the costs of this patchwork approach to equity in health and discuss the recommendations outlined in the National Evaluation to address these issues.

1033
Effective Integration of Direct Clinical Care and Health Research in the NWT
Ewan Affleck, Greg Cummings, Christine Couturier
Yellowknife Health and Social Services Authority

The Northwest Territories has a population of approximately 42,000 people, living in 33 communities, with a majority who are First Nations representing six distinct cultures. In the Compendium of Research in the NWT (2000), only three research projects conducted between the years 1998-2000 involved the health sector. The principle reasons there is so little health research in the NWT are limited research capacity and poor health data quality. Despite these limitations, the NWT is uniquely positioned to support a meaningful relationship between health research and clinical service provision. This can be achieved by linking the two with a clinical digital charting tool. The implementation of this digital tool can be more easily achieved in the NWT because it is a veritable health informatics island. Conceptually this means that because of its isolation, small population size, and single employer (all health care workers including doctors salaried) implementing a universal digital health solution in the NWT is relatively simple compared to other Canadian jurisdictions. The first step in the creation of this universal charting and surveillance tool has been its recent implementation in two clinical sites (Hay River & Yellowknife). A project working group made up of clinicians, clerical staff, IT consultants, privacy experts and administrators established a list of functions needed for a clinical tool that would also provide reliable data. Once in place this tool can provide accurate surveillance data from the front line on FASD, Hepatitis C, Colorectal Cancer, Diabetes, or any other clinical condition of interest. This system will allow for accurate surveillance by marrying clinical work to data collection, and replace cumbersome and inaccurate surveillance techniques of old. Once rolled out across the Territory this will provide a unique opportunity for
accurate jurisdiction wide surveillance, and provide clinicians, researchers and health administrators alike access to accurate health information. However this must be realized in the context of a coherent privacy and confidentiality framework that respects the primacy of any individuals and peoples right over their health information.

978
“This Is Important Work You’re Doing”: Rewards and Challenges of Doing Health Care Research in a Remote First Nations Community
Denise Tarlier
School of Nursing, University of British Columbia

Inevitably, the context in which people live and in which health care is delivered, and the structure of health services delivery exert strong influences on patient health outcomes and continuity of care. Previous research suggests that the structure and context of health service delivery in remote Aboriginal communities influences the practice and quality of life of outpost nurses. However, little information exists informing us as to how the various aspects of the ‘bigger picture’ of health care influence the process and outcomes of care, and especially continuity of care. Ethnography was the method selected to examine how nurses, as the chief providers of primary care, influenced patient care and health outcomes in a remote First Nations community. Ethnography was consistent with ensuring holistic and cultural perspectives were respected and with preserving the unique context of health services in remote First Nations communities. An ethnographic method allowed the researcher to shift focus between units of analysis, providing a sense of the macro-meso-micro interplay between the structure, process and outcomes of health services delivery, within a contextual understanding of health and the broader determinants of health in the community. Moreover, ethnography supported both the quantitative and qualitative data collection strategies that were used in this mixed-methods research. The challenges of planning and carrying out this complex research strategy were compounded by the challenges inherent in conducting research in remote communities. Challenges included: obtaining adequate funding, the logistical difficulties of accessing a remote, fly-in study site; the constant turnover of nursing staff during the study period, and ethical concerns related to obtaining participants’ informed consent in a way that satisfied both the ethical guidelines approved for the study and local cultural mores. However, overcoming challenge implies reward. The most significant rewards of this project were recognizing the extent to which the research project was supported and valued by local community members, and realizing that community members perceived the research could indeed, “make a difference” to health care in their community. One conclusion of this study is that despite the challenges, the rewards of doing research in remote communities are well worth the efforts.

898
Working Together to Get the Word Out: An Innovative Example of Knowledge Transfer in Canadian Rural Women's Health Research
Rebecca Sutherns1, Margaret Haworth-Brockman2
1Health Studies Programme, McMaster University; 2Prairie Women's Health Centre of Excellence

This presentation summarizes the methodology and findings of a two-year collaborative national study entitled “Rural, Remote and Northern Women's Health: Policy and Research Directions,” undertaken by the Centres of Excellence for Women’s Health and funded by Health Canada, the Canadian Institutes of Health Research and the Status of Women Canada. More pointedly, it showcases the formats in which research results have been communicated to reach a variety of audiences. The development of a plain-language communications kit for use in rural communities, in direct response to the requests of grassroots research participants, has provided an opportunity to disseminate information beyond traditional channels. Preliminary lessons gleaned from the writing and use of the kit are offered. This presentation thereby addresses the challenges of designing a research initiative that meaningfully involves rural women in all parts of Canada in all parts of research – not only in data collection and analysis, but also in its dissemination and application. It points to the value of investing in inclusivity at all stages, in order to maximize research relevance and uptake.
Abstracts / Résumés
Oral Presentations / Présentations orales

Friday / vendredi, Session 7
– Women’s Health & Social Issues
Pertice Moffitt, Moderator / Modérateur

912
Uncomplicated Urinary Tract Infections. Pathogens and Patterns of Antimicrobial Resistance: a Prospective Trial of Three Regimens of Antibiotical Treatment - A Study in the Primary Health Care in Nuuk, Greenland
Nikolaj Raaber1, Gert Mulvad2, Birgit Niclassen2
1Department of Cardiology, Randers County Hospital, Denmark; 2GP, Lægeklinikken, Nuuk, Greenland

Uncomplicated urinary tract infection (UUTI) is one of the most common infections in the primary health care. The choice of antibiotic treatment therefore has important ecological and economical consequences UUTI is defined as dysuria, frequent or urgent need to urinate, pressure in the lower pelvis, without fever or flank pain, among women between the age 15 to 50. Current data on microbiology and antimicrobial resistance in the primary healthcare is based on investigations made by departments of microbiology on urine samples admitted for cultivation by GPs. It is reasonable to assume that these data are biased by selection. We have made an investigation of the pathogens and their pattern of antimicrobial resistance in UUTI in approximately 600 consecutive patients. Furthermore we have evaluated three regimens of antibiotic treatment by a prospective trial. For 8 weeks all consecutive patients presenting with UUTI were treated with 2 grams of sulfamethizol as single dose, the next 8 weeks with sulfamethizol 1 gram two times a day for three days and the last 8 weeks with pivmecilliniam 400 milligrams three times a day for three days. The three regimens were evaluated in respect of clinical effectiveness and number of relapse infections. The collection of data is finished in the beginning of July.

1049
Canadian Inuit and Healing the Legacy of Residential Schools
Gail Valaskakis
Director of Research, Aboriginal Healing Foundation

Between 1847 and 1983, Canada operated over 130 boarding schools, industrial schools or hostels for the purposes of training, educating and acculturating Aboriginal children. Until recently, the impact these schools have had on those who attended them, their children and grandchildren was silent in the history of Canada, particularly with respect to Inuit, who experienced residential schools and hostels after the mid-1990s. In 1998, the Government of Canada offered a statement of Reconciliation and established a $350 M Healing Fund, which is administered by the Aboriginal Healing Foundation (AHF). The AHF has funded over 1,200 grants in support of community-based, holistic healing projects in Aboriginal communities that address the legacy of physical and sexual abuse in Residential Schools, including intergenerational impacts. The AHF has sponsored three interim evaluation reports, ongoing research on promising healing practices, and numerous research reports related to understanding healing and residential schools, including a seminal report on the history and experience of Inuit and residential schools. This paper will discuss the history and impact of residential schools with respect to Canadian Inuit; the community-based healing that AHF has funded in the Far North; and what AHF research suggests about “promising healing practices” for Inuit.
Remembrance of Illness and Recovery: Identity Changes of Inuit Men and Women Who Were Treated in Southern Hospitals in the 1950s

Ebba Olofsson1, Sir Mortimer B Davis2
1Culture and Mental Health Research Unit, Institute of Community and Family Psychiatry; 2The Jewish General Hospital, Montréal

This research focuses on Inuit from northern Québec who are today in their 50s and 60s. These have experienced a dramatic change of living conditions and way of life since the Inuit communities in northern Québec have in just one generation gone from living off the land with little modern technology to be drawn into the modern life of the Western world. Many Inuit were in the 1950s sent down south to Montréal, Hamilton, and Toronto for medical care for tuberculosis and other serious conditions. They had to stay in a completely different cultural environment for a long time some never to return. I have gathered life stories from Inuit Elders who have experienced a stay in a southern hospital in their youth or childhood. In addition, I have analyzed a collection of Elders’ interviews, which exist at Avataq – an Inuit cultural institute (Montréal). In analyzing the interviews, I have the ambition not only to write modern history, but as well, to see how the personal identity including the ethnic identity is changing over a life span. How were the individuals affected by these profound changes in their community and in their personal lives? The focus of the research is to understand how the ethnic identity of those who, as children and adolescents, had an ascribed identity as Inuit within their communities of origin, was transformed due to hospitalization in the south and so living in another cultural context.

The Social Gradient in Infertility Treatment Prevalence and Sterilization Procedures in Manitoba, 2002/03-2003/04

Elaine Burland1, Patricia Martens1, Randy Fransoo1, The Need To Know Team2, Charles Burchill3, Heather Prior3
1Manitoba Centre for Health Policy, Department of Community Health Sciences, University of Manitoba; 2The Need To Know Team is a collaboration of the rural and northern Regional Health Authorities of Manitoba, Manitoba Health, and the Manitoba Centre for Health Policy, funded by the Canadian Institutes of Health Research (2001-2006)

Objectives: To examine differences in male and female infertility treatment prevalence and sterilization rates in Manitoba and the relationship to neighborhood income and global health status. Methods: Using anonymized administrative data (2002/03-2003/04) in the Population Health Research Data Repository at MCHP, age-standardized infertility treatment prevalence and sterilization rates were reported for Manitoba residents by region, age group and neighborhood income quintile groups. Residents aged 15 to 55 years were included in the analysis of infertility treatment prevalence and residents aged 20 to 55 were included in the analysis of sterilization rates. The social gradient is represented by two indicators – income quintiles (i.e. average household income values from the 2001 census based on enumeration area) and regional health status (measured by premature mortality rate (PMR) – a standardized rate of death before age 75, often used as an indicator of overall health status). Results: Overall, males underwent a sterilization procedure at a greater rate than women (provincial average: 8.95/1000 vs. 5.34/1000 respectively; p<.01), but were less likely to be treated for infertility (provincial average: 0.9% vs. 1.2% respectively). In most regions, females’ infertility treatment prevalence was double that of males’. Males in healthier regions (measured by premature mortality rates) tended to undergo more sterilizations and treatment for infertility compared to males in regions with poorer health. This trend was not as evident for females for either indicator. Neighborhood income quintile analysis of sterilization data revealed a statistically significant gradient among males and females in both urban and rural regions (all p<.001). Males in higher income quintiles had higher rates of vasectomies, while females in lower income quintiles had higher rates of tubal ligations. This significant gradient was also evident for infertility treatment, but only for males – the higher the income quintile, the greater the treatment prevalence (p<.001).
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Conclusions: There is evidence of a social gradient in sterilization and infertility treatment procedures in Manitoba. For males, the healthier the region and the higher the income quintile, the greater their likelihood of undergoing infertility treatment and sterilization. For females, the lower the income quintile, the more likely they are to have had a tubal ligation.

968
Young Rural Women’s Conceptualizations of their Health: An Historical Perspective
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1Rural Research Centre, Nova Scotia Agricultural College; 2Dalhousie University

The Maritime colonies/provinces, from the 18th through the early 20th centuries, encompassed a fairly stable rural society, one in which women’s roles were largely defined—though not necessarily constrained—(Campbell, 1989) by gendered responsibilities, identities, health concerns, and work (Guildford and Morton, 1994). These same communities and women, however, underwent an astonishing number of changes in the latter part of the 20th century (Forbes & Muise, 1993), and rural women in the region are increasingly faced with a contradictory set of patterns and possibilities related to health and daily life. How have the changes in rural communities impacted young women’s conceptualizations of their health? What are their chief sources of health information, knowledge, and practice, and how have these changed over time? In this paper, we will review the literature on rural women’s conceptualizations of health and discuss the preliminary findings of a research project in rural Nova Scotia. This project, based in the Annapolis Valley, is charting the health-related beliefs, knowledge and practices of young rural women in order to identify the health-related needs of this group. This presentation, it is hoped, will offer the opportunity to explore with other rural and northern researchers the ways and means to productively connect research on young rural women’s health needs in Canada with policymaking and policy-makers. The project is part of a larger research initiative, WHIRC (Women’s Health in Rural Communities), funded by a New Emerging Team grant from the Canadian Institutes of Health Research.

928
Assessment of the Presence of Pathogens and Multi-drug Resistant Pathogens in the Air, Manure and Nasal Flora of Farmers Working in Swine Confinement Buildings using Different Production Systems
Valérie Létourneau1, Anne Mériaux2, Yvon Cormier1, Caroline Duchaine2, Daniel Massé3
1Centre de recherche, Hôpital Laval, Institut de recherche en cardiologie et en pneumologie, Hôpital Laval; 2Département de biochimie et de microbiologie, Faculté des sciences et de génie, Université Laval; 3Centre de recherche et de développement sur le bovin laitier et le porc, Agriculture et Agroalimentaire Canada

Background. With the recent industrialization of swine operations and with an ever increasing number of pigs per building, the quantity and quality of airborne bacteria may be different and thus threaten human health. The industrialization also implies the development of new varieties of swine production systems such as solid-liquid manure separation, influencing the nature of pathogen populations found in the swine environment. Moreover, the use of antibiotics as growth promoters contributes to the natural selection of multidrug resistant pathogens which may be disseminated to the general population and create challenges for health authorities. Little is known about the potential role of the farmer in this dissemination process. Hypothesis. Depending on the swine production system in use and the antibiotic regime given to the pigs, we hypothesize that different populations of pathogens and multidrug resistant pathogens in the air, the manure and the nasal flora of the
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Swine producers will result. **Objectives.** (1) Evaluate the impact of different swine production systems and antibiotic regimes, in Québec, on the presence of pathogens and antibiotic-resistant microorganisms. (2) Evaluate the potential correlation between pathogen and antibiotic-resistant bacteria concentrations in swine manure, swine buildings ambient air and on nasal mucosa of farmers. **Methods.** The hypotheses will be verify by harvesting bioaerosols using all glass impingers AGI-30 and Andersen 6 stage impactors. Culture and molecular methods (standard PCR, real-time PCR) will be used to detect and quantify bacterial pathogens: Campylobacter, Escherichia coli, Salmonella, Clostridium perfringens, Enterococcus and Yersinia enterocolitica. In order to verify the presence of multidrug resistant pathogens, we will look for genes encoding for selected antibiotic resistance determinants by PCR using gene-specific primers. **Expected results.** The presence of pathogens and antibiotic-resistant bacteria in manure, air and nasal mucosa of farmers from different swine operations will be influenced by the manure management methods and antibiotic used. The nature and concentrations of pathogen and antibiotic-resistant bacteria found in swine manure, in buildings’ ambient air and in nasal mucosa of swine producers should be correlated. CIHR Strategic Training Fellow in PHARE, research funded by the CIHR Strategic Training Program and Partner Institutes.

**1012**  
**Effect of Endotoxin and Unmethylated CpG Motifs on Immune Function in Pigs**  
Justin Gawasiuk1,2, P Willson2, J Dosman3, V Gerdts2, G Mutwiri2, L Babiuk2

1Strategic Training Fellow in PHARE; 2Vaccine & Infectious Disease Organization, University of Saskatchewan; 3Institute of Agricultural Rural and Environmental Health (I.ARE.H), University of Saskatchewan

**Introduction:** Swine confinement areas contain high levels of respirable organic dusts. Research has shown that exposure to organic dust results in decreased lung function and is accompanied by increased number of inflammatory cells (neutrophils and alveolar macrophages) in the airway and as well as increased expression of TH2-type cytokines (Interleukins-4, -5, and -13). Furthermore, associated with this dust is lipopolysaccharide (LPS) and unmethylated CpG dinucleotides (CpG DNA). Evidence suggests that LPS and CpG DNA can modulate innate immune function and play a role in airway inflammation. CpG DNA has been shown to reduce expression of TH2-type cytokines, and promote TH1-type cytokines (Interferon-gamma and IL-2) expression, which may offer protection against LPS-induced airway inflammation. Thus far, the interactions between LPS and CpG DNA found in organic dust, and their impact on human and animal health are poorly understood. **Methods:** We propose an in vivo model of acute airway inflammation, wherein naïve, 3-week old commercially-available pigs (n = 6-8 per group) are treated with LPS (30 µg/kg) or CpG (50 µg/kg), alone or in combination via direct microspray into the lung. After treatment (1, 3 or 6 hours), we will assess the lung function of pigs using whole body plethysmography. We will collect alveolar macrophages via bronchoalveolar lavage (BAL) and divide the cells for subsequent experiments. First, total leukocyte counts and differential will be performed. Second, RNA will be isolated for subsequent analysis via real-time PCR for expression of TH2-type (IL-4, -5, and -13) and TH1-type (Interferon-gamma and IL-2) gene products. Third, the supernatant obtained from BAL fluid will be probed for expression of TH2-type (IL-4, -5, and -13) and TH1-type (Interferon-gamma and IL-2) cytokines via Western blot. **Results:** We expect that exposure to LPS will negatively impact airway function, and will also result in increased expression of message and protein for TH2-type cytokines (IL-4, -5, and -13). It is unclear whether nor not co-administration of LPS and CpG DNA via microspray directly into the lung will favor TH-1 or TH-2 immunity.
A Survey of Physicians’ Views on the Saskatchewan Cancer Agency’s Community Follow-up Program
Raegan Osicki, Kathryn Green
Department of Community Health and Epidemiology, University of Saskatchewan

As the incidence of various cancers increases, the capacity of cancer clinics to provide adequate follow-up care to palliative patients and those who have finished their cancer treatments is being stretched. In Saskatchewan, the Saskatchewan Cancer Agency (SCA) aims to monitor routine follow-up care provided to nearly 25,000 such patients by general practitioners and some specialists through a program called Follow-By-Mail (FBM). FBM letters, containing follow-up guidelines and requests for the results of follow-up, are sent to patients’ physicians at appropriate intervals. The completed letters are returned to the SCA. If a physician indicates suspicion of recurrent or metastatic disease, the letter is reviewed by a SCA oncologist. The purpose of the current study is to assess the extent to which physicians’ information needs are met, in both urban, rural and northern practices, by FBM as well as physicians’ levels of confidence in providing follow-up care. These assessments will be conducted using a mail survey developed with input from community-based physicians having a variety of backgrounds. The study will identify some of FBM’s strengths and weaknesses and will assist in tailoring the program to meet the information needs of the nearly 1,100 FBM physicians so that appropriate and timely follow-up care is delivered to patients. CIHR Strategic Training Fellow in PHARE, research funded by the CIHR Strategic Training Program and Partner Institutes.

Prevalence of Overweight and Obesity in a Northern Saskatchewan Aboriginal Community
Brenda Lindstrom¹, Karen Chad¹, Jane Ballantyne²
¹College of Kinesiology, University of Saskatchewan; ²Peter Ballantyne Cree Nation Health Services

Background: The global increase of overweight/obesity is recognized as a public health concern. Some Aboriginal communities have recognized above-average rates of overweight/obesity in their population, generating a growing interest in obtaining community-specific information to help guide them in their health priorities. Purpose: To determine the prevalence of overweight/obesity in a reserve community in northern Saskatchewan. Methods: 171 individuals from a northern Saskatchewan First Nations community between the ages of 15-66 years participated in this pilot project. Anthropometric measures included height and weight for body mass index (BMI) and waist circumference (WC) as an indicator of body fatness. Overweight was defined as a BMI of 25.0-29.9 kg/m², obesity as a BMI greater than 30 kg/m², and WC of >102 cm for men and >88 cm for women defined as a health risk. Results: The sample represented approximately 30% of the target population; 34% male and 66% female, mean age 33.6 ± 13.7 years. Mean BMI was 27.3 ± 5.7 kg/m² (range 15.4-40.0 kg/m²) with 32.9% classified as overweight and 28.7% as obese. There was no significant difference between males and females for BMI (26.6 ± 5.8 kg/m² and 27.7 ± 5.7 kg/m² respectively). When stratified into four age groups (15-24, 25-39, 40-59 and 60+ years), BMI increased with increasing age for both males and females (22.4 to 32.1 and 24.6 to 30.6 respectively). Mean WC for males was 95.7 ± 13.8 and females was 99.2 ± 13.6, with 23.9% of males and 79.6% of females falling within the health risk zone. Health risk associated with WC also increased with increasing age. Conclusions: Mean BMI and WC for both males and females suggests an increased health risk due to overweight/obesity in this particular community. Community health workers can use this information to target health promotion education/intervention programs that focus on decreasing the incidence of unhealthy body weights, such as physical activity and healthy eating.
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The Body-Related Emotional Experiences of Young Aboriginal Women: from Research to Action
Tara-Leigh Fleming¹, Kent Kowalski¹, Louise Humbert¹, Kristina Fagan², Martin Cannon³, Tammy Girolami⁴
¹College of Kinesiology, University of Saskatchewan; ²Department of English, College of Arts and Science, University of Saskatchewan; ³Department of Sociology, College of Arts and Science, University of Saskatchewan; ⁴Nutana Collegiate

Background: Although the majority of research surrounding body issues has primarily involved Caucasian women, recent evidence suggests that young Aboriginal women are experiencing many issues related to their bodies. Of the few studies that have included young Aboriginal women, researchers have generally focused on those young women who live on reserves and in urban centers; the rural context is often overlooked. It is important to better understand the body-related emotional experiences of young Aboriginal women who live in rural and urban settings because both settings are strong realities for many Canadian Aboriginal women. Furthermore, rural and urban contexts may present young Aboriginal women with different challenges that should not be overlooked when trying to better understand their body-related experiences. Objectives: The two main proposed objectives of this research program are to: (1) develop a conceptual model that integrates the body, culture, and emotion, and (2) to conduct a collaborative participatory action-based research project within a rural and urban high school to facilitate an approach in which young Aboriginal women are supported in coping with body-related emotions and developing individual and community-based strategies for managing body issues. Methods: The proposed methods will take place in three phases. First, there is a need for the development of a conceptual model that integrates the body, culture, and emotion because we currently do not have a model that examines the unique interaction of all three components. Second, we will explore issues surrounding the body, utilizing a quantitative cross-sectional design, with a larger sample of young rural and urban Aboriginal women. The third and last phase of this research project will involve a collaborative, school-based participatory action research approach. The process, and the findings, of this study will directly benefit the Aboriginal communities involved because it is the young women of these communities who will help to decide on the strategies that will be used to implement change.

881
Role of Dendritic Cells in the Viral-Induced Enhanced Antigen Sensitization in Hypersensitivity Pneumonitis
Melissa Girard, Évelyne Israël-Assayag, Yvon Cournier
Unité de recherche en pneumologie, Centre de recherche de l'Hôpital Laval, Institut universitaire de cardiologie et de pneumologie de l'Université Laval

Background: Hypersensitivity pneumonitis (HP) is an inflammatory lung disease caused by an exacerbated immune response to repeated inhalations of a variety of antigens. A Sendai viral infection enhances mice lung sensitization to Saccharopolyspora rectivirgula (SR), a HP antigen. The mechanisms involved in this viral enhancement remain unclear. Dendritic cells (DCs) are the most potent antigen presenting cells. Their recruitment and maturation following a viral infection could explain this phenomenon. Methods: Four groups of C57Bl/6 mice were studied: Group 1 received intranasal instillations of saline, three days per week; Group 2, instillations of SR, 3 days per week; Group 3, intranasal instillations of saline plus a single instillation of Sendai virus after three weeks of saline; and Group 4, instillations of SR, 3 days per week, plus a single instillation of Sendai virus after 3 weeks of SR. Mice were sacrificed on week twelve and bronchoalveolar lavages (LBA) were performed. Lungs were harvested, a section was digested with enzymes, and cells obtained were analyzed in flow cytometry by using CD11c, a mice DCs specific cell surface marker. CD86 and MHC class II, two DCs maturation markers were also studied. Immunohistochemistry studies were performed on the other lung section by using the same cell surface markers. Results: The percentage of mature DCs (CD11c+, CD86+, MHC II+) was significantly higher with the combination of SR and Sendai virus than with the SR or
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Sendai virus alone in both the cytometry and immunohistochemistry studies. Epithelial desquamation was observed in mice who received both SR and virus instillations. Conclusions: Sendai virus induces the recruitment and maturation of DCs possibly by allowing an easier access of the antigen to airway DCs by disrupting the epithelial barrier. This phenomenon could explain, at least in part, the exacerbated immune response that causes HP.

Friday / vendredi, Session 9  
– Cancer Plus 1  
15:30-17:00  
⇒ Saint Louis

Mary Ellen Andrews, Moderator / Modérateur

905  
Bereaved Family Member Perspectives about Care in the Last Month of Life of Rural Saskatchewan Cancer Patients  
Donna Goodridge, Wendy Duggleby  
College of Nursing, University of Saskatchewan

While quality end of life care has been recognized as a right of every Canadian, little is known about the experiences of those dying in rural areas. The provision of palliative care for rural populations may be complicated by factors such as geographic isolation, distance from health care, lack of transportation and poverty. The purpose of this pilot study was to evaluate the proposed methods for a larger study to explore bereaved family members’ perspectives about the quality of care received in the last month of life in rural Saskatchewan. Fifteen family members who lost a loved one to cancer within the preceding two to five months were asked to participate in a 30 to 45 minute telephone interview. The After-Death Bereaved Family Member Interview was used to explore perceptions related to shared decision making, advance care planning, focus on the individual, emotional and spiritual needs of the family, co-ordination of care, supporting the self-efficacy of the family and overall rating for patient-focused, family-centred care. The findings relating to rural respondents will be discussed during this presentation. A better understanding of the perceived strengths and deficits of end of life care will facilitate the development of strategies designed to support and promote high quality care in rural settings.

935  
“A Lot of Us Travel a Little Farther.” Challenges Faced by Community-based Cancer Support Groups in Northern Ontario, Canada  
Mary Ellen Hill  
Centre for Rural and Northern Health Research, Lakehead University

Although community-based support groups are increasingly found in rural and remote areas, relatively little is known about the groups, their membership and functioning in areas where populations are sparse and isolated. This study offers insights into the functioning of these groups through an analysis of qualitative interview data collected from 70 members of 6 community-based groups for cancer patients, located in Northern Ontario. The study assesses how mutual aid groups function in these settings. It examines participation, services provided, satisfaction, and resource issues, including what might be done to help the groups. Results suggested that most participants appreciated the information, advice and support offered by the groups. They were generally satisfied with their experiences, finding acceptance, hope and reassurance in their contacts with other survivors. The groups, however, face a number of challenges in maintaining their organization. They experience ongoing difficulties gaining access to resources, including health care information, support and services. The groups also have membership and leadership concerns, including recruitment and retention issues. As well, the groups face a number of practical challenges that are unique to the northern and rural environments. Scheduling of meetings and other activities is difficult due to the distances between communities, the necessity of travelling and the uncertainties of northern weather. Finding ways for members to keep in touch between meetings is also problematic, because groups lack resources to support informal activities, communications and networking.
The groups are largely self-funded, operating only with donations and in-kind contributions from their members, leaders and communities. The absence of resources is a serious constraint that is especially severe for smaller groups that serve the most isolated populations. All of the groups, however, have succeeded in maintaining a presence in their communities, finding innovative ways of promoting the information, assistance and emotional supports that are needed by their members and other community residents.

1046
Providing Cancer Education for Alaska Native People
Melany Cueva, Anne P Lanier, Regina Kuhnley
Alaska Native Medical Center
16:00
Friday / vendredi
F-9
Saint Louis

Cancer, considered a rare disease among Alaska Natives as recently as the 1950’s, is now the leading cause of mortality among this population. Village-based Community Health Aides and Community Health Practitioners (CHA/Ps) are the primary providers of health care in rural Alaska. Approximately 475 CHA/Ps provide primary, emergency, and preventive health care in 178 remote Alaska villages ranging in size from 20 to 1200 people. Most communities are accessible only by small, single-engine aircraft and travel is hazardous due to harsh terrain, vast distances, and extreme weather conditions. CHA/Ps provide services during approximately 300,000 patient encounters annually. “Cancer Education for Community Health Aides in Alaska” a National Cancer Institute funded project was inspired by CHA/Ps expressed need for additional cancer learning opportunities and resources based upon their growing concerns over increases in the number of people with a diagnosis of cancer. Beginning in 2001, a variety of cancer education materials and learning opportunities have been designed, developed, implemented, and evaluated. Cancer education has included; movies, CD-ROMs, theatre, print materials, and face-to-face as well as distance education courses. In April 2005, all CHA/Ps were surveyed to evaluate the effectiveness of cancer education courses and continuing medical education materials to promote comfort with cancer and basic cancer education. Results will be analyzed and presented.

1030
Janet Kelly, Anne P Lanier
Office of Alaska Native Health Research, Community Health Services, Alaska Native Tribal Health Consortium
16:15
Friday / vendredi
F-9
Saint Louis

Purpose: To examine 35 years of cancer incidence data to determine changes over time in cancer patterns, and to compare 35 year trends in cancer incidence with US Whites. Methods: Data from the Alaska Native Tumor Registry were used to identify all cancers among Alaska Natives (Eskimo, Indian, Aleut) diagnosed 1969-2003. Alaska Native race determination was made by self-report during registration at Indian Health Service facilities, or through notation on the medical record. Cancer incidence rates were age-adjusted to the 2000 US Standard population and are expressed as per 100,000. Results: Cancer incidence among Alaska Natives has increased since 1969. Comparisons of incidence rates for years 1969-73 with rates of 1999-03 show a 25% increase for Alaska Native men and 35% for women for all cancer sites combined. For specific sites among Alaska Native men, lung cancer increased 92%, prostate, 69%, and colorectal cancer, 19%. Among Alaska Native women, lung cancer increased 322%, breast, 190%, and colorectal cancer, 28%. Current data for years 1999-03, for all cancer sites combined, show that Alaska Native women have an overall cancer incidence rate which is higher than US whites. Rates for years 1999-03 show that Alaska Native men have rates of lung and colorectal cancer which exceed rates for US White men. Rates for Alaska Native women for colorectal cancer exceed US white rates, but appear similar to US White rates for lung cancer. Conclusions: Our results indicate that cancer incidence among Alaska Natives continues to rise. In addition, considerable differences exist between Alaska Natives and US Whites with respect to cancer incidence.
A Study of Mortality and Cancer Incidence in a Remote Northern Canadian Nickel Mining Operation: Challenges, Results, Impact, and Recommendations

Nancy Lightfoot1,2, Michael Conlon1, Robert Semenciw3, Allan Donner4, Gurumurthy Ramachandran2, Erich Kliewer6, Randy Bissett7, Bruce Conard8, Robert Desjarlais9

1Epidemiology Research Unit, Regional Cancer Program, Sudbury Regional Hospital; 2Division of Human Sciences, Northern Ontario School of Medicine; 3Surveillance and Risk Assessment Division, Centre for Chronic Disease Prevention and Control, Public Health Agency of Canada; 4Department of Epidemiology and Biostatistics, University of Western Ontario; 5Department of Environmental and Occupational Health, University of Minnesota; 6Department of Epidemiology and Cancer Registry, Cancer Care Manitoba; 7Radiation Oncology Program, Regional Cancer Program, Sudbury Regional Hospital; 8Environmental and Health Sciences, Inco Limited; 9Thompson Local 6166, United Steelworkers of America

Thompson, Manitoba is a remote resource-based community, located over 700 km north of Winnipeg, on the Burntwood River, in north central Manitoba. Underground, mill, smelter, and refinery facilities exist at Thompson where nickel mining and processing has occurred since 1961. A retrospective occupational cohort study, jointly endorsed by the company and union, of mortality (1960-1998) and cancer incidence (1969-1998,) was conducted for male Thompson nickel workers (n=18,278 males). Company nominal role and work history information were linked to national health data at Statistics Canada. In the cohort of male workers, there were 1,776 (9.7%) deaths and 863 (4.7%) incident cancers. Using the Canadian population as a reference, overall standardized mortality ratio results will be presented for a wide variety of diseases and overall standardized incidence ratio results will be presented for various cancers, as well as the results for specific work areas. This presentation will discuss the challenges faced by the study team in undertaking this type of epidemiological research in a remote northern community and in a remote northern company-union environment, challenges related to the conduct of occupational cohort studies in Canada, the study results for male and for the small number of female workers, the impact of the study results, and implications for health and safety.

Transportation Issues in Rural Areas: an Investigation into the Differential Effects of Lack of Transportation for Younger and Older Adults

Bonnie Dobbs1, Allen Dobbs2, Laurel Strain3

1Faculty of Rehabilitation Medicine, University of Alberta; 2Department of Psychology, University of Alberta; 3Faculty of Medicine and Dentistry, University of Alberta

Transportation issues in rural areas are widely acknowledged. However, there is a paucity of research investigating the effects of the lack of transportation on access to health care and other necessary services in rural areas. The current study investigated the lack of transportation in rural Alberta and the characteristics associated with experiencing such effects. It was hypothesized that older adults (65+) would be particularly affected as this age group has an increased likelihood of 1) the need for health care services, and 2) the presence of medical conditions that affect driving competence and may result in loss of driving privileges. Structured interviews were conducted with 288 participants aged 16 years of age and older living in one rural region in Alberta. The results revealed significant differences between younger and older residents. Older participants were more likely to indicate that they did not go places because of transportation barriers, with access to medical services particularly compromised. Socio-demographic and health characteristics, in addition to age, emerged as important factors in terms of the effects of the lack of transportation. Implications for the development of policy and strategies to alleviate transportation barriers in rural areas will be discussed.
The Need to Know project, which includes as partners the ten rural and northern regional health authorities (RHAs) of Manitoba, the Manitoba Centre for Health Policy, and Manitoba Health, was established to create new knowledge directly relevant to rural and northern RHAs, develop RHA-relevant capacity, and develop effective strategies for dissemination an application of health-related research. In operation since 2001, it has evolved to become a model for research capacity-building across Canada. The collaborative “utilization-focused” evaluation of the project has documented progress made towards project objectives – and confirmed that activities aimed at increasing capacity of team members have been effective. However, the rural and northern team members identified the need for strategies to increase “capacity” at the organizational level – to improve research utilization within their RHAs and to affect change in how decision-making is conducted. Following preliminary identification of organizational barriers to appropriate use of research, a proposal was developed to respond to this issue and maximize the impact of The Need to Know Project in the regions. This proposal, From Evidence to Action, was funded by CIHR in February 2005. It’s objectives are to identify, from the perspective of RHA decision-makers themselves, organizational factors that hinder evidence-based decision-making in RHAs; and to collaboratively develop strategies to address these barriers. Activities include collaborative development of an organizational assessment tool, application of the tool in all Manitoba RHAs, and development and evaluation of interventions to address identified barriers. This presentation will provide a summary of the results of the first stage of the research, – consultation with CEOs, executive and boards of the RHAs, and findings from site visits to the rural and northern RHAs. It will focus on organizational response to the From Evidence to Action project, organizational barriers identified, and decision-maker perspectives on these barriers.

In this oral presentation, I discuss unique strengths and challenges of using qualitative research to explore women’s health in rural, Northern, and remote settings. Data from feminist grounded theory research completed in northern British Columbia, Canada, focus groups conducted in rural south western Ontario, and literature that addresses women’s health in isolated settings form the basis of this discussion. Strengths and challenges associated with recruitment of participants, data collection, analysis, dissemination of findings, and empowerment of participants will be addressed. For example, research issues related to distance and time of year, as well as rural residents’ knowledge and support for qualitative research affect who will participate in research and where and when research can be conducted. I conclude with recommendations regarding the use of qualitative research to explore women’s health in rural, Northern, and remote settings.
The Health Research Strategy in Greenland

Gert Mulvad
Head of the Health Research Board in Greenland

The goal for the Health Research Board in Greenland is: To discuss the general aspect in Greenland health related research. To introduce health research priority for the Greenland Home Rule. To strengthen the health research network. To take part in the public debate about health and health research. The key issues in the strategy plan is: Social development and its impact on health patterns. Children in Greenland. Greenland for the children: including the family’s social and health behaviors. Social and geographical inequalities in health, including health standard in rural areas. Health services and health promotion research, including health intervention Human biological research. The key issues, and the goal for the Health Research Board in Greenland will be discussed in relation to: The Canadian Society for Circumpolar Health: Strategic Outlook, 2004-2009.

Indigenous Knowledges, Youth Health: Building Capacity with Youth in Northern and Rural Communities through Decolonizing Methodologies

Margo Greenwood, Sarah de Leeuw
UNBC Task Force on Substance Abuse: The Centre of Excellence for Children and Adolescents with Special Needs

Little question exists with regard to the health challenges faced by youth in northern (often isolated and rural) and Indigenous communities. Statistics and demographic indicators tell us that Canada’s Indigenous youth face higher than average rates of drug and alcohol usage (when compared with the Canadian youth population as a whole); increased incidents of interaction with the criminal justice system; higher rates of teen pregnancy; lower rates of high school completion; and, perhaps most tragically, higher incidents of suicide attempts and suicide completion. That these facts are now relatively ubiquitous in both academic and policy literature and in the popular media means that youth in northern and Indigenous communities are often framed within a “have-not” context. Policy and programming efforts are thus made to address a deficit, resulting in what we term as a “deficit lens” being applied to the lives of northern and Indigenous youth. Drawing from the results of a participatory action based research project conducted in north central British Columbia, this paper explores how to build health policy and programming capacity in northern and Indigenous youth communities through the utilization of strength based approaches. In the paper we present possibilities for moving “beyond deficit” with reference to youth health in rural and Aboriginal communities. The methodological strategies discussed follow approaches consistent with Indigenous values and decolonizing methodologies developed by Canadian and International Indigenous scholars. Throughout the paper, voices of youth research participants are presented in tandem with various tenets of Indigenous knowledges and worldviews, resulting in conclusions relevant to the direction of health services for rural and Aboriginal youth in Canada.
Health Information Processes of Urban Inuit: Bridging the Gap between the North and the South

Kelly McShane1, Janet Smylie2,3, Paul Hastings1, Tungasuvvingat Inuit Family Resource Centre4
1Centre for Research in Human Development, Department of Psychology, Concordia University & Institute of Population Health, University of Ottawa; 2Institute of Population Health, University of Ottawa & Indigenous Peoples Health Research Centre, First Nations University; 3Department of Community Health and Epidemiology, University of Saskatchewan; 4Tungasuvvingat Inuit Family Resource Centre

**Background:** Research on health information processes of Inuit has been gathered almost exclusively from the health care delivery model of Inuit in the north or from Inuit traveling to cities for medical treatment. This work applies to those Inuit in rural areas. Less is known about the 25% of Inuit who are living in urban areas and potentially are able to access local health care services. The health information processes of urban Inuit remains an insufficiently developed area of research by public health and medical practitioners. The current study examines health information use and dissemination strategies within an urban Inuit community. It is hoped that this examination of health care information processes in an urban area will foster a better understanding of the health needs of Inuit at large.

**Methods:** Through a collaborative partnership with the Inuit Family Resource Centre, a series of key informant interviews and focus groups were conducted to gather information on specific sources of health information, strategies of health information dissemination, and overall themes in health information processes. Findings: Distinct patterns of health information sources and dissemination strategies emerged from the data. Major themes included: the importance of visual learning, community Elders, and cultural interpreters; community cohesion; and the Inuit and non-Inuit distinction. The core sources of health information are family members and sources from within the Inuit community. The principle dissemination strategy for health information was direct communication, through one-on-one interactions or in groups. **Conclusion:** This community-specific model of health information sources and dissemination strategies shows substantial differences from current mainstream models of health promotion and knowledge translation. Health promotion efforts need to acknowledge the distinct health information processes of this community, and should strive to integrate existing health information sources and strategies of dissemination with those of the community. Furthermore, the results from this urban sample suggest that additional work is needed to bridge the gap in the dissemination health information between the North and the South. That is, there is a need to foster greater collaboration and sharing of traditional information between circumpolar regions and urban areas.

Partnership in Research: The Account of a Northern, Rural Aboriginal Community

Tracy Michano-Stewart1, M Anne George2, Christine Loock3, Paul Masotti3, Stuart MacLeod2, Jennifer Ranford3, Marilyn Van Bibber2, A Michel Morton4
1Pic River; 2University of British Columbia; 3McMaster University; 4School of Nursing, Lakehead University

Pic River is a First Nation on-reserve community of about 450 people, located on the Trans Canada highway in northern Ontario. It is approximately 360 kilometers to the closest large urban centre. Although there are limited human resources available, Pic River has a well-developed infrastructure and offers a wide variety of high-quality programs such as a healing lodge, a health centre and a head start initiative for preschool children. In addition, Pic River is free-standing in terms of health care delivery, that is, it is not part of an external tribal council which administers health care for a consortium of communities. Consortium management of health care is the regional norm for First Nation communities. In 2002, Pic River was one of four Aboriginal communities across Canada that joined with professors from three universities in a three year research partnership, funded by Canadian Institute of Health Research, Institute of Aboriginal People's Health Strategic Initiatives. The partnership was based a community-based participatory project aimed at reducing the incidence
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Programme et résumés

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of Fetal Alcohol Spectrum Disorder. The goal of the study is that each of the partner communities develop a community and culturally-specific brief alcohol intervention in hopes of creating tools for postpartum women who have concerns about alcohol use. Each of these tools will be pilot-tested in the respective communities. Ultimately, these tools will be made available for other communities to utilize. This paper will discuss the establishment of a working relationship between the Pic River community and the university researchers as well as present a brief overview of the research to date. Additionally, it will look at both the benefits and challenges presented as the research partnership evolved between this rural, Aboriginal community and the urban, university-based researchers.

Friday / vendredi, Session 11
– Knowledge and Modern Communication Strategies

Jennifer Medves, Moderator / Modérateur

15:30-17:00
⇒ Laval

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Knowledge Inclusivity: “Two-Eyed Seeing” for Health Research Collaborations (Aboriginal and Mainstream) for the 21st Century
Cheryl Bartlett
Canada Research Chair, Department of Biology, Cape Breton University

Contemporary Canada should be attempting to include Aboriginal peoples’ knowledges in various science arenas; in this regard, human and ecosystem health are two of the most relevant. For the mainstream, however, knowledge inclusivity is largely unknown territory and efforts may easily falter. Based on my participation in three initiatives that involve a “learning journey of inclusion” of Aboriginal knowledge alongside Western science, I will outline some “lessons learned”, in the spirit of sharing to help others with similar interests. These initiatives are in Cape Breton, Nova Scotia; they are separate yet related and each is a collaborative effort involving Mi’kmaq First Nations and the mainstream (e.g. university researchers, non-native community, government). The first, “Integrative Science” (http://msit.capebretonu.ca), is a unique undergraduate science program at Cape Breton University; its overall objective is to include Aboriginal knowledges in new university science curricula. The second, “Integrative Health and Healing”, is an Aboriginal community-based, participatory action, health research project funded by CIHR-IAPH (Canadian Institutes of Health Research - Institute of Aboriginal Peoples’ Health); its overall objective is to co-learn ways to help Mi’kmaq youth re-establish aspects of tribal consciousness wherein connectedness with the land contributes to an expanding sense of wholeness (and improved mental health). The third, “CEPI” (collaborative environmental planning initiative), is an effort by Mi’kmaq First Nations in conjunction with non-native others to create a management plan for the Bras d’Or Lakes ecosystem which is greatly valued by all peoples in Cape Breton. Mr. Albert Marshall, Mi’kmaq Elder, Eskasoni First Nation, has coined the label “two-eyed seeing” for knowledge inclusivity efforts within these three initiatives; the label points to the need to learn to see from the one eye with the strengths of Aboriginal knowledge and from the other eye with the strengths of Western science ... with the overall intent that we go forward together, learning from and with each other. The presentation will also highlight “two-eyed seeing” as resonant with the “new commitment for Science for the 21st Century” envisioned by UNESCO and the 1999 World Conference on Science.
Tele Home Care in Northern Alberta
Glendene Snook, Sharla Cadwell
Home Care, Northern Lights Health Region (West)

Northern Lights Health Region, West, located in northwestern Alberta, serves a population base of approximately 22,000. Although it is not isolated, as are regions of the Arctic, it is remote. Many factors hinder necessary regular nursing home visits to clients living outside community boundaries. Travel time and staffing levels are the major ones. Utilizing telehome care as a means for carrying out nursing visits both increases the number of nursing visits per day and decreases the amount of unproductive or “windshield” time. Telehome care visits include focused health monitoring and an opportunity for client and nurse to converse about any health concerns or queries. Monitoring of blood pressure, pulse rate and regularity, pulse oximetry, serial weight checks, chest auscultation for heart and lung sounds, blood glucose monitoring and the use of a camera with “pan” capability to provide sequential edema or wound assessment – all are capable with telehealth technology. Equipment in the home includes a TV, camera, phone, and basic nursing equipment (electronic scale, electronic stethoscope, electronic pulse oximeter, blood pressure cuff and glucometer). Clients and chosen helper (usually a family member or friend) are oriented in the operation of the equipment. Pilot project evaluation verified utilizing telehome care as a means for carrying out nursing visits both increases the number of nursing visits per day and decreases the amount of unproductive or “windshield” time. Additionally, clients reported a feeling of enhanced “connection” with their nurse. Conventional person to person home care visits would not have offered these clients the same frequency of visits. Providing telehome care nursing visits removes the barriers of travel time and staffing levels. Telehomecare allows home care nurses to offer regular “visits” to clients whom would otherwise be seen infrequently. Decreased “windshield” time increases the amount of time that can actually be spent in client care/nursing visits.

An Innovative Process in Course Development: The Creation of ABS350
Aboriginal Health Systems at the University of Toronto
Amanda Ritchie¹, Keren Rice², Victoria Grant³, Sarah Flicker⁴
¹Indigenous Health Development Program, University of Toronto; ²Aboriginal Studies, University of Toronto; ³Noojimawin Health Authority, Toronto; ⁴Wellesley Central Health Corporation, Toronto

In March of 2003, the coordinator of the Noojimawin Health Authority approached the directors of the Aboriginal Studies Program and the Health Studies Program at the University of Toronto to consider an undergraduate course in Aboriginal health systems. Upon review of the undergraduate courses offered at the largest university in Canada, it was identified that the area of Aboriginal health was not represented. The two programs agreed to jointly offer Aboriginal Health Systems as an elective course. The course has been approved, and the full year course commenced in the fall of 2004. One of the most significant assets of the course is its community-based origin. To maintain this perspective, students have the advantage to learn from both professional and community experts who share their expertise and information relevant to the curriculum. This experience offers students a practical, valuable and realistic insight of Aboriginal Health Systems. Support from many interested individuals and various organizations (the Noojimawin Health Authority, the University of Toronto/McMaster University Indigenous Health Research Development Program, Wellesley Central Health Corporation) have allowed for this opportunity. As well, the course has received financial support from University College, the Faculty of Arts and Science at the University of Toronto, and both participating undergraduate programs. In the first year of its inception, the course drew 16 students, 14 guest speakers, and participated in a co-organized workshop on Community-Based Research for Aboriginal Communities. Both the students and members of the public (18 people) enjoyed this session.
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Health Information Seeking in an (Almost) Wired World: What do Rural Dwellers do with Health Information from the Internet?  
**Roma Harris¹, Nadine Wathen², Jana Fear¹**  
¹Faculty of Information and Media Studies, The University of Western Ontario; ²Department of Psychiatry, McMaster University

Government-sponsored e-health initiatives to provide the public with access to consumer health information are often undertaken with the intent of providing under-served populations, particularly those disadvantaged by geographic location, with more equitable access to health resources. Interviews with women living in rural communities suggest that while some may rely on the Internet to retrieve health information for themselves and others, they don't necessarily rely on government-supported e-services and they sometimes use the information they retrieve in ways that health policy makers may not have intended. For instance, some women report that they use Internet-based health information to make their own diagnostic and treatment decisions and, based on these decisions, seek products and services from providers they regard to be accessible, including for-profit businesses. Many such providers fall outside the formal health care system. In this paper, we will report the results of a randomized telephone survey about health information-seeking conducted with residents of a large, sparsely populated agricultural county in Ontario. We will examine the sources and search strategies the respondents use to search for health information, including the Internet, and we will explore what they do with the information they retrieve. A particular focus of our analysis is how respondents living in rural communities use and communicate the information they have located when interacting with health care and other service providers. We will also review respondents' perceptions of the reactions they receive from health care providers, especially physicians, when they present health information they've retrieved themselves.

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E-Mail Contact between Patients and Doctors in Primary Health Care  
**Thomas Stensgaard, Gert Mulvad**  
Nuuk Primary Health Care Clinic, Greenland

Nuuk Primary Health Care Clinic has around 100,000 registered contacts between patients and health care professionals every year. Since May 1. 2004 around 5% of these contacts have been through secure e-mail. The presentation will shortly describe the system, and give information on different types of e-mail contacts, on characteristics of the patients, type of answers, answering-times and other statistics.

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Using the Internet to Promote Rural Health: Towards Capacity Development for Non-Profit Health Agencies  
**Leslie Bella¹, Heather St. Croix², Val Michelmore³, Wilma McInnis², Judy Morgan²**  
¹Honorary Research Professor, Memorial University; ²School of Social Work, Memorial University

As a component of ACTION4Health, an Initiative in the New Economy (INE) project funded by the Social Sciences and Humanities Research Council (SSHRC), we worked with a sample of small non-profit health organizations serving the predominantly rural province of Newfoundland to evaluate their web-based health initiatives. Our conference presentation will highlight the issues facing small non-profit organizations as the attempt to use the web to increase rural access to their information and services. Their feedback to our evaluations will assist ACTION4Health to develop a strategy that will assist such organizations to make better use of the web and to develop appropriate in house capacity to manage and develop this aspect of their services.
Peripheral Biochemical Markers for Early Neurological Effects of Methylmercury: Results from a Fish-Eating Population from the St. Lawrence River, Canada

Christopher Stamler¹, Nadia Abdelouahab², Claire Vanier², Donna Mergler², Laurie HM Chan¹
¹CINE, McGill University; ²CINBIOSE, Université du Québec à Montréal

Methylmercury (MeHg) is a neurotoxic global pollutant that accumulates at high levels in predatory fish and marine mammals. Dietary intake is the main route of exposure to MeHg in humans. Due to the complexity and the inaccessibility of the central nervous system (CNS), early brain dysfunction is difficult to detect. Measurement of biochemical markers in the CNS, such as monoamine oxidase-B (MAO-B), has been used to identify mercury (Hg) neurotoxicity in animals. Analogues of these biochemical targets are also present in peripheral blood tissue and may reflect CNS dysfunction in humans. A cross sectional study was conducted to evaluate the association between platelet-MAO-B and MeHg exposure in fish-eating adults (n=130) from Lac St-Pierre, Quebec. Neurobehavioural tests were also performed on all participants to assess cognitive, sensory and motor function. Blood-Hg concentrations were used as a marker of exposure and ranged from 0.2 to 17.0 µg/L. Multiple linear regression analysis demonstrated that both blood-Hg (p=0.007) and heavy smoking (p=0.001) were associated with reduced platelet-MAO-B activity. While, blood-Hg was not related to neurobehavioural performance, reduced platelet-MAO-B activity was significantly associated with acquired colour vision loss (p=0.032). No other consistent relationships were observed between MAO-B and neurobehavioural tests. These results suggest that Hg may interact with platelet-MAO-B activity, and this may serve as an indicator of early CNS dysfunction in humans. The use of peripheral biochemical markers may offer a novel strategy for risk assessment of neurotoxic pollutants and should be further investigated. Funding for this project was provided by the Natural Science and Engineering Research Council (NSERC) and the Collaborative Mercury Research Network (COMERN).

Mercury Exposure in Two Communities in Nunavut, Canada

Patricia Solomon and Hing Man Chan
McGill University

Previous study has shown that Inuit may be exposed to high levels of mercury (Hg) through traditional food consumption. This goal of this study is to find out the risk to human health by studying the relationships between diet and Hg in hair samples of participants in two communities, Repulse Bay and Igloolik. All adult members of the community were invited to participate in the study. Dietary Hg exposure was estimated using food frequency reports, and body burden of Hg was assessed by measuring hair samples. Participation rate was 40% and 42% from random sample and 60% and 58% from volunteering in Repulse Bay and Igloolik respectively. The majority of participants (64%) were women of child-bearing age. In Repulse Bay the estimated average daily Hg exposure was 21.3 µg (ranging from 0.3 to 79.0 µg) for women of child-bearing age, and 43.1 µg (ranging from 1.7 to 181.6 µg) for the general population. In Igloolik the average estimated daily Hg exposure was 6.0 µg (ranging from 0.2 to 23.9 µg) for women of childbearing age and 23.2 µg (ranging from 0.9 to 48.5 µg) for the general population. In Repulse Bay, the average Hg concentration in hair was 2.1 µg/g and 2.8 µg/g, for women of child-bearing age and the general population respectively. In Igloolik the average Hg concentration in hair was 2.1 µg/g and 6.2 µg/g for women of child-bearing age and the general
population respectively. 11 women of child-bearing age and 7 persons from the general population had levels above the low risk levels from both communities combined. No participants had levels above the “at risk” level of 30 µg/g. There is a strong correlation between hair Hg concentration and traditional food intake. These levels do not necessitate a reduction in traditional food consumption by the population. Rather the data indicates that levels of Hg should continue to be monitored, and the population be consulted as to appropriate follow-up. (Funding of the project is provided by the Northern Contaminant Program and Health Canada).

**Saturday / samedi, Session 1 (translated / traduirée)**

- Santé publique en milieu rural

**Susie Bernier, Moderator / Modérateur**

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<th>959 Serving Cree Wild Game Meat at Chisasibi Hospital in Northern Québec: a Community Project Aiming to Increase Food Security</th>
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<td>Manon Dugas¹, George Diamond², Sandra Gentili², Céline Laforest², Violet Bates³, Edward Tapatic⁴, Elizabeth Robinson⁵</td>
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<tr>
<td>¹Public Health Department, Cree Board of Health and Social Services of James Bay; ²Chisasibi Hospital, ³Cree Nation Council of Chisasibi</td>
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This project aims to support the Cree First Nations community of Chisasibi and the population served by the Cree Board of Health and Social Services of James Bay (CBHSSJB), especially the elderly population, to increase food security. Food security means having access at all times and with complete dignity to nutritious food that is acceptable from a socio-cultural point of view, in sufficient quantity and at a reasonable cost. Chisasibi is situated on the 54th parallel on the east coast of James Bay; the community has a hospital which serves the population of all nine Cree communities located in northeastern Québec. According to Québec regulations, all meat served in public establishments must have been inspected by Canadian or Québec agriculture ministries. In this context, the hospital is not authorized to serve wild game. The Cree have survived for thousands of years eating wild game, fowl and fish from the boreal forest. Several studies have demonstrated that this traditional food is high in protein, iron, other minerals and vitamins, while being low in fat. It thus offers a healthy alternative to commercially available meat. Since obesity and diabetes are extremely prevalent in the Cree communities, eating wild game, fowl and fish could contribute to improving diets while at the same time bolstering traditional cultural practices in the population. At the request of patients and of the population of the community, a proposal was developed in 2003-2004, in partnership with the Cree Trappers Association of Chisasibi, the Cree Nation Council of Chisasibi, the Public Health Department of the Cree Board of Health and Social Services of James Bay, and Chisasibi Hospital.

The project objectives are:

1. To serve wild game, fowl and fish regularly to patients hospitalized at Chisasibi hospital;
2. To evaluate the feasibility and safety of this activity during a one-year pilot project period;
3. After the evaluation period, to ask that northern regions be exempted from the regulation or order to be able to serve wild game, fowl and fish in the regions’ hospitals.

The presentation will enlarge on the content of the pilot project and the steps that led to its implementation in Chisasibi hospital in January 2005.
Collaboration interdisciplinaire en région isolée: le Cas de l'Eeyou Istchee

Lily Lessard\textsuperscript{1}, Diane Morin\textsuperscript{2}, Hélène Sylvain\textsuperscript{3}
\textsuperscript{1}Département de médecine sociale et préventive Université Laval; \textsuperscript{2}Faculté des sciences infirmières, Université Laval; \textsuperscript{3}Faculté des Sciences Infirmières, Université du Québec à Rimouski

Même si la littérature soutient que la collaboration interdisciplinaire améliore la qualité des soins, la satisfaction du personnel et l'efficience des organisations de santé, plusieurs études menées en régions rurales et urbaines soulignent qu'elle continue à rencontrer des obstacles importants (Corser 1998; D'Amour, Sicotte et al. 1999; Fowler, Hannigan et al. 2000; Rapport Clair 2000). La situation semble toutefois différente en régions isolées où des auteurs rapportent que la collaboration interdisciplinaire semble y émerger plus naturellement entre les intervenants de la santé que dans le reste du réseau (Boone, Minore et al. 1997; Lazure and St-Laurent 2002; Sicotte, D'Amour et al. 2002). Les éléments contextuels à l’origine de cette différence demeurent cependant méconnus. Le but de cette recherche est donc de comprendre les mécanismes structurant la collaboration interdisciplinaire entre les intervenants des services de santé de première ligne travaillant en région isolée. Il s’agit d’une étude de cas qualitative réalisée auprès des travailleurs de la santé des Territoires Cris de la Baie-James (Eeyou Istchee). Dans cette région, les intervenants de la santé et des services sociaux pratiquent en rôle élargi. On y dénote également la présence de nombreux professionnels autochtones permettant d’explorer une dimension interculturelle de la collaboration. Cette recherche fait appel à une démarche empirico-inductive misant sur la perception tirée de l’expérience de 12 informateurs-clés. Au moyen d’entrevues individuelles, l’expérience de ces informateurs-clés qui sont infirmiers, infirmières, travailleurs sociaux, psychologues, travailleurs de la Protection de la Jeunesse, médecins et travailleurs communautaires, permet de décrire et de comprendre la construction et le vécu de la collaboration interdisciplinaire sur le terrain. En 2004, nous avons eu l’occasion de présenter une affiche à Sudbury présentant le cadre conceptuel de cette recherche. Nous souhaitons maintenant présenter les résultats.

Modes d’organisation et accès aux services pour les communautés rurales, éloignées et isolées: Itinéraire d’un programme de recherche

Josée Gauthier\textsuperscript{1}, Jeannie Haggerty\textsuperscript{2}, Paul Lamarche\textsuperscript{1}, Diane Morin\textsuperscript{4}, Jean-Frédéric Lévesque\textsuperscript{1}, Raynald Pineault\textsuperscript{3,5}, Hélène Sylvain\textsuperscript{6}
\textsuperscript{1}Direction des systèmes de soins et services, INSPQ; \textsuperscript{2}Département de médecine familiale, Université de Montréal; \textsuperscript{3}Groupe de recherche interdisciplinaire en santé, Université de Montréal; \textsuperscript{4}Faculté des sciences infirmières, Université Laval; \textsuperscript{5}Direction des systèmes de soins et services, Institut National de santé publique du Québec; \textsuperscript{6}Module des sciences de la santé, Université du Québec à Rimouski

La dispersion de la population sur un vaste territoire pose un défi de taille pour une structuration optimale d’un système de distribution des services de santé. En lien avec l’incontournable hiérarchisation géographique des soins et services, une préoccupation fondamentale des gestionnaires et décideurs consiste à identifier et mettre en œuvre des stratégies organisationnelles efficaces et durables afin d’assurer à chacun l’accès à la gamme de services dont il a besoin. Un programme de recherche subventionné ayant pour but de documenter divers aspects de cette problématique et d’en extraire les pistes d’intérêt arrive au terme de sa seconde année de travaux sur les trois qui lui sont imparties. Il appert d’ores et déjà que certains éléments de processus et plusieurs des résultats préliminaires méritent d’être exposés à un auditoire de choix. Les chercheurs associés à cette programmation ont préparé une série de brèves présentations qui devraient susciter l’intérêt et la discussion tant au sein la communauté scientifique qu’entre décideurs et chercheurs. Dans leur ensemble, elles permettront aux participants de s’approprier les éléments d’intérêts ayant jalonnés la portion d’itinéraire complétée à ce jour. Cette première présentation de la série fixera le cadre de ce programme de recherche constitué de quatre projets conçus pour explorer en complémentarité cette hypothèse centrale: l’organisation appropriée des services de santé de première ligne et une collaboration efficace entre les professionnels de santé.
peuvent étendre la disponibilité des services et faciliter la négociation des barrières géographiques qui caractérisent certaines portions d’un vaste territoire.

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Modes d’organisation et accès aux services pour les communautés rurales, éloignées et isolées: Prendre la route à témoin pour apprécier l’éloignement
Josée Gauthier1, Jeannie Haggerty2, Paul Lamarche1, Jean-Frédéric Lévesque1, Diane Morin3, Raynald Pineault5,1, Hélène Sylvain6
1Direction des systèmes de soins et services, Institut National de santé publique du Québec; 2Département de Médecine familiale de l’Université de Montréal et Centre de recherche du CHUM; 3Groupe de recherche interdisciplinaire en santé, Université de Montréal; 4Faculté des sciences infirmières, Université Laval; 5Groupe de recherche interdisciplinaire en santé, Université de Montréal; 6Module des sciences de la santé, Université du Québec à Rimouski

La classification des communautés rurales selon les Zones d’influence métropolitaine (ZIM) n’a pas permis de définir les divers contextes géographiques caractérisant le territoire québécois en fonction des besoins particuliers de la programmation. Deux grilles d’analyses spatiales ont été développées spécifiquement pour le programme de recherche. Des mesures de distances routières et de concentration des infrastructures de services de divers niveaux ont notamment été utilisées pour établir les paramètres de chacune des grilles élaborées. La première est fondée sur la disponibilité géographique de la gamme de services à partir de chaque communauté et témoigne d’un continuum de 6 contextes distincts à l’égard de la disponibilité géographique des services de divers niveaux. La seconde grille d’analyse spatiale relativise l’influence sociale, économique et culturelle susceptible d’être exercée par les grands centres urbains sur les plus petites communautés en fonction de leur éloignement / proximité. Cette échelle se superpose à la dichotomie urbain / rural proposée par Statistique Canada au niveau des subdivisions de recensement et résulte en 8 contextes distincts. La grille d’analyse spatiale ainsi constituée reflète en fait 2 continus : 4 contextes urbains et 4 contextes ruraux. La méthodologie sous-jacente et la cartographie des divers contextes en résultant seront détaillées.

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Modes d’organisation et accès aux services pour les communautés rurales, éloignées et isolées: Variations observées entre les communautés du Québec quant à l’utilisation des services
Josée Gauthier1, Jeannie Haggerty2
1Direction des systèmes de soins et services, Institut National de santé publique du Québec; 2Département de Médecine familiale de l’Université de Montréal et Centre de recherche du CHUM

Les bases de données administratives témoignant de la consommation des services médicaux et hospitaliers de la population québécoise de même qu’une portion de l’Enquête sur la santé des collectivités canadiennes ont été exploitées afin de comparer le recours aux services entre les communautés vivant dans les 6 contextes géographiques définis selon la disponibilité de la gamme services. L’opportunité d’établir des liens avec d’éventuelles variations géographiques quant à l’accès aux services sera discutée.
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Modes d’organisation et accès aux services pour les communautés rurales, éloignées et isolées: Quand les communautés rurales nous parlent d’accessibilité
Jeannie Haggerty¹, Jean-Frédéric Lévesque², Danièle Roberge³
¹Département de Médecine familiale de l’Université de Montréal et Centre de recherche du CHUM; ²Direction des systèmes de soins et services, INSPQ; ³Chercheure, Hôpital Charles-Lemoyne

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Un des 4 projets encadrés par le programme vise à mieux comprendre la perspective spécifique des communautés rurales à l’égard de l’accessibilité et à assurer une mesure valide de leurs perceptions dans les questionnaires d’enquête réalisés à l’échelle des populations. Diverses stratégies de collecte d’information ont été déployées auprès de personnes vivant tant en milieu rural qu’en milieu urbain afin d’apporter un éclairage à des questions telles: Les personnes évoluant en milieu rural ont-elles des attentes plus faibles à l’égard de l’accessibilité que celles des milieux urbains ? Les instruments de mesure disponibles sont-ils insensibles à certaines barrières à l’accès qui seraient spécifiques aux contextes ruraux ? Les barrières à l’accès primaire sont-elles atténuées par la forte relation observée entre patients et dispensateurs dans les zones rurales et éloignées? Les résultats des analyses comparatives sous-jacentes seront présentés et les leçons qui pourraient s’en dégager en ce qui a trait à l’amélioration de la validité des enquêtes populationnelles en matière d’accessibilité seront discutées.

984
Modes d’organisation et accès aux services pour les communautés rurales, éloignées et isolées: Exploration guidée de l’organisation des milieux cliniques de 1ère ligne
Paul Lamarche¹, Raynald Pineault¹-², Marjolaine Hamel³, Michèle Perron¹
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Dans le cadre d’une synthèse des politiques, nous avons récemment contribué à l’élaboration d’une taxonomie des modèles d’organisation des services de première ligne dont les paramètres distinctifs s’élaboront autour de caractéristiques relatives à la mission, à la gouvernance aux ressources professionnelles et aux orientations de pratique. Un panel d’experts pan-canadien a déjà permis de valider cet instrument pour une utilisation à l’échelle internationale. L’étude menée dans le cadre de ce programme de recherche contribue à la validation in situ de la taxonomie et assure le raffinement nécessaire à son application dans les contextes spécifiques prévalant sur un vaste territoire tels les milieux ruraux, éloignés ou isolés. Au cours de cette présentation, les éléments méthodologiques d’intérêt seront élaborés et les modèles d’organisation prévalant sur le territoire québécois seront décrits. Des analyses portant sur les mesures d’accès et de continuité colligées auprès de patients affiliés aux milieux cliniques investigués pourraient permettre d’identifier les caractéristiques organisationnelles associées aux meilleures performances à cet égard. Les résultats qu’elles permettront de dégager seront exposés et discutés en lien avec les contextes géographiques.
Un des 4 projets de recherche s’intéresse spécifiquement à la collaboration interdisciplinaire et à ses retombées en termes d’extension de la gamme de services et d’accessibilité aux soins de santé. La littérature scientifique offre toutefois bien peu d’informations tangibles quant à la conceptualisation des déterminants contextuels de la collaboration interdisciplinaire en milieux ruraux, éloignés et isolés. Une récente étude menée dans un milieu clinique de première ligne situé en contexte isolé a permis de dégager un cadre conceptuel intégrant les éléments contextuels associés à la collaboration interdisciplinaire telle qu’elle s’élabora sur le terrain. Il permet de décrire et de comprendre le processus de construction et le vécu associés à la collaboration interdisciplinaire et, de ce fait, peut constituer un canevas sur la base duquel peuvent s’ériger les travaux spécifiques à la collaboration interdisciplinaire prévalant en milieux ruraux, éloignés et isolés. Les fondements ayant présidé à l’élaboration de ce cadre seront exposés et discutés.

The prevalence of congestive heart failure (CHF) has reached epidemic levels in the developed world and is projected to increase three-fold in Canada by 2025. CHF is associated with a grave prognosis, adverse patient and caregiver quality of life and extremely high hospital-related costs. These trends could be improved as there is good knowledge of the pharmacological and behavioural management of CHF. However, evidence-based care and effective home-based management are often not practiced and health outcomes remain poor. Around 22% of patients hospitalized with CHF in Canada are treated in rural hospitals. We will outline the evidence indicating that CHF-related outcomes and management are particularly sub-optimal in rural settings. We will outline the main barriers to successful CHF management suggested by existing research. These being: a lack of access to specialists, low availability of CHF management programs, low support from family caregivers and other social / geographical factors likely to be more adverse in rural settings. We will discuss the implications of these barriers for CHF management programs which we will show from analysis of a published systematic review adopt urban-based approaches and serve predominantly urban communities. Finally, given these trends, we recommend that it is timely to develop and systematically evaluate rurally-responsive and situated CHF management programs.
Living Well: Diabetes and Cardiovascular Disease in First Nations People - An Ethnographic Study
Julianne Sanguins
Faculty of Nursing, University of Calgary; Kathryn King, Faculty of Nursing, University of Calgary

Diabetes and cardiovascular disease (CVD) are increasing in incidence and prevalence in Canadian First Nations communities. The biophysiological processes of these diseases are well documented, however the experiences of First Nations People living with these diseases have not been well investigated. Thus we aimed to develop an understanding of the experience of First Nations People who are living well with diabetes and CVD. Fifteen First Nations people from the Opaskwayak Cree Nation in northern Manitoba engaged in several semi-structured interviews. The interviews were audio recorded, transcribed, and then analyzed using an inductive and reflexive process to identify common themes. Participants demonstrated a notable capacity to manage their health and to ‘live well’ with diabetes and CVD. The ability to manage their health was demonstrated by the amount of self monitoring undertaken by members of the group, the level of knowledge about the diseases as well as knowledge of and compliance with a medication regimen. The participants were able to manage their health by building on culturally-based resources such as having strong spiritual beliefs, respect for self and supportive families. Relationships with local health care providers which were long standing and respectful also contributed to their ability to manage their health. Despite what may be seen as debilitating illnesses with a multiplicity of challenges associated with them, the participants felt that they were living well with diabetes and CVD. Participants suggested that coming to an acceptance about the chronic nature of their diseases was critical to living well. In practical terms, ‘living well’ was associated with having sufficient food, money, and housing, as well as being able to walk or do the physical things they wanted. More broadly, one participant described living well as “being able to go as far as you can”. Strengths which enable the people of the Opaskwayak Cree Nation to ‘live well’ with diabetes and CVD have been identified. Health care professionals will be able to use these findings to inform their practice when working in First Nations communities and when working to build community capacity and culturally relevant services.

Screening Métis Clients in Rural Alberta for Undiagnosed Diabetes and Cardiovascular Risk Factors
Ellen L Toth1, Shannon McEwen1, Kelli Ralph-Campbell1, Tracy Connor1, Community Health Council #5, Aspen Regional Health Authority, Alberta2, Tri-Settlement Health Council, Peace Country Health Authority, Alberta3
1Department of Medicine, University of Alberta; 2Community Health Council #5, Aspen Regional Health Authority, Alberta; 3Tri-Settlement Health Council, Peace Country Health Authority, Alberta

Diabetes prevalence and complications are known to be higher in Aboriginal populations. Rates of undiagnosed diabetes and prediabetes have been studied in a small number of First Nation communities, and range from 2.5% - 10.7% and 5% - 19.8%, respectively. While there is convincing research with respect to First Nations, much less is known about Métis people in Canada. Only one survey estimates the burden of diabetes on Métis people, and this survey was undertaken almost 15 years ago. Diabetes and cardiovascular risk factor screening is underway in Alberta’s 8 Métis settlements as part of the Mobile Diabetes Screening Initiative (MDSi). MDSi is designed to address the burden of diabetes in under-serviced off reserve Aboriginal populations by identifying undiagnosed diabetes and providing education for prevention. A similar program named SLICK functions on reserve. Mobile vans equipped with professionally trained staff and portable screening technology travel to remote and rural communities throughout the province. The MDSi program provides relevant counseling in conjunction with screening activities, and seeks to link its activities with local family physicians and diabetes educators. Baseline data is collected through risk assessment questionnaires, physical...
examinations, and laboratory testing using portable diagnostic equipment. Between November 2003 and February 2005, 624 Métis participants were screened: 518 adults and 106 children (6-17 years old). 50% of adult participants were obese (body mass index ³30), 36% had elevated total cholesterol level, and 46% had elevated blood pressure. 50% showed metabolic syndrome (ATPIII criteria), 42% had pre-diabetes (fasting blood glucose 5.7-6.9 mmol/L), and 4% had undiagnosed diabetes (fasting blood glucose ³7.0 mmol/L). For the children, 50% were obese, 27% had an elevated total cholesterol level, 29% had elevated blood pressure, and 17% had pre-diabetes. Diabetes and cardiovascular risk factors are very high in a volunteer sample of Alberta’s Métis people, consistent with population-based screening data in one Alberta First Nation (Kaler, personal communication). The MDSi data establishes a current risk profile for a sample of Métis people in Canada.

964
Fatty Acid Composition of Fish and Commonly Consumed Food in a Cree Community in Northern Québec
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1Centre for Indigenous Peoples’ Nutrition and Environment (CINE), McGill University;
2Community Research Assistant, Mistissini, Québec

Fish risk and benefit statements in communities suffering from a high prevalence of diabetes and its complications need to consider the broader view of dietary choices and cooking methods and their health implications. The purpose of this study was to evaluate the fatty acid content including trans fatty acids, of fish cooked in a variety of ways, and the most commonly consumed fast foods in a Cree community. Fatty acid content of food items were examined by gas chromatography using a 100 m capillary column. The omega-3 to omega-6 ratio was high for boiled or smoked trout, walleye and whitefish (> 2.3 : 1.0) and low for fried fish (Pike: 0.7 : 1; Trout 0.8 : 1; and Walleye 0.2 : 1). Cooked fish, whether boiled, baked, smoked or fried had an overall mean trans fatty acid content of only 0.06% of total fatty acids, and the saturated fat content of fish ranged from a low of 0.4 g/100 g wet wt for boiled fish, to an average of 1.8 g/100 g wet wt for fried fish. In contrast, high levels of saturated and trans fats were found in fast foods. Deep-fried and battered or roasted chicken skin had saturated and trans fat contents of 8.52 and 1.68 g/100 g wet wt and 15.4 and 0.59 g/100 g wet wt respectively, but the chicken meat with skin removed contained very little saturated and trans fat. A high trans fat content was found in other commonly consumed fast foods such as French fries, chicken nuggets, poutine (fries with cheese and gravy) and chicken wings, had high levels of trans fat, with mean values of 11.8%, 6.2%, 5.6% and 2.6% by weight of total fatty acids, respectively. The promotion of traditional food, including fatty fish, along with healthy cooking procedures, as well as raising awareness of the amount of trans and saturated fats found in fast foods, would be an effective means of reducing chronic disease morbidity and mortality in Cree communities.

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Cree Diabetes Information System (CDIS) 2004 Annual Update
Elena Kuzmina, David Dannenbaum, Pierre Lejeune, Jill Torrie
Public Health Department of the Cree Board of Health and Social Services of James Bay, Québec

Diabetes remains an epidemic in progress in the Cree population of Eastern James Bay. The Cree Diabetes Information System (CDIS) (previously called the Cree Diabetes Registry) has been a valuable surveillance and clinical tool since 1996. This database contains cases based on diagnosis made by a physician. Annual Diabetes Updates provide information on the prevalence of diabetes, diabetes-related complications, and the state of the clinical management of diabetes on the Cree territory. In 2004: Prevalence The age-adjusted prevalence rate of diabetes (20 years and over) was 20.6%. This rate is 4.2 times higher than the Québec age-adjusted ( Québec population, 1996) diabetes prevalence rate of 4.9% (1999-2000). Age at diagnosis The average age at diagnosis was 42 years. Duration of diabetes 39% of Cree with diabetes have been diagnosed in the past 5 years. Clinical
management: HbA1c less or equal to 7.0% - 53.2%; Blood pressure less or equal to 130/80 - 49.0%; LDL less than 2.5 mmol/L - 40.2%; Albumin/Creatinine ratio urine test in the previous year (2003): 72%. Complications Nephropathy: 49.9% (microalbuminuria, macroalbuminuria, renal failure or dialysis); retinopathy: 11.7% (retinopathy, laser treatment, or blindness); neuropathy: 8.8% (neuropathy, foot ulcers, or amputations); macrovascular: 11% (coronary artery disease, cerebrovascular disease, peripheral vascular disease or impotence).

944
Rural / Urban Differences in Interventions after Heart Attack
Randy Fransoo1, Patricia Martens2, The Need To Know Team2
1Manitoba Centre for Health Policy (MCHP), University of Manitoba; 2The Need To Know Team (affiliated with MCHP, University of Manitoba)

Objective: To compare rates of intervention procedures after heart attack for rural vs. urban residents of Manitoba. Methods: Using administrative data at the Manitoba Centre for Health Policy (MCHP), we identified people hospitalized for Acute Myocardial Infarction (AMI) from 1999/2000 through 2003/04. The rates of several procedures were tracked during the initial hospitalization, and for the subsequent 90 days. Interventions included were: cardiac catheterization, angioplasty, coronary stent insertion, and bypass surgery. Patients with less than 3 day stays were excluded, to remove likely ‘false’ heart attacks. Results: The rate at which heart attacks (AMIs) occurred was almost identical for urban and rural residents, at 5.3 events per 1000 residents aged 40+. For both males and females, intervention rates were dramatically higher among urban residents during the initial hospitalization, but leveled out remarkably within 90 days. Rates of coronary catheterization, angioplasty, and stent insertion during the initial AMI hospitalization were almost 3 times higher among Winnipeggers than Rural residents. However, by 90 days after AMI, rates of these procedures were similar. Among males, rates of bypass surgery were actually higher for Rural residents than Winnipeggers. Conclusion: Rural residents have lower rates of post-AMI interventions during their initial hospitalization, but these differences level off within 90 days.

916
Diabetes, Complications, and Access to Specialist Care among Registered First Nations People of Manitoba: Population-Based Comparisons
Patricia Martens1,2, L Jebamani2, R Bond2, C Burchill2, S Derksen2
1Health Information Research Committee (Assembly of Manitoba Chiefs); 2affiliated with Manitoba Centre for Health Policy (MCHP), Department of Community Health Sciences, Faculty of Medicine, University of Manitoba

Purpose: The treatment prevalence of diabetes, and lower limb amputation rates due to diabetes comorbidity, was compared between Registered First Nations people (RFN) and all other Manitobans, and among nine First Nations Tribal Council “areas”. Method: The Population Health Data Repository housed at MCHP contains anonymized administrative claims from Manitoba’s universal health insurance program, and was linked with the Status Verification System (to distinguish RFN from other Manitobans) for the years 1994/95 through 1998/99. SAS®-generated age/sex directly standardized rates were compared by Hotellings t-squared-tests (Carriere KC, Roos LL. Medical Care 1997;35:57-69). RFN Tribal Council areas included: Keewatin, Independent First Nations North, Island Lake, and Swampy Cree in northern Manitoba; West Region, Interlake Reserves, Southeast Resource Development Council (SERDC), Dakota Ojibwa (DOTC), and Independent First Nations South in southern Manitoba. Outcomes included: diabetes treatment prevalence aged 20-79 (at least two physician visits or one hospitalization coded “diabetes”, 250 in ICD9CM, within a three-year period); lower limb amputation with diabetes comorbidity (procedure ICD9CM 84.40, 84.45-84.48 with a 250 diagnosis, excluding injury); and consult rate (referral from one physician to another because of the complexity, obscurity or seriousness of the illness). Results: Comparing RFN to all other Manitobans, the diabetes treatment prevalence was fourfold (18.9% vs. 4.5%), and the amputation rate sixteen-fold (3.11 versus 0.19 per
thousand). By tribal council, diabetes treatment prevalence ranged from 14.9% (Keewatin) to 24.9% (DOTC), and amputation rate from 1.19 (Independent South) to 6.16 per thousand (DOTC). Consult rates varied little between RFN (0.29 per person per year) and all other Manitobans (0.27), but substantially among tribal councils – from 0.21 (DOTC) to 0.32 (Island Lake). Conclusion: RFN experience a burden of diabetes and related amputation compared to other Manitobans. There are also large differences across Tribal Councils, with DOTC having particularly high diabetes treatment prevalence and amputation rates, yet low consult rates to specialist care despite its proximity to the two urban areas where most specialists reside.

973
Managing Innovation in Stroke Care in a Rural Hospital
Stan Jones
Yarmouth Stroke Project, Atlantic Health Promotion Research Centre, Dalhousie University
11:45 Saturday / samedi S-2 Saint Louis

Recently, there have been wide-ranging research-based innovations in stroke care. Some effect how stroke is treated in the emergency department, involving both the use of new medical and diagnostic technologies. Some effect how stroke is treated on acute and rehabilitation wards, using a team-based approach. These innovations have resulted in the development of provincial stroke strategies in Ontario and Nova Scotia. The Heart and Stroke Foundation of Nova Scotia introduced their integrated stroke strategy in 2002. Although formal adoption and funding of the strategy by the Department of Health has not occurred, South West Nova District Health Authority has begun implementation of parts of the strategy and has developed plans for other parts. Studying the implementation process here is important, because the innovations underlying the strategy have all been developed in large urban hospitals. South West Health serves a rural and small town region. The Yarmouth Stroke Project has been systematically monitoring this process in the DHA through the collection of documents, meeting minutes, and interviews with middle and senior management. Using a model developed by Trisha Greenhalgh and her associates for studying innovation in service organisations, we have developed an understanding of how the DHA is adapting of this medical innovation to its resources. Among the key findings:
1. The innovation is complex and comprehensive and the developers did not provide a map on how to begin the innovation. As a result the entry point chosen by the DHA might not have been the most appropriate. 2. The skills required, for nurses and allied health professionals, are within the competence of the existing staff, but no one had identified the exact mix of skills needed before implementation began and it is not clear the right mix was chosen. 3. Some key elements of integrated stroke care are the responsibility of agencies not controlled by the DHA, making planning difficult. Most important of these is the paramedic services managed by a provincial agency. We also provide some comment on the utility of the Greenhalgh et al model for understanding health systems innovation.
exist in rural centers was a major cause for issue development. Urban nurses may not realize that the rural facility may have one RN working with one physician caring for a critically injured or ill patient. The patient investigation results may arrive later via FAX when the nurse has time to transmit them or an interpreter may not have been available to get a complete history. A lack of understanding of the resource limitations in the rural and remote sites was implicated as a major source of discourse. Job shadowing was seen as an education tool that would increase awareness of both the urban and rural health care workers challenges. By having urban and rural health care workers buddy with their counterparts in the rural and urban sites the realities of their working worlds would be better understood. It is hoped that this exchange of knowledge would lead to improved patient care. Positive comments have been made since program implementation. We would like to share the planning process, stumbling blocks and successes of this valuable project to increase understanding and inevitably improve patient care.

943
Male Nurses in Rural and Remote Canada
Mary Ellen Andrews¹, Carl D’Arcy², Kelly Penz¹, Debra G Morgan³, Norma J Stewart⁴
¹College of Nursing, University of Saskatchewan; ²Applied Research, College of Medicine, University of Saskatchewan; ³College of Medicine, Institute of Agricultural Rural and Environmental Health (I.ARE.H), University of Saskatchewan; ⁴Graduate Studies and Research, College of Nursing, University of Saskatchewan

The Canadian nursing population is approximately 95 percent female and 5 percent male (CIHI, 2002). In recent years, there has been an increased emphasis on the recruitment and retention of men in the profession of nursing. Due to the limited number of male nurses employed in nursing practice settings, nursing research findings seldom include gender as a variable in analyses. The purpose of this presentation is to explore variables related to recruitment and retention of nurses based on gender. The data examined comes from a national survey, which was one component of a multi-method research project entitled “The Nature of Nursing Practice in Rural and Remote Canada.” Of the total number of RNs (N = 3933) who responded to the survey, 5.2 percent (n = 203) were male. The size of this sample of male nurses allowed for the description of demographic, practice settings, and employment characteristics. Recruitment of male nurses was analyzed from qualitative responses on the reason for accepting their present position. Retention of male nurses was examined by job satisfaction as an indicator of retention using factors such as overtime hours worked and perception of job flexibility for family commitments. Responses to questions about career plans suggested that 34.0 percent of the male participants planned to leave their present nursing position within the next twelve months compared to 17.6 percent of female nurses. Results of the qualitative and multivariate analysis identified that there are differences between the genders on variables that may contribute to recruitment and retention. Findings from this exploration of gender differences should inform nursing policy and the efforts to recruit more men into the nursing profession.

957
Aboriginal Nurses: Insights from a National Study
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The last decade has seen a proliferation of programs to ensure that Aboriginal health is controlled by Aboriginal peoples. A recent policy analysis within a national study on rural nursing practice indicated that Aboriginal health services control is related to policy changes that provide for transfer of health services to Aboriginal communities. By the end of March, 2002, 284 (47%) of eligible communities had completed the transfer. The success of health transfers is in part dependent upon the preparation and employment of
Aboriginal peoples. One group that plays a key role in providing care for First Nations, Inuit and Métis communities across Canada is Aboriginal nurses although little is known about them. A recently completed national survey on rural and remote nursing practice has generated information about 210 Aboriginal nurses working in both Aboriginal and non-Aboriginal communities. The demographic data revealed that the majority of the Aboriginal nurses included within the survey are female and in the 40-49 age group (36.7%). Twenty nine percent of Aboriginal nurses are prepared at the baccalaureate level. The majority have been working within their current position for less than 5 years (64.8%). In addition, within the sample, 12.4% anticipate leaving in the next year. Recommendations for recruitment of Aboriginal peoples into nursing education programs and their recruitment and retention within Aboriginal communities are well documented in the literature and will be reviewed in light of our policy analysis and survey results. The results of our study will shed further light on the needs of Aboriginal nurses and the communities in which they practice.

900
Big Cities and Bright Lights: Why Rural/Northern-Trained Physicians Opted for Urban Practice?
Raymond Pong1, Benjamin Chan2, Tom Crichton3, James T Rourke4, James Goertzen5, Bill McCready5
1Centre for Rural and Northern Health Research, Laurentian University; 2Health Quality Council, Saskatchewan; 3Northeastern Ontario Family Medicine Program, Sudbury; 4Faculty of Medicine, Memorial University of Newfoundland; 5Northwestern Ontario Medical Program, Thunder Bay

Persistent shortages of physicians in rural, northern or remote communities are a major problem in Canada. Traditionally, governments have relied mostly on monetary incentives to entice physicians to work in rural/northern areas. But the problem of geographic maldistribution has not diminished and in many situations has worsened. Increasingly, rural/northern medical education is seen as an important workforce strategy, because studies have consistently shown that physicians trained in rural/northern settings are more likely to practice in non-urban settings. In the early 1990’s, the Ontario government established two family medicine residency programs in Sudbury and Thunder Bay with a view to training family physicians to work in northern and rural Ontario. But not all of the graduates of these two programs practice in rural or northern communities. Some have set up medical practices in larger urban centres in Ontario or other provinces. A component of a CIHR-funded research project, this study was conducted to document the rural-to-urban or north-to-south career trajectories and the reasons behind the decisions by some rural/northern-trained family physicians to practice in cities. Using a qualitative research methodology, the research team conducted in-depth telephone interviews with a sample of the graduates of the two northern Ontario-based residency programs who had set up urban practices. The interviews were transcribed and analyzed. Besides describing the demographic and educational characteristics of the research subjects, this study focuses on the transition processes that have taken them from rural to urban or from north to south. More important, it examines the factors that influenced the physicians’ decisions regarding practice location. Personal, family and professional factors have been found to be important. There are also differences between those who practiced in northern Ontario cities and those working in cities in southern Ontario or other provinces. The findings of this study have implications for health care policy-makers and medical educators, particularly in light of the expansion of rural/northern medical education opportunities across the country.
Exploring How Nurses Influence Continuity of Care and Health Outcomes in a Remote First Nations Community

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The main purpose of the research was to extend existing knowledge of how nurses, the chief providers of primary care, influence patient care and health outcomes in remote First Nations communities. Secondary research objectives were: 1) to explore how specific aspects of the health service delivery system influence continuity of care directly, and mediate the ability of nurses to influence clinical outcomes and continuity of care, and 2) to explore the clinical, procedural and cultural core knowledge required by providers practicing in remote Aboriginal communities. An ethnographic case study method supported both quantitative and qualitative data collection strategies. Ethnography was consistent with ensuring holistic and cultural perspectives were respected, and with preserving the unique context of health services in remote First Nations communities. Primary Health Care philosophy and a structure-process-outcomes framework guided data collection and analysis. Qualitative data were collected through observations and interviews with health providers and key informants. Quantitative health outcomes data were abstracted through retrospective chart review based on two health indicator conditions: prenatal care and care of infants through the first year. Measured maternal health outcomes included birth weight, gestational age at delivery and complications of labour and delivery. Infant outcomes included immunization status, haemoglobin value and weight gain. Descriptive and comparative statistical analysis of quantitative data indicated that several of the measured maternal-infant health outcomes fell below national averages for First Nations populations. For example, 25% of infant birth weights were less than 2500 or greater than 4000 grams. Content and thematic analysis of qualitative data suggested that structural issues (e.g., high nurse turnover, barriers to health services) were key to understanding both process issues (e.g., gaps in continuity of care, adequacy of care) and measured health outcomes. Moreover, a medicalized model of primary care delivery may present a barrier to Primary Health Care community health initiatives. Primary care providers in remote Aboriginal communities require core knowledge and competencies that are specific to providing health care in remote Aboriginal communities and are related to the context, structure and process of Aboriginal health services delivery.

The Role of Preceptorships in the Education of Health Professionals for Rural and Remote Health Care Delivery

Meg McDonagh¹, Julianne Sanguins¹, Carol Rowntree², Bonnie Jones³, Elizabeth Thomlinson (posthumously)¹, Marlene Reimer¹
¹Faculty of Nursing, University of Calgary; ²Department of Community Medicine, University of Calgary; ³Sundre General Hospital

Background: Health care professionals in rural and remote regions require multi-skilled generalist abilities to practice competently with diverse populations of all ages and conditions. The diversity of care that must be provided makes it imperative that health care professionals interested in practicing in rural and remote settings be prepared in those sites; a key to the future recruitment and retention of health professionals. One-on-one clinical placements with expert practitioners allow students to integrate their theoretical learning in these rural practice settings. This paper will provide findings of interviews with staff nurses and physicians who have and have not preceptored students, nurse managers and former students who have had preceptored experiences in rural and remote Alberta. Findings: Interviewees noted that within preceptored experiences: a) risk management and patient safety are key concerns b) students develop expertise with multiple patients and are able to move between acute care, emergency, and long term care settings; and c) managers and colleagues are indispensable supports to staff nurses and physicians who are preceptoring. Students will have a more successful experience if they demonstrate a sense of inquiry and keen attitude regarding their placement.
Presentation of this focused ethnographic study will include other facilitators and barriers to a successful preceptored experience. **Conclusions:** A positive preceptorship experience adds to the potential to recruit and retain competent health professionals in challenging and diverse rural and remote settings. As current professionals retire the need to prepare competent rural practitioners is essential.

**1015**

**Expanding the Boundaries of Recognized “Knowledge” in Social Work:** Including Indigenous Ways of Knowing

**Tracey Burke**

*School of Social Work, College of Health & Social Welfare, University of Alaska Anchorage*

In this conceptual paper, the relationship between professional social work knowledge and the local knowledges of indigenous peoples is analyzed, and a more deliberate, thoughtful inclusion of colonized indigenous knowledges within professional service provision is advocated. Though not a report of empirical research, the paper is animated by discussion of how professionals and local, paraprofessional service providers work together in the context of rural Alaska, where the author has social work practice as well as research history. James Scott’s *Seeing Like a State* (1998) serves as a starting point for the analysis. In this book, Scott argues that overzealous attempts by governments to simplify and engineer – to make “legible,” in his terminology – social life lead to failure and even destruction because they do not take into account the informal practices and uncodified knowledges that makes social processes work. “Formal order…is always and to some considerable degree parasitic on informal processes, which the formal scheme does not recognize, without which it could not exist, and which it alone cannot create or maintain” (p. 310). Scott re-asserts the value of the practical, particular knowledge that is created in response to local circumstances. Scholars and practitioners have long acknowledged a gap between professional services and the culturally distinct communities they often serve. Too often, service delivery systems attempt to bridge the gap by adding program components drawn from the local culture – the de jure participation of Elders being a common example among Northern peoples. Scott’s analysis complicates the discussion. By his account, reducing local practices to rules in fact perpetuates the social service professionals’ inclination to rationalize helping and may further obscure the knowledge and principles community members might bring to service delivery interactions. This paper will examine ways to take local knowledges seriously without domesticating them.

**923**

**Depression and Depressive Symptoms in Older Persons Living in Rural Areas: A Systematic Review**

**Phil St. John¹, Lori Mitchell¹, Laurel Strain²**

¹University of Manitoba; ²University of Alberta

**Background:** Rurality may be associated with depressive symptoms. **Objectives:** 1. To determine the prevalence of depressive symptoms in older adults living in rural areas; 2. To determine if there are rural-urban differences; 3. To determine factors associated with depressive symptoms in rural older adults. **Study Identification:** Pubmed, Ageline, PsycInfo, Agricola, and ISI Web of Science – Social Science Index were searched. Study Selection: Studies were reviewed independently by two reviewers; inclusion criteria were an English language publication with a sample of older adults, a rural sample, and a measure of depressive symptoms. **Data Extraction and Review:** Extraction was completed by one reviewer and verified by a second reviewer. Data were qualitatively reviewed. Results: 940 articles were retrieved; 144 were included. There were differing definitions of rurality and many studies did not provide an explicit definition. The prevalence of depressive symptoms varied from <3% to >40%, depending upon the measure of depression, the study setting, and the sampling strategy. While some studies showed a protective effect of a rural residence, this was not a
consistent finding. Factors associated with depressive symptoms were social isolation, low education, low income, functional impairment, cognitive impairment, and poor health. Few studies examined differences between rural areas. Conclusions: Prevalence varies according to the specific rural setting and individual- and community-contexts. Future studies need to examine differences between rural areas.

922
Community and Individual Factors Associated with Depressive Symptoms in Older Persons in Rural Manitoba
Phil St. John, Mary Cheang
University of Manitoba

Background: Few studies of community characteristics and depression have been conducted in rural settings. Objective: To determine if contextual characteristics of rural communities are associated with depressive symptoms after accounting for individual factors. Setting: Rural regions of the Canadian province of Manitoba. Design: Secondary analysis of the Manitoba Study of Health and Aging (MSHA), an epidemiologic study conducted in conjunction with the Canadian study of Health and Aging, which was linked to census data. Participants: 538 persons 65+ were randomly sampled from a representative population registry in 1991. They were nested within 109 communities and rural municipalities with a population of <20,000. Community measures: population, percent of population 75+, and percent of persons with < grade 9 education were all obtained from the 1991 census. Individual measures: Age, gender, satisfaction with income meeting needs, and education level were all measured by interview with a trained interviewer. The Center for Epidemiological Studies – Depression (CES-D) was used as the outcome measure, with those scoring 15+ considered to have depressive symptoms. Analysis: Multilevel modeling using HLM for dichotomous outcomes was performed, entering one community variable, and adjusting for individual factors. Results: Individual factors were stronger predictors of depressive symptoms than community factors. However, contextual factors were also associated with depressive symptoms: living in a community with a high proportion of people over 75 was associated with a lower risk of depressive symptoms, as was living in a smaller community. The proportion of the population with < grade 9 education was not associated with depressive symptoms. Conclusions: Living in a smaller community with a high proportion of older adults is associated with a lower risk of depressive symptoms. These communities may have more social supports and networks which lower the risk for depressive symptoms.

1058
Health Status and Unmet Needs for Health Care in the Canadian North
Jungwee Park1, Connie H Nelson2
1Statistics Canada; 2Lakehead University

Relying on data from the Canadian Community Health Survey (CCHS) Cycles 1.2 and 2.1, this research examines mental and physical health conditions in the Canadian North (census divisions entirely or mostly north of the following parallels by region: Newfoundland, 50th; Québec and Ontario, 49th; Manitoba, 53rd; Saskatchewan, Alberta and BC, 54th; and all of the Yukon, Northwest Territories and Nunavut). Also, the present study attempts to explain to what extent and how living in the North is associated with mental and physical health status and self-reported unmet needs when controlling for socio-demographic conditions including the Aboriginal origin, community support and other health-related factors. Results show that residents in the North reported more unmet needs (14% vs. 11%) than people in the rest of Canada and had the similar level of the other health status indicators. In multiple regression analyses, the effect of residence in the North was significant on self-reported unmet needs in all models (OR 1.3, CI 1.1, 1.4), but its effect on self-perceived health disappeared when smoking, drinking, and body weight were included in the model. Also when the health behaviour factors were controlled for, living in the North appeared to have a negative association with chronic conditions including mental disorders. Health status of residents in the North tended to be affected by health behaviour and they reported significantly high rates of unmet needs for health care.
Suicidal people everywhere are assumed to be the same, but the actor’s meanings related to suicide differ greatly across cultures. The belief that suicide is an individual choice points to an underlying Western belief that assumes people are autonomous beings determining and shaping their worlds. This is not a universal truth and is not shared by many Inupiat. Instead, many Inupiat believe that their world defines them. When asked, “How are you?” most Inupiat will respond with information about the health of members of their family. Their well-being is inextricably linked with those who are connected to them. With this orientation, perhaps suicide is an act born out of collective assumptions, community failing and cultural losses. If this holds some truth, then the Western professional ways of addressing suicide are ill-conceived and inappropriate. The standard methods for preventing youth suicide are out of touch with local communication patterns, relationships and everyday responsibilities, so much so that they alienate concerned Inupiat. Last, the Western strategies for suicide prevention ignore the rituals and cultural strengths that are enacted when a village member does threaten, attempt or commit suicide. These conundrums in understanding might explain why prevention efforts have seemingly little effect on the high rates of suicide in some Northern regions. This paper will use a case study to illustrate some discrepancies in meanings, conundrums in actions, and some pitfalls professional fall into while trying to prevent suicide in Northwest Alaska.

Introduction: Traditional models of service delivery for people with severe and persistent mental illness (SPMI) such as Assertive Community Treatment, Clubhouse and even Psychiatric Rehabilitation, can be difficult or impossible to deliver in rural areas. However, a number of innovative programs operating in rural areas of Manitoba appear to be making a major contribution to quality of life among people with SPMI. Objective: This presentation reports on findings from a larger study on rural mental health services. The presentation discusses predictors of quality of life among people with SPMI living in rural areas, and the implications of the findings for consumers, family members, service providers and health planners. Method: This study involved face-to-face interviews with 80 people with SPMI living in nine rural Regional Health Authorities in Manitoba. Quality of life (QoL) was assessed using the Wisconsin Quality of Life Index for Mental Health (QLI-MH). The QLI-MH is specifically designed for use with people with SPMI and assesses nine domains often affected by mental illness, including occupational activities, psychological well-being, symptoms, physical health, social relations/support and activities of daily living. Predictors of differences between regions in QoL scores were explored using hierarchical modeling. Results: The presence of social / recreational programs, housing initiatives and continuing professional development in Psychosocial Rehabilitation were powerful predictors of QoL among participants. The presence of social / recreational programs alone explained 87.4% of the variation between regions in weighted QoL. The finding that social / recreational and housing supports contribute substantially to QoL, and that regional characteristics were more important than individual characteristics in predicting QoL, seems obvious but could also be considered profound. None of the traditional models of service delivery for people with SPMI emphasize social / recreational needs. Conclusions: Innovative services are being delivered in several rural areas that contribute substantially to quality of life, and possibly recovery, among people with SPMI. Information about these innovative services can assist communities and regions to meet the needs of this vulnerable population.
Towards Using Family Health Teams to Care for Chronic Mental Health Clients in Northern Ontario: Barriers, Opportunities and Training Needs
Bruce Minore, Margaret Boone, Mary Ellen Hill
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Ontario, which has introduced interprofessional family health teams into the provincial system of primary health care, is exploring the addition of chronic mental health care to the teams’ mandates. The present paper examines the barriers and opportunities, as well as the training needed, for the teams to manage such care for clients who reside in the small cities, towns, rural and First Nation communities of northern Ontario. It is based on a study undertaken at the request of the Ministry of Health and Long-term Care, in accord with commitments in the province’s mental health reform strategy to develop services that reflect local needs. Due to the small, dispersed, culturally diverse population, the health care delivery environment in the north is different than that in other parts of the province. Information was gathered through a review of national and international literature and an environmental scan involving 36 key informant interviews in Canada’s other provinces and territories, and 36 in-depth interviews with members of the interdisciplinary teams currently working at primary care health centres across northern Ontario. The findings identify alternative models for mental health/primary care integration that are in place or contemplated elsewhere in the country, as well as the opportunities, facilitative or inhibitive factors and the training requirements perceived by those on the front-line that will help implement integration in Ontario. Although the findings reflect a specific context, they are relevant to interprofessional mental health and primary health practice in other under serviced parts of the country.

Examining Stress Leave in Rural and Remote Canadian Registered Nurses
Mary Ellen Andrews1, Norma J Stewart1, 2, Carl D’Arcy3, Debra G Morgan4
1College of Nursing, University of Saskatchewan; 2Graduate Studies and Research, College of Nursing, University of Saskatchewan; 3Applied Research, College of Medicine, University of Saskatchewan; 4College of Medicine, Institute of Agricultural Rural and Environmental Health (I.ARE.H), University of Saskatchewan

Working in rural and remote Canada as a Registered Nurse (RN) is a professionally demanding occupation. Rural and remote nursing has been reported to involve the development of a broad knowledge base of multiple specialty areas, an autonomous practice role where nurses may work alone and have limited face-to-face contact with colleagues, and an inherent blurring of professional roles and personal lives within their communities. Little is known about the effects of the numerous occupational demands placed on nurses who work in rural and remote Canada. Commonly reported outcomes of work stress in urban areas are burnout and an increased use of sick time. The purpose of this presentation is to describe the demographic characteristics and work settings of rural and remote RNs who have either taken a stress leave from their employment or used sick days to address perceived work related stress. Data presented are from a recent national survey of RNs in rural and remote settings in all provinces and territories of Canada. Of the total survey participants from all provinces and territories (N =3933), there were 27.2 percent (n = 1062) who reported taking a sick day due to job stressors and 14.7 percent (n = 573) who reported taking a formal paid stress leave. Predictors of stress leave have been selected based on the framework of individual, workplace, and community factors. Findings of this analysis should assist in the development of policy and interventions for work related stress in rural and remote nursing practice.
1036
The Helping Hands Program: a Culturally Appropriate, Volunteer-Focused, Medically Supported Palliative Care Program for Alaska’s Aboriginal People and Others Living in Remote Communities
Christine DeCourtney
Office of Native Health Research, Alaska Native Tribal Health Consortium

Purpose: Alaska Native elders in remote villages often die in hospitals and nursing homes hundreds of miles away from family and friends in direct contrast to the traditional death of their elders, surrounded by family and friends. The increase in life expectancy for Alaska Natives/American Indians and the increase in the incidence of diseases such as cancer occurred at the same time as modern medicine shifted the dying process from the comfort of the home to hospitals. In rural Alaska, hospitals and nursing homes are often hundreds of miles away from the village and accessed by costly airplane travel. Terminally ill elders and others at the end of life often die alone without family and friends in unfamiliar surroundings. Method: The Helping Hands Program was developed to: Provide education to healthcare and social service employees on death, dying, bereavement, program philosophy, and special needs of the terminally ill. Assist villages to establish a volunteer support group for terminally ill patients, families, and caregivers. Provide culturally appropriate information and education materials. Provide pain management, symptom control and medical/nursing support services. Integration of cultural beliefs into the program was accomplished, in part, by conducting focus groups with Aleut, Yup’ik and Athabaskan elders who live in the area. Culturally relevant training and program information materials were developed for the program. Results: The Helping Hands Program was accepted by healthcare providers and Alaska Natives and successfully provided opportunities for aboriginal elders and others to remain at home in familiar surroundings at the end of life. The program is in the process of being duplicated in other parts of Alaska.

1035
Measuring Palliative Care Knowledge, Attitudes, Behavior and Training Needs among Healthcare Providers Caring for Aboriginal Elders in Remote Alaska Communities
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²Touchstone Consulting

Purpose: As cancer and other chronic illnesses are increasing diagnosed in Alaska Natives (AN), palliative care programs and services are needed. Palliative care services and training was recently listed as the number one need by physicians at the Alaska Native Medical Center (ANMC) in Anchorage, the only tertiary health care facility for Alaska’s aboriginal people. Healthcare providers throughout the state have recognized the need for palliative care skills and knowledge when patients nearing the end of life wish to remain home or close to home for their final days. Method: A questionnaire was developed and administered to physicians, mid-level practitioners, nurses, social workers and pharmacists throughout the AN healthcare system to determine healthcare provider comfort and confidence in addressing palliative care patient and family issues as well as identifying provider training needs. Due to the short duration of the project and the fact that it took place during summer food gathering months, Community Health Aides/Practitioners (CHA/P) the village-based workers who are the backbone of the healthcare system were not included in the respondents. Summary: Despite the short time frame, vacations, and other factors affecting the time available to complete the questionnaire, the response was excellent with 534 out of an estimated 800 potential respondents completing the survey. Seventy-three percent of respondents indicated that they had not received palliative care training and 69 percent
indicated that had cared for patients needing palliative care. When given a list of continuing education topics, respondents indicated that pain and symptom management training and delivering culturally sensitive palliative care were the most important training topics. The survey information is being used to design, develop and evaluate a palliative care training curriculum for all levels of healthcare providers caring for Alaska Natives in urban, rural and remote settings.

971
Life and Health Expectancy of the Inuit-Inhabited Regions of Canada
Philippe Finès, Éric Guimond, Sacha Senécal, Russell Wilkins, Adam Probert
1Statistics Canada; 2Indian and Northern Affairs Canada; 3Health Canada

The Inuit population of Canada lives primarily in small communities scattered along the shorelines of the Arctic Ocean, Hudson's Bay, and the Atlantic Ocean. There are 6 Inuit settlements in the Northwest Territories, 28 in Nunavut, 15 in northern Québec's Ungava peninsula, and 7 on the coast of Labrador. Because these settlements are geographically isolated, and contain relatively few non-Inuit, we can use geographic codes present on existing administrative databases to identify most (83%) of the Inuit population of Canada, within an area which is predominately (also 83%) Inuit in population. Using vital statistics death data and census population and disability screening data, we calculated life expectancy, disability-free life expectancy, and disability-adjusted life expectancy for these regions, compared to the rest of Canada. These will be the first life tables, as well as the first health expectancy tables, for almost the entire Inuit population of Canada.

931
Developing Palliative Care Services in Rural Communities:
A Conceptual Model
Mary Lou Kelley
School of Social Work, Lakehead University

Access to palliative care services has been described as the “right of every Canadian”, however, providing palliative care is a challenge in rural and remote communities when there are no specialized programs and no providers with palliative care training. In spite of lack of resources, some rural health care providers and volunteers have taken collective action to organize and build local capacity to meet the needs of dying residents. The information contained in this presentation is based on original research, and presents a conceptual model for developing and delivering palliative care in rural and remote communities. Data were collected from 66 interdisciplinary providers in six rural and remote areas of Canada by means of group interviews conducted on site. Data were analyzed to examine how, and to what extent, the experiences of providers could be understood and represented using concepts of community capacity development derived from research in health promotion and international development. An original model of developing and delivering rural palliative care was created that includes the following variables and their relationships: provider capabilities; the process of change and adaptation; palliative care delivery; the impact of the external environment and environmental interventions; and the management and internal processes of the team/program.
Life Expectancy and Related Summary Measures of Health: Are there Differences between Rural and Urban Canadians?

Claudia Lagacé¹, Doug Manuel², Marie Desmeules¹, Feng Wang¹
¹Centre for Chronic Disease Prevention and Control, Public Health Agency of Canada; ²Institute for Clinical Evaluative Sciences, Toronto, Canada

This study presents a profile of variations in life expectancy and other related summary measures of health for urban and rural communities. Health expectancy measures are becoming a common method of combining information on mortality and health-related quality of life into one summary population health measure. However, these measures are infrequently measured by rural/urban place of residence, despite indications of health disparities between urban and rural populations. Using a modified Sullivan method, we calculated health-adjusted life expectancy (HALE), life expectancy (LE) and cause-deleted life expectancy by place of residence. Life tables were derived from mortality and population data for 1999-2001 and the Health Utilities Index from the 2000-2001 Canadian Community Health Survey (CCHS). The geographic groupings representing various categories of rural/urban residence are based on the Metropolitan Influenced Zone definition (MIZ), which divides the Census Subdivisions into CMA/CA and four MIZ categories. Life expectancy (LE) at birth was 76.5 years for men and 81.4 years for women. When looking at LE according to place of residence, Strong MIZ areas had the highest LE in both women and men (77.4 and 81.5 respectively). The lowest LE was found in No MIZ areas for men (74.0) and in Weak MIZ for women (81.3), leading to a difference of over 2 years for men and 0.14 years in women. Differences in HALE between urban and rural communities were more marked for women than for men. HALE was at 71 years for women living in Strong MIZ compared to 65.5 years for their No MIZ counterparts. Cause-deleted life expectancy results will also be presented. These results demonstrate that there are important disparities in health between the urban and suburban populations and their rural and remote counterparts. Summary measures of the health of the population such as HALE are a powerful tool to assess geographic health disparities at the national level.

A Study of Hospice Volunteering in Rural and Remote Communities

Margaret McKee¹, Mary-Lou Kelley¹, Manal Guirguis-Younger², Kerry Kuluski³
¹School of Social Work, Lakehead University; ²Faculty of Human Sciences, Saint Paul University; ³MSW, ELCS-NET Research Assistant, Lakehead University

There has been very little research about the experiences, motivations, expectations and role of hospice volunteers and the volunteer agencies that support dying people and their families in rural and remote communities. This paper will present the preliminary results from a program of research that examines these issues. Subjects were 27 hospice volunteers, and 8 hospice volunteer coordinators in rural and remote communities in Northwestern Ontario. Data were collected through mail-out surveys, one-on-one interviews and a focus group. The findings are relevant for developing volunteer hospice programs in rural and remote communities, and recruiting and retaining volunteers. In this project, the researchers are collaborating with Hospice Northwest and the Kenora-Rainy River District Palliative Care Volunteer Program. This research is funded by CIHR, through the New Emerging Team on End of Life Care for Seniors (ELCS-NET).
921

**Development and Evaluation of a Culturally-Relevant Alcohol Abuse Early Intervention Program for Mi'kmaq First Nation Youth**

*Nancy Comeau*, Sherry H Stewart1, Christopher Mushquash1, David Wojcik2, Cheryl Bartlett3, Murdena Marshall4, Jerry Young5, Janice MacKenzie6, Doreen Stevens7, Darren Stevens8, Pamela Collins1

1Department of Psychology, Dalhousie University; 2RCMP “H” Division, Aboriginal and Diversity Policing Services; 3Integrative Science, Cape Breton University; 4Elder and Associate Professor (retired) Mi'kmaq Studies, Cape Breton University; 5Indian Brook School; 6Hants East School; 7Unama’ki Training & Education Centre; 8Eskasoni High School

This project seeks to create, deliver, and evaluate in cooperation with First Nation community partners, a personality-targeted early intervention program for at-risk, First Nation adolescents with an inclination toward alcohol abuse. The program goals are to stem the progression of heavy drinking and to reduce early signs of problematic alcohol involvement among high personality risk teen drinkers. This culturally-relevant program, entitled “Nemi’simk, Seeing Oneself”, conveys a journey inward toward personal gifts of the Spirit and the power of self-healing. The particular techniques used in the interventions were cognitive-behavioural in nature and were more developmentally appropriate versions of techniques previously demonstrated effective in the treatment of non-Aboriginal youth (Comeau, 2004; Stewart et al., 2005). The research is grounded in previously documented relations between personality risk, drinking motives, and heavy drinking and alcohol related problems. Quantitative research provides an empirical case for targeting personality factors as a means for reducing “risky” drinking motives in adolescents (Cooper, 1994). Coping, conformity, and enhancement motives are considered “risky” due to their established associations with heavy drinking and/or drinking related problems in majority culture youth (Comeau, Stewart & Loba, 2001; Cooper, 1994). It is important to acknowledge that reasons for drinking among First Nations youth may not be the same as the majority culture. Thus, qualitative sharing circles with Mi'kmaq youth are necessary to determine the ways that personality risk and alcohol use relations surface in this cultural group. This research investigates associations between personality factors and drinking motives as applied to First Nation teens’ alcohol use. A primary assumption of the investigation is that by intervening at the level of personality vulnerability (i.e., Anxiety Sensitivity, Hopelessness, and Sensation Seeking) and associated risky motives for drinking, one can ultimately reduce heavy drinking and alcohol related problems. This presentation will highlight multi-method results (both quantitative and qualitative) which address the preventive efficacy of these motivation-based brief interventions. Based on demonstrated results, the discussion will focus on program relevance for other Aboriginal groups (i.e., Inuit teens) and strategies for collaboration and partnership-building with schools and community service providers.

919

**Use of Classroom Amplification in Nunavik Schools**

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1Tulattavik Health Centre, Kuujjuaq; 2McGill University Health Centre, Montréal

Classroom amplification has been used in Nunavik since a 1997 pilot project showed improvements in students attending behaviours as well as speech discrimination ability. Currently, most schools have classrooms equipped with soundfield systems. Teachers use a wireless microphone that transmits their voice to several speakers situated in the classroom. This improves the voice clarity and also provides amplification. Hearing impairment and language delay are important factors that can negatively impact on speech comprehension for individual students. Inuit children have a higher prevalence of hearing loss than non-Aboriginal children,
mostly due to the effects of repeated bouts of otitis media. These hearing losses are mostly milder, fluctuating or unilateral and are usually not considered as needing specific remediation measures other than preferential seating. Some children have permanent hearing losses and have been prescribed individual hearing aids which are used sporadically. In any classroom, as many as 20-25% of students may not be hearing well on any given day. This impacts on their learning of second language, and school performance. Using classroom amplification is beneficial for all students. This includes students with and without hearing impairment as well as those with special needs such as attention problems. Benefits to teachers include less stress and vocal fatigue. My experience in Nunavik has shown that annual in-service training, maintenance and follow up are essential to maintain soundfield usage. Benefits found in other aboriginal communities will also be reported. Use of soundfield technology is a preventative strategy for students at risk for academic difficulties.

1031
The Sioux Lookout Zone Experience in Preventing Early Childhood Caries
Herenia Lawrence1, Darlene Binguis2, Bonita Switzer2, Linda McKeown3, Audrey Laporte4, Rafael Figueiredo1, James Rogers5, Hal Leitch5
1Department of Community Dentistry, Faculty of Dentistry, University of Toronto; 2Sioux Lookout Zone Dental Program, First Nations and Inuit Health Branch (FNIHB), Ontario Region, Health Canada (HC); 3Thunder Bay, Ontario; 4Department of Health Policy, Management and Evaluation, Faculty of Medicine, University of Toronto; 5FNIHB-HC, Pacific Region

Early childhood caries (ECC), a severe form of tooth decay, is prevalent in many aboriginal populations. ECC negatively impacts the quality of life (QoL) of children suffering from the disease and the family members who care for them. Although ECC is preventable, few programs have successfully curtailed ECC or reduced the costs of treatment. To address the problem of ECC, a dental education component was added in 1996 to the prenatal nutrition program in the Sioux Lookout Zone (SLZ) in NW Ontario. In 2003, a fluoride varnish (FV) preventive initiative was integrated into the SLZ-ECC program which involved quarterly applications of FV for children 6 months to 5 years.

Objectives: Determine the effectiveness of FV (Duraflor, 5% NaF) plus parental counseling versus counseling alone in preventing/reducing ECC in a 2-yr randomized clinical trial. Additional aims include examining the cost-effectiveness of FV applications and the success of FV in improving the QoL in this population. Methods: This trial enrolled 1758 children from the SLZ and the city and zone of Thunder Bay, Ontario. Communities were randomized to 2 study groups; families in both groups received oral health counseling; one group received no FV and the other received FV 3x/yr. Oral health status data were collected by teams of calibrated dental hygienists and recorders in 2003-2004 and 2004-2005. They also administered the FV and a questionnaire to parents/caregivers on the child’s health and perceived impact of ECC on the daily activities of the child. Baseline Results: 72.5% of age-eligible children participated in the clinical examinations. Only 30.5% of Native children were ‘caries free’ as compared with 86.5% of non-aboriginals. On average, First Nations children had 6 teeth affected by caries, 6% of the children presented abscessed teeth, and 17% had hospital dental treatment by age 5. Questionnaires revealed ECC had a negative impact on aboriginal children’s QoL and that FV therapy has been well received by the communities. The study expects a 20% reduction in the levels of ECC as a result of FV treatment and an overall improvement in the quality of life of this cohort.
**Abstracts / Résumés**

**Oral Presentations / Présentations orales**

1009

**Health and Environmental Indicators for Children and Youth in the Circumpolar Arctic**

Andy Gilman, Don Wigle, Ken J McAllister, Tracy Gibbons, Margaret Moyston Cumming, Jay van Oostdam

*Health Canada*

14:30

Saturday / samedi

S-6

Saint Louis

**Purpose:** An Arctic Council initiative announced in the Iqaluit Declaration (1998) focused on the collection and analysis of biophysical and psychosocial indicator data for children and youth in eight Arctic countries: Russia, Norway, Sweden, Iceland, Greenland/Denmark, Alaska/USA, Finland and Canada. The draft report on the findings was presented to Arctic Council Ministers, November 2004 with a view to identifying areas for policy development that would improve the health and well-being of Arctic children and youth. **Method:** An international expert group identified 16 biophysical and psychosocial indicators for children and youth. Canada organized the collection and led the analyses of the data with cooperation from member nations. **Results:** Data availability and quality issues (variable definitions and reporting compliance) among countries for behavioural indicators led to major challenges in comparing data. Small Arctic population sample sizes made regional comparisons and gender and age stratification difficult. Large differences were observed between Arctic populations in Canada and Alaska versus other countries with respect to the proportion of youth, breastfeeding rates, incidence of low birth weight, preterm birth rates, suicides, and unintentional injuries. **Conclusion:** There have been significant improvements in the health status of children and youth in many regions of the Arctic. Although it is not useful to over-emphasize the health status disparities between countries, nor should the differences be ignored, there is an urgent need to improve data quality so that future reports on circumpolar populations and policy options for addressing disparities are based on more complete data of high quality.

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**Folic Acid and Birth Defects in the North: Are We Doing Enough?**

Laura Arbour¹, R Rupps¹, M Forth², M Nowdlak³, G Egeland⁴, R Rozen⁵

¹Department of Medical Genetics, University of British Columbia; ²Akudlik Management; ³Arctic College; ⁴Iqaluit. Centre for Indigenous Nutrition and the Environment; ⁵Department of Human Genetics and Pediatrics, McGill University

14:45

Saturday / samedi

S-6

Saint Louis

There is increasing evidence that not only neural tube defects but other common birth defects, such as heart defects might be reduced with folic acid as part of multivitamin supplementation or as fortification of grain products. Folate is considered a nutrient of concern in Northern communities where the availability and preference for folate rich foods is lower than in the south. Although NTDs are not more frequent in the Inuit of the Eastern Arctic, heart defects, specifically septal defects, were previously documented (1989-1994) to be increased by about 4 times. In 1998 folic acid fortification of grain products was initiated intending to raise daily intake by (about 100g/day. Of concern for those in the North is that on the background of a low folate diet this amount might be insufficient to elevate cellular folate to a level that will make an impact on rates of birth defects (about 900 nmol/L). To determine if current efforts of fortification of folic acid are sufficient and to explore other determinants of heart defects, Inuit mothers of children from Nunavut with and without heart defects were invited to participate in a case control study evaluating nutrient intake, pregnancy exposures and Red Blood Cell folate, and genetic factors. 41 children with isolated heart defects and their mothers with 36 community matched Inuit controls have entered the study to date. **Results:** There were no differences in RBC folate (953 Vs 922 nmol/L p=0.49), between mothers of cases and controls. The combined average RBC folate for 74 women ages 18-45 was 947 nmol/L. Although we cannot rule out that pre-fortification folate intake may have influenced rates of heart defects, our results (to be further discussed) to date do not support evidence of altered folate uptake or metabolism in this population. Interesting, however is the combined RBC folate in women of childbearing years which is higher than expected for dietary practice and amount of folic acid fortification. Follow-up is planned to determine if rates of heart defects and other birth defects have therefore decreased since fortification was commenced.
Preterm labour occurs in about 20 per cent of pregnancies in the Qikiktalluq Region of Nunavut. (Muggah et al, 2003) Until recently caregivers in Nunavut had few options when faced with a woman in possible preterm labour in one of the health centres in the Territory. Because of the lack of tertiary care for very premature infants in the Territory, and the distance from neonatal facilities, women who presented with possible preterm labour in the Qikiktalluq Region were air medevaced 160 to 1900 km to Baffin Regional Hospital in Iqaluit and in some cases another 2000 km to Ottawa. In addition to being expensive to the system such emergency transfers are extremely disruptive to the lives of the involved women and their families and put a strain on the resources of the health centres. It was shown for the year 2001 that over 1/3 of these women who were medevaced for apparent preterm labour were not in fact in labour, and delivered their babies at significantly later time. (Muggah et al, 2003) The Fetal Fibronectin Assay (c)Adeza seems to offer the possibility of managing many of these cases safely in a more conservative fashion. The test has been shown to have a negative predictive value of 99.6 for not delivering for greater than 7 days in symptomatic women between 24 and 35 weeks estimated gestational age. The test protocol involves a posterior vaginal swab which is processed at the bed side using a small processing kit. This test was implemented in July 2004 with kits placed at Baffin Regional Hospital in Iqaluit and at 4 of the larger health centres in the Region which generated most of the medevacs in the study year. This paper presents the results of this trial which has shown the test to be safe and reliable, and to have resulted in a significant reduction in medevacs and significant savings to the health system in Nunavut. More widespread use of the test in the Territory seems to be justified from preliminary results.

The policy journey began many years ago, heard through the voices of Aboriginal midwives and women, who had the desire to celebrate the birth of their babies in the closeness, culture and traditions of their families and communities. Over the years, exceptional leadership has been demonstrated by Inuit women of the north. Today, birthing involves families and communities, provincial, territorial, federal and Aboriginal governments and a number of professional associations. A variety of policy discussions and funded activities are coming together to form a policy framework, moving towards returning safe birthing closer to communities. This presentation will start with acknowledging the wisdom and experience of traditional midwives, linking to the research in the 90s on attachment and brain development, and build upon evidence compiled through literature reviews and policy discussion documents. These documents form the rationale in moving forward to identify the need to return birthing to communities, to provide women safe, traditional and supportive services for their care and the birth of their children. The papers provide the evidence of community birthing’s contribution to community wellness and mental health, explore the high social and economic costs of medical evacuation and identify Best Practices in Canada and in other countries. In addition, evidence supports the need for maternal / child clinician specialists, education programs for midwives and strategies for community dialogue to increase their readiness and infrastructure support. Further activities such as a Gathering at the Six Nations on the Grand to seek a common direction, focus groups with First Nations and Inuit women across Canada seeking their
views on their expectations on maternity care, and the compilation of Inuit midwifery data all reinforce the story of women’s desires to regain choices in the birth of their children. Funding of various activities through the Primary Health Care Transition Fund such as the Aboriginal Midwifery Education Program (AMEP) and the Collaborative Maternity Care Project led by SOGC, further knowledge development through new and innovative strategies.

963
Meeting the Maternity Care Needs of Rural Women: an Integrated Systems-Based Response
Jude Kornelsen, Stefan Grzybowski
Department of Family Practice, Faculty of Medicine, University of British Columbia

Context: The closure of 14 rural local maternity services in British Columbia since 2000 and the consequent displacement of parturient women at the time of birth are endemic to a system undergoing reorganization. These system-generated sequelae demand system-initiated responses which can be informed through a health services research perspective. Objectives: To identify the characteristics of “good (maternity) care” from the perspective of rural parturient women within an understanding of the context of rurality and as a foundation for innovative health care delivery strategies. Methods: Exploratory, qualitative research was undertaken from a community-based transdisciplinary perspective through in-depth, open-ended interviews and focus groups with women, care providers and administrators in 11 rural communities in British Columbia. Results: Women in this study identified components of “good care” from a systems perspective including local access to services, a continuous relationship with care providers, the availability of family and community members for social support during labour and delivery, choice in type of care giver and an appropriate level of agency in deciding the nature of the birthing experience. The overall influence of some characteristics varied by parity of the respondents and distance to the nearest referral community. These characteristics were augmented by care provider’s understanding of realistic service levels for their community including adequate systems of intrapartum transport, continuous professional development, adequate levels of health human resource staffing and support by level 2 and tertiary care providers. Significance: Approaching the health system challenge of meeting the maternity care needs for rural parturient women from the commitment to provide “good care” precipitates innovative solutions. These solutions are not bound to a professional perspective and allow for variation that acknowledges the heterogeneity of rural communities. When potential models of care are interpreted from within a perspective that privileges rurality, such solutions will be highly relevant to health policy makers, administrators, care providers, rural parturient women and their communities.

913
Rural Maternity Care Services: the Experiences of Care Providers in a System under Stress
Stefan Grzybowski, Jude Kornelsen, Elizabeth Cooper
Department of Family Practice, Rural Maternity Care Research, University of British Columbia

Context: Between the years 2000 and 2004 thirteen small rural maternity care services in British Columbia closed and three were placed under moratoria due to a confluence of factors including the effects of health care restructuring, physician recruitment and retention challenges and other health human resource challenges. Objectives: To understand the experiences of maternity care providers from small rural “high outflow” communities in BC. Methods: an exploratory qualitative study using semi-structured interviews with 27 health care providers and 3 administrators in 4 rural communities of diverse size and differing social and geographic characteristics. Analysis was by a modified grounded theory approach in 2 phases and ongoing comparative analysis. Results: Four core themes were identified by the research participants including: (1) the challenges of practice in areas with limited obstetrical services (which involved concerns over maintaining and developing competency in the context of low volume, perceptions of the safety of local maternity care with and without
local access to Cesarean section capability, and (the lack of established criteria for local birth); (2) managing risk (balancing of risks between local delivery and delivery away and strategies for ensuring informed consent); (3) collaborative practice supporting local birth; and (4) the importance of local birthing to a community’s integrity. **Significance:** Maternity care services in small rural communities are under significant stress. Providers’ experiences illuminate the vulnerability of the services to closure and the significance of the loss of services to local women and families as well as a community’s integrity.

1059  
**Bringing Birth Back to the Communities: Midwifery in the Inuit Communities of Nunavik**  
Vicki Van Wagner¹, Brenda Epoo²  
¹Midwifery Programme, Faculty of Community Services, Ryerson University and InuitSivik Health Centre; ²Community Midwife, InuitSivik Health Centre  

One of the major issues in Aboriginal women's health in northern Canada is the evacuation of pregnant women from communities in order to give birth in hospitals. Aboriginal women's groups across Canada have identified concerns about both the social and medical impact of removing women from their families and communities for weeks and months at a time in order to give birth. Collaborative work in the mid 1980s between the Inuit women's organization and health care workers in Puvurmutuk, Québec led to the establishment of the InuitSivik midwifery service which provides local maternity care and education for Inuit midwives. This paper describes the history, service model and outcomes of this service, which has been nationally and internationally recognized by organizations such as the WHO, the ICM (International Confederation of Midwives), the Royal Commission on Aboriginal Peoples, the SOGC (Society of Obstetricians and Gynecologists of Canada), NAHO (National Aboriginal Health Organization) and AMEP(Aboriginal Midwifery Education Programme). Previous evaluative studies will be reviewed and new data will be presented outlining both social and medical outcomes.

888  
**MOM: Managing our Mood, Distance Treatment for Postpartum Depression**  
Patrick McGrath¹, David Dozois², Charlotte Johnston³, Frank Elgar⁴  
¹Women's Health in Rural Communities, IWK Health Centre; ²Department of Psychology, University of Western Ontario; ³Department of Psychology, University of British Columbia; ⁴Department of Family Social Studies, University of Manitoba  

Post partum blues is very common but is self limiting. Post partum depression occurs in 12-15% of new mothers and can last for years. Post partum psychosis is rare, occurring once or twice per thousand. Postpartum depression often goes unrecognized or poorly managed, especially among women in rural communities. There are significant barriers to overcome in delivering specialized mental health services in rural Canada. The availability of care is limited by a number of factors including reduced availability of qualified service providers. Even “free” care can be expensive to obtain as there are incidental costs of transportation, childcare and time from paid or unpaid work. There is a significant social stigma associated with having mental health problems that may be greater in rural than urban centres. Women with postpartum depression often find it difficult to recognize their problem and are wary that others might find out about their difficulties. These factors, coupled with the demands of child care, make women in rural areas who are suffering from postpartum depression a group highly likely to benefit from a treatment offered in a format that does not rely on face to face contact. With assistance from a Community Advisory Committee, we have developed a distance treatment for postpartum depression using a cognitive behavioural framework. This treatment is delivered using telephone, rather than requiring face-to-face contact. The program consists of a handbook, videos, a pamphlet for spouses and friends and a non-professional telephone coach. The coach contacts participants weekly to problem solve and to encourage them in their treatment. Women can self-refer to the treatment or be referred
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by a public health nurse or family physician. This project is part of our larger Family Help Program that offers distance treatment for child mental health problems in Nova Scotia. This presentation will focus on the development of the program, and the encouraging results of our pilot study of the first 10 women who have completed our program. The need for alternative delivery of health care that meets the needs of people in rural Canada will be discussed.

Saturday / samedi, Session 8
– Partnership and Networking
Mark Buell, Moderator / Modérateur

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The Impact of the Rural Church on the Social Health and Well-Being of Young Rural Women of Nova Scotia
Anita Unruh¹, Patrick J McGrath², L Jackson¹, D Stiles⁴
¹School of Health and Human Performance, Dalhousie University; ²Department of Psychology, Dalhousie University; ³School of Health and Human Performance, Dalhousie University; ⁴Department of Business and Social Sciences, Nova Scotia Agricultural College

Historically, rural churches have played an important role in expression of shared spiritual beliefs, celebration and passing down of cultural traditions, and caring for people in need within their community and elsewhere. Churches can also play an active role in promoting and influencing health-related values and behaviour of people in a community (Strickland et al., 1998; Winett et al., 1999), and may even provide such programs. Nevertheless, rural churches are in a period of transition as rural populations change and religion assumes a less significant role in daily life. The crisis in rural churches has significant impact on young rural women. One of the most immediate changes is the greater likelihood that the rural church is served by young female clergy as churches become smaller, and have smaller budgets (McDuff, 2001; McDuff & Mueller, 1999). In addition, women’s groups, an important aspect of the social support role of the church, have increasing difficulty drawing young women into their work and service. In turn, young women may also have less access to the supportive social networks that were once available through their rural churches if they no longer see women in these churches who represented their own needs and life circumstances. In this presentation we will review the literature pertaining to resilience and change of rural churches with a focus on their impact on young rural women. We will present an overview of a planned qualitative project about rural churches in one region of Nova Scotia. This work is support by a New Emerging team Grant from the Canadian Institutes of Health Research.

1002
A Model for Action on Rural Community Health and Well-being
Robert Annis, Fran Racher
Rural Development Institute, Brandon University

Residents of rural and northern communities worked with researchers from the Rural Development Institute, Brandon University to build frameworks and design a model promoting community action on health and well-being. Community members attended focus groups and workshops, in addition to undertaking community projects that lead to the development of a framework for assessing community health. The resulting Rural Health and Well-Being Framework was illustrated as a ten-petal flower, with each petal representing a component of a healthy rural community. A guidebook based on this framework was piloted in two rural communities in south western Manitoba. Further work in northern Manitoba led to the development of the Community Resiliency Framework to describe the impact of community assets and stressors acting upon the community. The Community Health Action Model combines these two frameworks to produce a model and process for assessing the overall health and well-being of rural and northern communities. Project was funded through SSHRC grant #828-1999-1029.
The recent emphasis on strategic partnering and networking between Aboriginals and non-Aboriginals overlooks a key difference in their respective modes of collection, distribution, and dissemination of knowledge: the former is collaboration oriented and the latter process oriented. To achieve the goals and objectives of research and policy management it is imperative that collaborators from distinctive cultures appreciate the character and implications of these differences. The purpose of this paper is to establish the meaning of collaboration and introduce a model of collaboration that draws on the traditional Aboriginal understanding of human health as intricately interwoven with environmental/ecosystem health. Within this model, various cultural and social perspectives are understood as valuable resources to enrich social change and self-development. The practice of collaboration should optimally reveal and respect the various distinct perspectives of individuals and groups. This article presents communication and the disposition of reasonableness among collaborations as two prevalent social factors which contribute to genuine collaborative efforts. Finally the discussion considers the role of reasonableness in disentangling, resolving, and managing collaborative social networks and ecosystems, as well as promoting individual self-esteem and collective accomplishment among individuals, groups and communities.

The Canadian Society for Circumpolar Health (CSCH) is a non-governmental organization formed in 1984 with the goal of improving and maintaining the health of circumpolar peoples in Canada. As one of the adhering bodies of the International Union of Circumpolar Health since 1986, it also has as one of its mandates to support the efforts of all circumpolar peoples in the attainment of better health. In its twentieth year the CSCH undertook a planning process to develop a six-year strategic outlook for the CSCH. The strategic outlook is timely in that 18 months of 2007 and 2008 has been designated as International Polar Year. As well, Canada will likely host the 14th International Congress on Circumpolar Health. The Regional Advisory Council to the CSCH felt it was important to build on the successful CSCH general assembly held in Nuuk, Greenland in September 2003. The participants’ expressed commitment and interest in the organization at that assembly demonstrated the need for the CSCH to become a more vibrant and active body. To this end, the CSCH membership was surveyed to input into a renewed CSCH vision, mission, values, strategic direction, and goals. This initial survey was augmented with a two-day planning meeting of the CSCH Regional Advisory Council. The CSCH is now in the process of implementing the new strategic outlook. As a result, the CSCH’s mandate is: Through partnership and networking, CSCH will promote research, exchange knowledge, and foster a greater awareness and response to the health of circumpolar people. To achieve its mission, the CSCH has identified five strategic directions:
1. Facilitate partnerships and networking in circumpolar health at the local, national, and international levels.
2. Establish principles and a model for community-based research specific to circumpolar health.
3. Promote circumpolar health research and share research priorities.
4. Enhance the exchange of circumpolar health knowledge among individuals, communities, and people.
5. Foster greater interest and awareness of the health issues of circumpolar peoples.
This presentation will highlight the process used by the CSCH to achieve this strategic outlook, as well as use the strategic outlook and the CSCH as an example of a promising practice in the area of networking within the research community and the populations who participate in and benefit from their research.
Many Jurisdictions, One System (MJOS) A Partnership Diabetes Integration Initiative
Yvonne Morgan¹, Rayann Ulvick¹,², Lorraine Boucher¹,³
¹Many Jurisdictions, One System Partnership; ²First Nations and Inuit Health Branch (Alberta Region), Capital Health;
³North Peace Tribal Council and Its First Nations; ⁴Northern Lights Health Region

Many Jurisdictions, One System (MJOS) is a comprehensive approach to multi-jurisdictional diabetic care, conceived and designed by a partnership of the above four named organizations representing three jurisdictions – federal, provincial and First Nations. A shared future vision of a fully integrated health system provides the focal point for the project and gives rise to the name of the initiative. This overarching vision is for diabetes services that are operated and governed by three jurisdictions and multiple organizations in a coordinated, client-focused manner that emphasizes integration, harmonization and cultural appropriateness within a physical environment that is characterized by geographic isolation and low population density. The MJOS project will coordinate and improve tripartite diabetic prevention, treatment and health promotion programs to the Aboriginal people of the North Peace Tribal Council, in a culturally appropriate manner, integrating traditional knowledge with Western medicine. The MJOS proposal addresses current gaps and overlaps, and will improve access and enhance quality of care specifically by: (1) Developing a shared care map and case management plan for community members at risk for or living with diabetes; (2) Planning and implementing case management; (3) Developing a diabetic passport; (4) Identifying a cross jurisdictional integrated program of foot care services; and (5) Piloting improved coordination of the SLICK screening project with community and RHA treatment providers, developing the referral protocols and follow-up with the provincial system.

The International Network for Circumpolar Health Research: Why, Who, Where and How
Kue Young
Department of Public Health Sciences, University of Toronto

The International Network for Circumpolar Health Research (INCHR) was established in 2005 to foster and promote international collaboration and partnership among health researchers working in the circumpolar countries, focusing on the health of both the indigenous and non-indigenous populations. This paper describes the goals and objectives, the activities [web-based repository of documents and data; research communication and dissemination; knowledge translation; international exchanges; and support for research training], and future plans of INCHR.

Youth Speak Out: Aftermath of Devolution in a Rural Northern Community
Barbara M Gfeller
Professor, Department of Psychology, Research Affiliate, Rural Development Institute, Brandon University

Northern rural and remote communities face unique challenges when they encounter devolution – erosion of the economic base, unemployment and further complications of a diversified multi-cultural population. This presentation focuses on the challenges of children and adolescents at school and in the community, and how their concerns may be operationalized and addressed. A case study is presented of a community that recently experienced an 80% decline in K to 12 students with the remaining majority First Nations’ students, some
transient and others permanent. Findings are presented from an assessment of issues identified by youth at school as well as the principal, teachers, parents, other resources, and those articulated by young people at the local youth centre (a potential community resource that is not integrated with the school). The perspective of youth will be emphasized. Discussion will focus on how best to engage students to keep them in school to ways of promoting cultural identity, awareness and integration in the process of community development.

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Sex Differences in Outcomes of Care in Manitoba: A Population-Based Study

Heather Prior, Randy Fransoo, Patricia Martens, Charles Burchill

The Need to Know Team, Manitoba Centre for Health Policy, Department of Community Health Sciences, Faculty of Medicine, University of Manitoba

Objective: To compare complication rates of acute myocardial infarctions (AMI), cholecystectomies and pneumonia, and readmission rates of AMI, between male and female residents in rural south, north and urban regions of Manitoba during 1999/00 to 2003/04 fiscal years. Background Information: This study is part of The Need to Know project, a collaborative research project between the Manitoba Centre for Health Policy, rural and northern Regional Health Authorities and Manitoba Health. Methods: Administrative data in the Population Health Research Data Repository at MCHP were used to calculate rates of complications within the same hospitalization and rates of readmission within 30 days of discharge for Manitoba residents age 15 to 84. Average annual adjusted rates were calculated for fiscal years 1999/00 through 2003/04. As a method of risk adjustment, general exclusions were applied to eligible cases in an attempt to remove patients with severe health conditions or advanced health needs. Patients with a diagnosis of cancer, HIV/AIDS, or violent trauma were excluded from analyses. Specific exclusions were also applied to each indicator. Results: Females in Manitoba had overall higher complication rates than males following AMI (M=8.26%, F=11.49%, p<0.001). A significant sex difference was also found in the rural south (p<0.01) and urban (p<0.01) regions, but not in the northern region. Males and females had similar rates of pneumonia complications (M=6.77%, F=7.19%, NS) and AMI readmissions (M=9.56%, F=10.33%, NS), in both Manitoba overall, and within its regions. Males had higher rates of cholecystectomy complications in the province (M=4.53%, F=2.98%, p<0.001), as well as in the rural south (p<0.001) and urban (p<0.01) regions, but in the north the sex difference was not statistically significant. Conclusions: Although females experience AMIs less frequently than males in Manitoba, their rates of complications are higher. In contrast, for cholecystectomy surgery, males undergo surgery less often, but encounter complications nearly twice as often as females.

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Palliative Care in First Nation Communities

Holly Prince, Mary-Lou Kelley

School of Social Work, Lakehead University

This poster presentation presents the results of a pilot study that explored Aboriginal people’s current levels of awareness and understanding of Palliative Care, and their access to Palliative Care resources within First Nation communities. The study also examined the preferred location for end-of-life care and the educational needs of caregivers in First Nations Communities. This research was done in partnership with two First Nations health organizations in Northwestern Ontario and is part of a program of research being conducted within the CIHR New Emerging Team on End of Life Care for Seniors. The research design was a comparative case study of two First Nation communities selected to represent diverse community characteristics. Quantitative and qualitative data were collected by trained community research assistants through interviews and surveys with health care providers, community leaders (both formal and informal) and community members. The data were analyzed using descriptive statistics and content analysis to identify emerging themes. The study will be expanded to 17 communities in 2005-2006 and the researchers will also present methodological recommendations based on their pilot study experience. There is currently very little research about death and dying and palliative care within First Nation communities. First Nation communities are known to have limited access to health care services, including palliative care. The palliative care needs within these communities are not well documented. This research begins to address this gap in knowledge.
Culturally Relevant Measurement of Health Issues among First Nations Adolescents
Christopher J Mushquash, M Nancy Comeau, Sherry H Stewart, Patrick J McGrath
Department of Psychology, Dalhousie University

“How do personality, motives, gender, and other social factors shape Mi’kmaq First Nation teens’ relationships with alcohol?” This research explores directly at-risk adolescents’ understandings of their reasons for drinking. When psychological measures are used with cultural groups that are different from the sample the measures were developed with, it is important to evaluate the psychometric properties within the new group. The Revised Drinking Motives Questionnaire (DMQ-R; Cooper, 1994) is a 20-item self-report measure designed to quantify adolescents’ reasons for drinking alcohol. Specifically, it was designed to tap levels of the four drinking motives in Cooper’s (1994) model (i.e., social, enhancement, coping, and conformity). Respondents rate their relative frequency of drinking for each of the indicated reasons on a 5-point Likert scale. The factor structure of the DMQ-R was examined in a sample of First Nations (i.e., Mi’kmaq) adolescents. Analyses indicated a three-factor structure, with enhancement and social motives not separating into the expected two distinct factors. Moreover, community informants (e.g., school personnel) anecdotally indicated possible problems with some of the social motive items in this cultural group. This research will present the results of a qualitative methodology used to explore potential reasons why this finding emerged, as well as offer insight into implications for future research. The discussion attempts to clarify how qualitative focus group data add to the understanding of relations between teens’ reasons for drinking using the organized structure of Cooper’s (1994) motivational model for alcohol use.

The British Columbia Rural and Remote Health Research Network
Karen Kelly1, Denise Cloutier-Fisher2, Don Voaklander1, Stefan Grzybowski3, Camille Bullock1
1BC Rural and Remote Health Research Institute, University of Northern British Columbia; 2Centre on Aging, Department of Geography, University of Victoria; 3Department of Family Practice, Faculty of Medicine, University of British Columbia

Background: The Michael Smith Foundation for Health Research in British Columbia has recently allocated funding for eight provincial thematic population health networks as part of their Research Infrastructure Support Program: Aboriginal peoples; Aging; Child and youth; Disabilities; Environmental and occupational; Mental health and addictions; Rural and remote; and Women's health. The networks are intended to enhance researchers' productivity and competitiveness for national and international funding by bringing individual researchers together across disciplines, research streams, institutions, organizations and regions. British Columbia Rural and Remote Health Research Network: The British Columbia Rural and Remote Health Research Network is supported by four Interim Co-Scientific Directors: Don Voaklander (University of Northern British Columbia), Stefan Grzybowski (University of British Columbia), Karen Kelly (University of Northern British Columbia) and Denise Cloutier-Fisher (University of Victoria), as well as a Provincial Coordinator at UNBC and Site Coordinators at UNBC, UBC and UVic. Additional sites will be added in future. The Network’s vision is to create a supportive infrastructure to facilitate the investigation of issues relevant to the health of rural and remote communities from population, health services, clinical and biomedical perspectives. The objectives of the Network are to: (1) Increase the number of grants, amount of funding, and peer reviewed publications in the area of rural health research in British Columbia; (2) Promote research training in rural and remote health among students and community-based researchers; (3) Facilitate research partnerships between communities, the professionals who work in communities, researchers based at university sites, and relevant (provincial/ federal) government ministries and agencies; (4) Support researchers at both community and academic sites by facilitating mentorship, project idea development, grant writing, study implementation, data source access and knowledge exchange; (5) Create opportunities for frequent meetings of the rural and remote researcher community; (6) Promote national and international networking in the area of rural and remote health research. The Network will actively work to improve access to information resources and organize grant development and publication support. The network will host and disseminate information on
researchers, funding opportunities, databases and literature relevant to rural health research. In addition, it will provide assistance in bringing researchers together, and in the active exchange of research findings with communities.

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Assessment of the Quality of Clinical Practice Guidelines on Gestational Diabetes and Adaptation for Use in Aboriginal Communities
Fairleigh Seaton, Jennifer Medves, Susan Laschinger, Cheryl Pulling
School of Nursing, Queen's University

Study Objectives: To assess evidence-based clinical practice recommendations on gestational diabetes mellitus (GDM), a systematic review of clinical practice guidelines was conducted to identify clinical practice guidelines that contain recommendations for care of women with gestational diabetes and their infants. These guidelines were then adapted by Aboriginal nurses and other health care professionals for use in Aboriginal communities. Design: A systematic search of Medline, CINAHL, Embase and Healthstar and websites containing clinical practice guidelines for diabetes was conducted to identify clinical practice guidelines on gestational diabetes. Guidelines written between 1994 to present and published in English were included. Measurement: The Appraisal of Guidelines Research and Evaluation (AGREE) Instrument was used to assess the quality of the clinical practice guidelines. The instrument assesses guideline quality in six domains: scope and purpose, stakeholder involvement, rigor of development, clarity and presentation, application, and editorial independence. Each guideline was appraised by four appraisers. Results: From 111 citations, a total of 14 relevant guidelines were identified and appraised using the AGREE Instrument. Four guidelines were eliminated due to an overall score of “would not recommend” by all four appraisers. Two guidelines were eliminated due to a score of less than 50 percent on the rigour of development domain. Of the remaining eight guidelines, all eight guidelines (100%) scored > 50% on the domains of scope and practice and clarity and presentation. For the remaining domains the scores were as follows: five guidelines (62.5%) scored < 50% for stakeholder involvement; six guidelines (75%) scored < 50% on application; and four guidelines (50%) scored < 50% on editorial independence. The Aboriginal community determined the most appropriate values for screening, diagnosis and treatment, and has developed a culturally appropriate evidence-based guideline. Conclusions: Many clinical practice guidelines had differing values for screening, diagnosis, and treatment which made development of culturally appropriate evidence-based guidelines more complicated; however the Aboriginal nurses have determined that this is the most appropriate methodology to use for evaluation and adaptation for use in Aboriginal communities.

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Seeking Paths to Culturally Competent Health Care
Pammla Petrucka1, Sandra Bassendowski1, Marlene Smadu1, Lea Beige2, Carrie Bourassa3, Diana Davidson-Dick4, Joyce Desjarlais5, Beth Horsburgh5, Rick Kotowich5, Bev McBeth5, Herman Michel5, Chief Rodger Redman5, Gail Starr5, Floralyn Wessel5, Norma Wildeman5
1College of Nursing, University of Saskatchewan; 2Regina Métis Sports and Culture; 3First Nations University of Canada; 4SLAST Nursing Division, Saskatoon Campus; 5Regina Qu’Appelle Health Region; 6Native Access Program to Nursing, SLAST, Regina Campus; 7Standing Buffalo First Nation; 8SLAST Nursing Division, Regina Campus

The Southern Saskatchewan/Urban Aboriginal Health Coalition, a unique research team composed of members from a range of health, educational, and Aboriginal sectors in Saskatchewan, has been involved in a research project spanning nearly two years. This paper expands on the nature of the partnership efforts, the achievements of the team, and overview of the pathway of this group to achieving a culturally respectful research effort. It describes the team’s efforts in working with two Aboriginal communities in enhancing research capacity and establishing a cohesive and sustainable research involvement. Further, through an emphasis on the challenges and opportunities experienced in the ethics process, and research methodology and dissemination, this paper will contribute to knowledge on Aboriginal research methodologies. The Southern Saskatchewan/Urban Aboriginal Health Coalition is an interdisciplinary, intersectoral team of researchers and communities dedicated to exploring culturally respectful care in Aboriginal communities. Through a community based research approach, the communities and the Coalition utilized sharing circles to determine the key elements which two
Saskatchewan Aboriginal communities see as requisite for culturally competent care. Research team members identified concerns regarding ‘sacred knowledge’ and whether or not it could be shared – a perplexity which continually challenged research decisions on their adherence to culturally respectful ethical principles. The ethics approval process was a unique challenge in this research as the partners adopted the OCAP principles document (Schnarch, 2004) as a framework for ethical research with Aboriginal communities. This experience highlighted the lack of a culturally appropriate ethics approval mechanism within the context of the current Research Ethics Board mechanism. The paper will discuss the findings achieved through a triangulation and a thematic analysis process. Nine initial themes and 4 broad thematic groupings will be contextualized within the current and future research with these communities. A brief overview of the next steps and two research projects arising from this project will be described in terms of the ongoing effort to inform the achievement of cultural competency in terms of both health providers and health services.

961
Community Health Indicators for use by First Nations Organizations: Development of Measures
Sylvia Abonyi1, Colleen Hamilton2, Bonnie Jeffery2
1Department of Community Health & Epidemiology, University of Saskatchewan; 2Saskatchewan Population Health & Evaluation Research Unit, Faculty of Social Work, University of Regina

This poster presentation will discuss a current research project being conducted with First Nations and Aboriginal communities in northern Saskatchewan, Canada to develop evaluation tools for use in their health organizations. Current community health indicators and program evaluative frameworks, derived from the population health and health promotion fields, need to be adapted to enhance the goodness-of-fit with the Aboriginal world view (O’Neil, Reading, & Leader, 1998). Defining and tracking changes in community health status is seen as an area that should be controlled by First Nations health organizations (Tookenay, 1996) and some argue that a component of this control is ownership of the definition and collection of health information (O’Neil, Reading, & Leader, 1998). The primary purposes of the research are 1) to develop culturally competent and relevant indicators to assess changes in community health and community capacity, and 2) to develop an evaluation framework that can be used to assess the community health impacts of health and other community-based human services. This presentation focuses on findings from the research where we completed an initial evaluative framework community health domains and indicators relevant to Aboriginal-controlled health organizations. These findings are based on extensive interviews with community-based health directors where they offer their views on important indicators of monitoring progress on community health and capacity.

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Health Indicators for Canada's Aboriginal Peoples: a Geographic-Based Approach using Information from Existing Administrative Databases
Sacha Senécal1, Philippe Finès2, Éric Guimond1, Russell Wilkins2, Adam Probert3
1Indian and Northern Affairs Canada; 2Statistics Canada; 3Health Canada

Because most health and other administrative datasets contain no explicit identification of Aboriginal status or identity, approximate methods based on geographic coding can be used instead to identify areas with a high proportion of Aboriginal residents. In rural areas, the characteristics of the population served by individual rural postal codes (which typically span several dissemination areas) can be used to identify such areas. In urban areas, postal codes can be “converted” to dissemination areas, and dissemination areas with a relatively high proportion of Aboriginal residents can then be selected. These methods can be used to identify areas with a relatively high proportion of First Nations (including Status and non-Status Indians on- and off-reserve), Métis, and/or Inuit residents, according to their self-identification on population censuses. Health data from administrative databases can then be compiled for those areas, and various health indicators calculated--such as life expectancy, infant mortality, and cause-specific mortality. However, the results will be for the entire population of the areas studied, rather than specific only to the Aboriginal population within those areas. As rough and ready proxies for health indicators for Aboriginal peoples, these methods work best where
Aboriginal populations are highly concentrated and isolated from non-Aboriginal populations, and less well where Aboriginal populations are closely intermixed or contiguous with non-Aboriginal populations. So they work best for Inuit areas, followed by First Nations in rural areas, and less well for Métis (whether urban or rural) as well as for First Nations in urban areas.

975
**Prevention of Iron Deficiency Anemia among Inuit Children in Nunavik**

Carole Vézina¹, Doris Gagné¹, Marie-France David¹, Margaret Gauvin²

¹Public Health Research Unit-CHUL-CHUQ; ²Kativik Regional Government, Childcare Department

**Introduction:** Inuit children living in the northern region of Québec, were part of two prospective cohort studies over the last sixteen years. Results show that the prevalence of iron deficiency anaemia is high and is a major health concern in children as young as months six old. **The project:** In the fourteen villages, most of the preschool aged children now have access to childcare centres offering an Aboriginal Head Start Program. The centres provide one to two meals a day and snacks. To alleviate the problem of anaemia related to nutrition, a new approach focusing on benefits of traditional diet and healthy market foods on social, spiritual, mental and physical health will be implemented in these centres. To ensure the realization of an adapted intervention nutrition program, a one-year pilot project will be implemented in May 2005 and evaluated in three of these villages. **The general goal** of this project is to empower children, parents, daycares’ educators and cooks to develop or enhance nutritional healthy habits that will be maintained following the implementation of the nutrition intervention and evaluation project. The first general objective is to elaborate and implement a community-based nutrition program to prevent iron deficiency anaemia. The second objective is to evaluate the impact and the effectiveness of the program.

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**Accessing Emergency Care: Triage in Small Hospitals in Ontario**

Cater Sloan, Raymond W Pong

Centre for Rural and Northern Health Research, Laurentian University

Research reveals rural populations have higher rates of morbidity, mortality, and reduced access to health care compared to urban populations. Emergency departments provide an important access point to health care. To provide effective care, emergency departments use the process of triage to determine who requires immediate care, and how long others can safely wait. Triage is designed to help save lives. The objective of this paper is to report how well small hospitals function in support of triage. This presentation reports on an aspect of a larger study that documents triage procedures and practices in Ontario Emergency Departments (EDs). ED managers in all Ontario hospitals with an ED were sent a survey. The response rate was 76%. Response rates were uniformly high across small, community, and teaching hospitals. Descriptive analysis found hospital size was related to differences in the support and practice of triage. For example, small hospitals were more likely to report that triage nurses typically meet triage guidelines for re-assessment of patients in the waiting room. Yet, small hospitals were least likely to have a formal process for documenting re-assessments. The survey includes open ended questions on six dimensions expected to influence triage: staffing/training; physical layout; crowding; attitudes; documentation; and quality assurance. Respondents were also asked to identify best practices in use. Responses were analyzed into themes that were corroborated by a reference group of triage nurses and related professionals. How emergency department structure and process affects triage is an under-developed area of research. This paper furthers understanding of rural emergency care by focusing on how well triage works in small, rural hospitals. Qualitative analysis develops the themes and provides a further basis for analysis. ANOVAs are used where appropriate. The paper addresses and answers the following questions: (1) How do difficulties experienced during triage vary by hospital size (small vs. large) and location (rural vs. urban)? (2) What triage challenges are unique to small, rural hospitals? (3) How do triage best practices vary by hospital size and location?
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Sharing and Learning for Health: An Aboriginal Community Research Project
Marlene Smadu, Carrie Bourassa, Rick Kotovich, Lea Bage, Sandra Bassendowski, Joyce Desjarlais, Diana Davidson-Dick, Martha Horsburgh, Alex Keewatin, Bev McBeth, Herman Michel, Pammla Petrucka, Andrea Pouteaux, Chief Rodger Redman, Martha Horsburgh, Alex Keewatin, Bev McBeth, Herman Michel, Pammla Petrucka, Andrea Pouteaux, Chief Rodger Redman, Floralyn Wessel, Norma Wildeman
1College of Nursing, University of Saskatchewan; 2First Nations University of Canada; 3Regina Qu’Appelle Health District; 4Regina Métis Culture and Sports; 5SIAST - Nursing Division; 6NAPN; 7Standing Buffalo First Nation; 8SIAST - Nursing Division

The health challenges experienced by Aboriginal people in Canada are well known. Aboriginal people have frequent interactions with the formal health system, but often little voice in articulating appropriate approaches to care, incorporation of culture in the healing process, and teaching or research methods that would be suitable to Aboriginal ways of knowing. Neither the health system nor the health professions education system has sufficiently or systematically addressed the need to create culturally respectful health and education systems for Aboriginal people. It is this significant gap that has been the focus of the Southern Saskatchewan/Urban Aboriginal Health Coalition, an interdisciplinary, intersectoral team of researchers and communities dedicated to exploring culturally respectful care in Aboriginal communities. The presenter will provide a model of partnering that has been successfully developed and implemented over a two year research project involving two distinct Aboriginal communities - one rural First Nation and one urban Métis. The presentation will emphasize the high level of sharing and mutual knowledge interchange which has solidified the relationship between all stakeholders in this diverse, intersectoral team. It will also highlight the merits of community inclusivity from inception through dissemination.

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Methodological Challenges and Decisions in Examining Dementia Care Access Issues for Seniors in Northern Saskatchewan
Allison Cammer, Debra Morgan, Bonnie Janzen
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With an estimated 38% of Canadian and 62% of Saskatchewan residents living in rural or remote areas, delivery of healthcare services in rural and remote areas is a very pertinent area of investigation. The Canadian Study of Health and Aging estimates that there are currently 364,000 persons living with dementia in Canada, a number which is predicted to double in the next 30 years. These demographics point to a clear need for exploring new approaches to diagnosing and treating persons with dementia in rural and remote Saskatchewan, particularly for Northern Saskatchewan, an area which is often overlooked. Currently, very little is known about Indigenous Peoples’ experiences with dementia, especially in Northern Saskatchewan. A MSc. project, “Exploring issues of access in utilization of dementia care services by seniors in Northern Saskatchewan”, seeks to address this gap, with a specific focus on Aboriginal seniors. Areas of investigation, as identified during initial community visits, included challenges such as cost, distance, cultural differences, fear, and stigma. Additionally, supports such as traditional care, community involvement, and indigenous healing practices require further investigation. By examining barriers and supports, service provision can be improved to incorporate the needs of Northern Saskatchewan residents while enhancing the capacity of local communities. This presentation details the methodological challenges faced when developing a research project in Northern Saskatchewan, including community approvals, participant recruitment, and ethical approval. Because Northern Saskatchewan communities are currently developing formal research protocols, this process is less explicit than for conventional research designs. Expectations of research partners and formal research venues may not be congruous. I will examine the challenges that can result from differences between community capacity-building goals, community expectation and academic research requirements, and how these issues have been negotiated within this study. The means of creating a research project “with” Indigenous people rather than “on” them will be addressed. I will also discuss the strategy of knowledge translation and result-sharing with Northern communities in Saskatchewan, as outlined for this particular project.
Using Health Needs Assessment to Inform Primary Health Care Planning in First Nations Communities
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Sioux Lookout First Nations Health Authority

The purpose of this project is to describe the needs assessment process that will be undertaken to collect information in five major areas relevant to health planning for the First Nations communities of the Sioux Lookout District. Data will be collected on population and health status, health determinants, community strengths, existing health care services, and the vision for the future health care system. The primary intention of the needs assessment is to inform the development of a comprehensive primary health care system for the region. While much research already exists on the health status of the aboriginal population within the Sioux Lookout District, it is dated and does not necessarily reflect current health issues. This project is being undertaken to establish an up-to-date and/or current research base on the health status, issues and priorities for the district. It is also intended to identify the gaps in primary health care service delivery and provide the foundation for the development of an action plan to address those gaps. The research methods that will be used are literature review, collection, review and analysis of official statistical information, key informant interviews, focus group sessions, self-administered questionnaires and development of community profiles. A total of twenty-six (26) communities participated in the process. Of those, only four (4) are considered non-isolated (meaning they have road accessibility) and are within three (3) hours of Sioux Lookout. The remaining twenty-two (22) participating communities are accessible by air only. Across the twenty-six (26) communities a total of two hundred ninety-eight (298) key informant interviews and twenty (20) focus group sessions comprising an additional seventy-seven (77) informants were conducted. In total three hundred eighty-five (385) informants participated in the consultation process. A high-level content analysis will be carried out to identify similar themes and concepts across the whole data set. This will be very useful in helping to identify community perceptions of the major health problems, causes of poor health and gaps in current service delivery. The data will also be stored in data sets by community to allow for community-by-community analysis later in the project.

Establishing an Arctic Health Research Network in the Northwest Territories
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The complex and long-standing issues facing health care delivery in the North require, among other things, an increased capacity to access, and use evidence about health and health-care derived from targeted research and to develop and conduct research from within the North. The Arctic Health Research Network (AHRN) is an informal local network that was born in May 2004 as a necessary process to identify the research priorities that have the greatest impact or benefit on the health status and quality of life among northern populations. The purpose of this presentation is to outline the challenges in health research and the potential role of AHRN to respond to these issues as described in its mission, objectives and expected outcomes. Mission: To conduct interdisciplinary research on Northern healthcare with a view to improving health services, access to health care in remote Northern communities, enhancing our understanding of the health care system, with the eventual outcome of improving the wellness of the population. Objectives: To undertake, coordinate and foster practical research concerning the health needs of people living in the North: (1) To advance the understanding of issues in population health, health-care delivery and the education of health practitioners in the North; assisting regions and service providers in moving toward evidence-based decision making for health service delivery; (2) To establish the means for innovative, rapid and widespread dissemination of relevant research information. Expected Outcomes: (1) To examine the work that has been done to date concerning the health status of northern residents. (2) To define priorities for action across all health sectors. (3) To recommend further research needs based on the identified priority areas. (4) To identify possible funding sources to assist with the proposal development and implementation. (5) To develop an educational/planning conference based on the
priority areas and research needs. (6) Potential activities under AHRN could include: · a research component (e.g. short-term and long-term projects, research relevant to community or broader northern issues, etc.); · an education and training component (e.g., in the context of research projects, apprenticeships, activities credited as part of coursework, field training, etc.); and a knowledge-sharing component (e.g., workshops, seminars, colloquia, publications, public lectures, etc.).

1048
Estimates of Dietary Exposure to Mercury via the Consumption of Beluga Whales in Modern and Historic Inuit Populations
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Mercury levels in biota in the Canadian Arctic appear to be increasing. Changes in animal mercury levels will have potentially significant effects on the people who consume these resources as part of a traditional diet. Most mercury intake in the traditional diet is due to the consumption of marine mammals, such as beluga whales. The Inuit living in the Mackenzie Delta have consumed large amounts of beluga whale meat and muktuk (skin and blubber) for many centuries. Establishing estimates of dietary exposure to mercury from the consumption of beluga whale for both the modern and historic Mackenzie Delta Inuit allows for classification of risk for these potentially sensitive populations. Dietary mercury exposure estimates were constructed for the modern and historic Inuit populations in the Mackenzie Delta. These estimates are a function of the intake of beluga whale meat and skin and the level of mercury within the consumed flesh. For the historic population estimates, beluga whale intake was based on a reconstruction of the pre-European traditional diet, using archaeological and ethnographic data. Concurrent mercury levels were measured in beluga whale teeth recovered from archaeological sites in the Mackenzie Delta. Modern population exposure estimates were calculated using current traditional food consumption data and mercury levels in tissues from beluga whales harvested recently in the Mackenzie Delta. The estimates show that, despite higher mercury levels in modern beluga whales, the modern Inuit population has a lower exposure to mercury from the consumption of beluga whales than did the historic population. This result is most likely due to the much lower consumption of all traditional foods, including beluga whales, within the modern population. In contrast, the historic population relied entirely on hunted food for subsistence. The large intake of beluga whale flesh, among the historic population, puts this group at a high risk of exposure to mercury, even though mercury levels in beluga whales were lower then than they are now.

Saturday / samedi, 29 October / octobre
09:30-10:00
⇒ Salon Rose & hallway
13:00-13:30 *Authors in attendance / en présence des auteurs

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Rural Women's Health Issues and Effects, or Why Rural Women Are Creative, Resilient, and Empowered
Beverly D Leipert
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Women in geographically isolated settings experience a variety of physical, psychological, socioeconomic, geographical, and cultural issues that affect their health. In this presentation, I describe some of these issues and the health effects that can result. Data from feminist grounded theory research completed in northern British Columbia, Canada, focus groups conducted in rural south western Ontario, and literature that addresses women’s health in isolated settings form the basis of this discussion. Issues that will be described include the undervaluing and lack of understanding regarding the lives of rural women, depopulation and economic crises in rural communities, and the increased need for but decreasing presence of health and social support in rural
communities. Effects of these issues include rural women’s increased incidence of injury, cancer, depression, and demoralization; increased workloads and expectations for and by rural women and their communities; and the increased need for rural women to be creative, resilient, and empowered. I also will briefly address recent political and academic initiatives and their relevance to rural women’s health issues, and suggest future directions for policy and research. An exciting new venture for women and health care research in a unique isolated setting will be revealed.

875
Retaining Pharmacists in Rural Canada Personal and Community Attributes Factor in the Decision to Remain in a Rural Community
A Kirsten Woodend1, Janet Cooper1, Lynda Buske2, Louise Marcus2, Tara S Chauhan2, Lisa Little3, Lee Teperman4, Owen Adams5
1Canadian Pharmacists Association; 2Canadian Medical Association; 3Canadian Nurses Association; 4Society of Rural Physicians of Canada

Background: The Multistakeholder Framework of Rurality project was funded by Health Canada's Rural and Remote Health Innovations Initiative. The aim of this project was to develop a tool to assist rural communities with health human resource planning and to help governments and communities in recruiting and retaining health care providers in rural and remote communities. Methods: A national survey was sent to nurses, physicians, and pharmacists living in rural or remote communities to determine, among other factors, satisfaction with their personal and professional lives in those communities. One of the questions asked in the survey was “Do you plan to be in practice in the community in two years?” Results: Completed surveys were returned by 1019 pharmacists. Pharmacists who were married, had children living at home, were between the ages of 35 and 54 years, and had between 6 and 24 years in practice were more likely to say they would remain in the community. Communities where there were better working hours, better availability of coverage and backup, higher earning potential, and greater opportunities were more likely to retain pharmacists, as were communities where there were better opportunities for family members. Pharmacists were also more likely to state an intention to remain in communities where they had a sense of belonging and a sense of being appreciated. Multivariate predictors of pharmacists' intent to remain were children living at home, professional factors, and personal factors. Conclusions/Implications: Despite some study limitations, the results presented here could be used to help communities select pharmacists who are most likely to remain in practice in the communities for longer periods. Community attributes such as distance to large population centres cannot be changed, but attributes that contribute to personal and professional satisfaction could be altered.

906
The Talking Circle: Uncovering the Embeddedness of First Nations Injury: A Case Study of Drinking and Driving
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Introduction: Research on injury in First Nations communities relies on traditional qualitative approaches like focus groups and semi structured interviews that are typically offered as avenues towards local empowerment, capacity building and collaboration. Although the approaches are offered as culturally sensitive and action-based, they have severe limitations. Objectives: The main study objective was to explore the use of a Talking Circle to detail social/cultural determinants of drinking and driving in First Nations communities. A secondary objective was to detail historical, family and community experiences that influence First Nations drivers' self-reported drinking and driving behaviors within a culturally sensitive setting. Methods: A seven hour traditional Talking Circle, consisting of 12 First Nations drivers aged 18-29, living in a major northern Alberta First Nations community was developed. Four local First Nations leaders, familiar with Talking Circles recruited participants, organized and ran the process, and provided data analysis and interpretation. Results: Drinking and driving is a routine part of community life. It was typical for participants to have experienced family members’ deaths involving drinking and driving, most of which happened when participants were around 12 to 14 years old. Drinking and driving was not an isolated phenomenon. It was related to other social problems like sexual abuse, family violence, criminality, suicide, and alcohol/drug abuse. Vehicles were always accessible
regardless of the driver’s age (sometimes 12-13 years old), driving condition (drunk, stoned or sober), or driver license status (possession or non-possession of a license). **Conclusions:** The Talking Circle provided extended breadth and depth of cultural/community information that transcends standard interview formats. It is the first step towards healing within the community; a springboard for local injury intervention programs built on experiential information that is traditionally hidden, glossed or surfaced in culturally relativistic generalities.

### 915
**Do Northern and Rural Residents Differ in the Quality of Care They Receive, Compared to Urban Residents? A Manitoba Population-based Study**

PJ Martens1, R Fransoo1, The Need To Know Team2, E Burland1, H Prior3, C Burchill1, D Chateau1

1Manitoba Centre for Health Policy (MCHP), Department of Community Health Sciences, University of Manitoba; 2The Need To Know Team – A collaboration of the rural and northern Regional Health Authorities of Manitoba, Manitoba Health, and The Manitoba Centre for Health Policy funded by the Canadian Institutes of Health Research (2001-2006)

**Objective:** To compare quality of care by sex and area of residence – urban (Winnipeg), Rural South, North.

**Methods:** Using anonymized administrative data in the Population Health Research Data Repository at MCHP, four physician quality of care indicators were selected for 2003/04: crude percentages of (1) diabetics who had an eye examination (n=27284 males(M), 24869 females (F)); (2) newly-depressed clients who had ≥3 physician visits in 4 months (n=4241 M, 8572 F); (3) non-nursing home residents aged 75+ with 2+ benzodiazepine prescriptions, or >30-day supply (n=27889 M, 45469 F) °C lower is better; and (4) acute myocardial infarction (AMI) patients receiving a beta-blocker prescription within 4 months of the AMI (n=6136 M, 3482 F). **Results:** Females were more likely to receive an eye examination if diabetic (37.1%F vs. 33.3%M, p<.0001), and appropriate physician visits if newly-depressed (63.2%F vs. 58.7%M, p<.0001). Males were prescribed benzodiazepines less often (10.6%M vs. 16.9%F, p<.0001), and beta-blockers post-AMI more often (79.8%M vs. 72.7%F, p<.0001). Rural South females had similar, worse, or better quality of care compared to urban females: post-AMI beta-blockers (71.8% vs. 73.4%, NS); benzodiazepines (16.8% vs. 17.0%, NS); physician visits for newly-depressed (59.0% vs. 65.2%, p<.001); and eye examinations for diabetics (39.1% vs. 35.5%, p<.0001). Rural South males had similar or worse quality of care compared to urban males: post-AMI beta-blockers (78.5% vs. 81.6%, p<.005); physician visits for newly-depressed (55.0% vs. 60.7%, p<.0008); eye examinations for diabetics (33.8% vs. 32.3%, NS); and benzodiazepines (10.5% vs. 10.7%, NS). Quality of care for North residents compared to urban was variable: similar eye examinations for diabetics (males 31.3% vs. 32.3%, NS; females 34.9% vs. 35.5%, NS); similar/fewer physician visits for newly-depressed (males 54.4% vs. 60.7%, NS; females 56.0% vs. 65.2%, p<.0003); fewer post-AMI beta-blockers (males 68.3% vs. 81.6%, p<.0001; females 62.2% vs. 73.4%, p<.002); yet fewer benzodiazepines (males 5.4% vs. 10.7%, p<.0001; females 10.3% vs. 16.9%, p<.0001). **Conclusions:** Rural South and North residents receive worse, similar or better quality of care compared to urban, depending upon the indicator chosen.

### 940
**Aboriginal Community Members and University Researchers Reflect on Collaborative Research Partnerships – Lessons Learned from a Community-Based FASD Project**

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1Clinical Epidemiology and Biostatistics, Faculty of Health Sciences, McMaster University; 2School for Rehabilitation Sciences, Faculty of Health Sciences, McMaster University; 7Centre for Community Children’s Health Research, University of British Columbia; 8Department of Pediatrics, Faculty of Medicine, University of British Columbia; 4Department of Nursing, Lakehead University; 5Department of Nursing, Lakehead University; 6University of British Columbia; 7BC Research Institute for Children’s and Women’s Health, University of British Columbia

Collaborative research between university-based researchers and Aboriginal communities is experiencing greater acceptance in the research community, and is often expected by funding agencies. The motivation for writing this paper stems from lessons learned while conducting collaborative research with four Aboriginal communities. This research focused on creating community-based FASD brief alcohol interventions for at-risk Aboriginal mothers in Canada. It is our hope that our reflections on this process will encourage other researchers to consider collaborative research and to provide them with information that will allow them to
establish these types of research partnerships. In this paper we describe the different constraints that Aboriginal community members experience and the constraints that university-based researchers experience when collaboration occurs. While the expectations that each group operates under appear different, we argue that there are more commonalities to consider. We explore key concepts such as collaboration, dissemination and knowledge transfer and reflect on how they influenced our research partnership within the context of this FASD study. Moreover, we highlight our experiences with bidirectional capacity-building. The ideas discussed in this paper represent the reflections of Aboriginal community members and university-based researchers involved in this study. This paper represents a useful contribution to the methodology of collaborative/participatory research that has the potential to bridge the distance between these key stakeholders.

966
The Advantages of Conducting Inpatient Detoxification Research in Northern British Columbia: A Discussion of 3 Longitudinal Studies and Current Issues in the Field
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Centre for Addiction and Mental Health, University of Toronto

In comparison to other lines of substance abuse treatment research, the rarity of studies on inpatient substance abuse detoxification (withdrawal management) is striking. This lack of knowledge of the detoxification process especially holds true in the Canadian context, even though provincial rates of inpatient detoxification can reach approximately 20% of all those accessing addiction treatment services (Callaghan, & Cunningham, 2002). While clinicians frequently have acknowledged a revolving-door pattern of readmissions among inpatients substance abuse detoxification patients, relatively few studies have specifically examined such trends. In large part, this gap is due to the complexity and expense of integrating detoxification admission records across multiple sites and the associated difficulties involved in tracking this hard-to-reach, often-itinerant treatment population across time. The proposed presentation will not only provide an overview of current issues in inpatient detoxification research, but it will discuss 3 recent longitudinal studies -- all conducted in northern British Columbia -- examining important aspects of inpatient substance-abuse detoxification: gender differences (n = 1454; Callaghan, & Cunningham, 2002a), patterns of abuse liability and detoxification utilization of intravenous and non-intravenous cocaine users (n = 341; Callaghan, & Cunningham, 2002b), and trends in admission and readmission among Aboriginal patients (n = 877; Callaghan, 2003). The study site offers a unique geographical location for the study of patterns of readmission because the treatment centre provides the only hospital-based detoxification treatment program in northern B.C., Canada. As a result, admission and re-admission trends at the study site probably reflect a more accurate estimate for the total detoxification treatment population than if such patterns were collected in more urban areas with a greater array of non-affiliated detoxification services. The presentation will make a case for the advantages of conducting inpatient substance-abuse detoxification research in northern British Columbia, and how such research might offer a unique contribution to the scholarly literature in the addictions field.

974
The Dimensions of Canadian Aboriginal Health
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Health is an intangible, multidimensional construct that is culturally variable. Although differences in health status and concepts of health between Aboriginal and non-Aboriginal Canadians are fairly well documented, little research has explored how health concepts may vary within the Aboriginal population. Based on a series of principal components analyses of Canada’s 2001 Aboriginal Peoples Survey (APS), this research was guided by two objectives: 1) to determine the dimensions of health for Canada’s Aboriginal population (Inuit, Métis and First Nation); and, 2) to examine the stability of these dimensions across and within geographical contexts. Preliminary results for the Inuit population (n=3979) suggest four interpretable dimensions of health (social support, personal wellness, physical function, community wellness), explaining 59% of the variation. This four-dimension structure of health held consistently across all Inuit sub-analyses (age, gender, region) with the exception of the elderly (60+), and those in the region of Labrador, for whom the component structures
emphasized ‘social limitations due to physical function’ and ‘personal wellness’ respectively. Conceptualized by four types of social support (positive social interaction, emotional support, affection and intimacy, tangible support), this dimension reliably explained a substantial amount of variance (>23%) among observed variables in all analyses, thus suggesting that social support is a powerful dimension of Inuit health. Moreover, these findings add to the conceptual base of literature that acknowledges aging as an important vector of health. This analysis provides a solid base of criterion variables from which subsequent health determinants analyses may be well-informed and further suggests that the explanatory power of social support for Aboriginal health is an important direction for subsequent research.

991
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Introduction: Primary care represents an initial point of contact that links clients with more specialized health services, for example; home care, mental health and long-term care (Health Canada, 2002). Effective primary care is viewed as one solution to excessive costs and unnecessary hospitalizations. Weissman et al., (1992) identified 12 conditions (e.g., ruptured appendix, gangrene, diabetes, pyelonephritis and malignant hypertension) for which hospitalization could be avoided if timely and effective primary care was provided. Purpose: This research project examines trends in age-standardized avoidable hospitalization rates (AHRs) compared with non-avoidable hospitalization rates (NAHRs) in British Columbia in order to better understand this single indicator of health system performance for rural and urban populations, in a period of time characterized by successive waves of regionalization and reform. Methods: A joinpoint regression model is used to identify changes in trends by the population age 50+ and by gender for avoidable hospitalizations and non-avoidable hospitalization rates between 1990-2000. Changes in trends for specific conditions are also examined. Rural-urban differences are highlighted because of longstanding issues of service provision and variable access to care in these geographic settings. Data are drawn from the British Columbia Linked Health Data (BCLHD) available through the BC Ministry of Health (see Chamberlayne et al., 1998). Results: The results demonstrate that AHRs are declining over time, but rural AHRs for the age 50+ population remain higher than the corresponding rates for urban populations. Among the four comparison groups by gender, AHRs are highest for older rural women and lowest for urban women, with rates for rural and urban men situated within these boundaries. Additionally, there is a significant decline in AHRs for urban men after 1999, with no similar trend observed for rural men. Conclusions: Not surprisingly, trends in AHRs and NAHRs point to differences in hospitalization for avoidable conditions as well as highlighting issues around access to effective primary care for rural and urban populations. The policy implications of these trends are discussed.

995
An Enabling Policy Model for Rural Women
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The presentation will explore the policy process in relation to rural women in Saskatchewan and Manitoba as these pertain to health renewal policy. As informed by the current research project, consideration will be given to 3 key aspects of health policy – rural health policy as an insular process; health policy and rural recipient perspectives; and gender incorporation into the rural health policy process. Health policy has continued to done primarily on the economic, fiscal, and political level, seldom considering the community, groups, and individuals impacted by such directions. Failure to move towards a more enabling model will simply perpetuate ineffectual and unpalatable health policy decisions, and potentially further disenfranchise select sectors of the populations, such as rural women. Hence, in considering health policy and its impacts in the rural setting, it is imperative to recognize that the rural context is unique and the perspective of rural women is a critical component. As health reform has been operationalized in these two provinces, it has become apparent that the impacts and implications for rural women have been underemphasized and underestimated. It is imperative that
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rural women be given voice to their policy concerns, and a means to become involved in ongoing and future health policy changes. The emergent policy model for rural women is seen as a dynamic and enabling model which is inclusive throughout the policy process. This four phase model highlights the key points of potential involvement of policy makers and implementers in order to fully engage and empower rural women in the policy process.

998
TLR-4 Mediated Pulmonary Inflammation following Swine Barn Exposure
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Swine farmers repeatedly exposed to the endotoxin-rich barn air report higher incidence of respiratory diseases. However, the in situ lung responses and the mechanisms involved are unclear. Therefore, we studied the effects of multiple interrupted exposures to barn air on lungs. Sprague-Dawley rats (n=6/group) were exposed either to the barn air (8 hours/day for 1 or 5 days) or ambient air followed by measurement of airway hyper-responsiveness (AHR) to methacholine and evaluation of bronchoalveolar lavage fluid (BALF) for inflammatory cell influx. One and 5 day exposed rats showed increased AHR compared to the controls but there were no differences between the exposed groups. Compared to the controls, only one day exposed rats showed more BALF total leukocytes (neutrophils and macrophages). We investigated the role of TLR4 in the barn-air induced lung inflammation and AHR by exposing endotoxin-sensitive (C3HeB/FeJ) and endotoxin-resistant mice (C3H/HeJ; natural mutation in TLR4 gene) to the barn air for 1 or 5 days. Both endotoxin-sensitive and resistant mice showed increased AHR after 5 days exposure when compared to 1-day exposed and the control mice. BALF total leukocytes (neutrophils and macrophages) were higher only in 1-day exposed endotoxin-sensitive mice compared to corresponding controls while there were no differences between controls and endotoxin-resistant mice. We conclude that swine barn air induced lung inflammation is dependent of TLR4 while increased AHR is independent of TLR4 (Lung Association of Saskatchewan and Founding Chairs Graduate Scholarship).

1000
Maximizing Research Capacity with Student Learners in Rural and Remote Settings
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Consistently in the rural health literature are accounts of geographical and professional isolation experienced by health care professionals practicing in rural and remote settings. Due to this isolation, professionals in these settings are required to be multi-skilled, which in turn, requires a wide-range of practice knowledge. Despite this needed breadth of knowledge, rural health professionals often have limited resources available to them in comparison to their urban counterparts. Nursing students in these areas are also limited in their opportunities for direct involvement in research. This three-year study aims to begin to understand the degree to which health professionals and community members in rural and remote settings access and use health research in Canada. The project consists of a two-pronged approach: a) a quantitative component using a cross-sectional survey (n=1200) targeted towards rural health practitioners in seven provinces and territories; and, b) an ethnographic component using interviews (n=57) and participant observation with health practitioners and community members in the same jurisdictions as the survey. For the qualitative interviews, a unique strategy was devised. Through partnership with nursing doctoral students geographically dispersed across the country, the investigators are able to reach rural and remote communities through these ‘insiders’. The collaboration begins with locally hired undergraduate nursing students who are trained and supervised by the doctoral students to conduct the interviews. Overall supervision, mentoring and support for the doctoral student role is provided by the investigative team. This arm of the research project is providing direct research experience to seven undergraduate nursing students and supervisory experience for doctoral students. Observations, insights and challenges associated with a distributed model of research activity using differing tiers of learners will be discussed.
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Otosurgery for Chronic Otitis Media in Greenland: A Fly-In and Fly-Out Project

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Introduction: Otosurgery has not been performed systematically in Greenland despite chronic otitis media (COM) occurs frequently among Greenlanders. The otosurgical treatment of Greenlanders has formerly taken place at Rigshospitalet in DK and mainly complicated cases have been operated. The results of 221 of these operations were examined in 1988. Only 46% showed up for control and the closure rate of these was 39% while 70% had dry ears. Hearing improvement was found in 58%. Study design and methods: An otosurgical project was established in autumn 1998 in Greenland. A database was developed containing pre- and postoperative variables and follow-up. At present 274 patients have been operated. Patient characteristics: Two percent had cholesteatoma, 34% had suppurative COM and 61% had dry perforations. Type II and III tympanoplasty were applied in 12% and 4% had a mastoidectomy. 62% had mucosa pathology in the middle ear. The ossicular chain was intact in 70%. Results: In total 97%, 75% and 54% was followed up at 3 weeks, one year and two year. The closure rate of the tympanic membrane was 67%, 72%, and 76%. Failure was reported in 18%, 23%, and 24%, respectively. After one and two years 73% and 67% claimed to be satisfied with the operation. Being male was associated with higher failure rate. Hearing improvement after three weeks, one year and two years was found in 83%, 78%, and 78%, respectively and hearing improvement greater than 10 dB was found in 62%, 62%, and 54%, respectively. The median hearing gain was 15 dB, 15 dB, and 12 dB. There was a significant association between hearing improvement and closure of the tympanic membrane. Conclusion: The closure rate and hearing results for followed patients after fly in and fly out otosurgery in Greenland were acceptable. The study provides good evidence of continuing the otosurgical project in Greenland.

1025

The Power of Collaboration: Canadian Health Network

Christine Chang

Canadian Health Network, SMARTRISK

The Canadian Health Network (CHN) is a national, bilingual web-based health information service, providing resources on health promotion and disease and injury prevention. As a unique collaboration between over 1,000 major health information providers and the Public Health Agency of Canada, the CHN provides an electronic gateway to credible, practical e-health information. The aim of the Canadian Health Network at www.canadian-health-network.ca is to provide consumers and practitioners with relevant e-health information from trusted sources. In this presentation, the author will explain the infrastructure of the Network, and what you can expect to find in the current collection of 17,000 English and French language resources. Delegates will benefit from a demonstration of the website’s search options, and the cataloguing system which organizes the resources into 26 health centres (ranging from active living and healthy eating to addictions and mental health and addressing special issues of children, youth, women and other key groups). Additional CHN site components include a “Health Event Highlights” calendar, “Frequently Asked Questions”, semi-monthly feature articles on current health topics, and a confidential “Health Information Request” service. In addition to sharing information about the Network, the author intend to initiate an interactive dialogue with session participants about the potential applications for the CHN in their work and to explore options for improving awareness of this resource across Ontario. In addition, we will explore the health information needs of those living and working in rural, northern and remote settings and examine how the Canadian Health Network might meet those needs. Convenient, credible and reliable - the CHN provides a single gateway through which Canadians can access information that can assist them in making choices about managing their own health and the health of people they care about. Session attendees will receive handouts and resources for their future use. They will walk away with an important new tool (the CHN) that provides them with no-cost access to a wealth of quality Canadian e-health information resources.
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Increased Wheeze is Associated with Toll-like 4 Receptor (TLR4) 299 and 399 Polymorphism in Women and Not in Men
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Mutations in Toll-like receptor-4 (TLR4) have been associated with better lung function and less respiratory symptoms including asthma. There is currently limited study of the distribution of polymorphisms in this gene and their association with lung function and respiratory diseases in large community populations. In 2003, questionnaires were distributed to 2897 eligible adults (18 to 79 years) who lived in the town of Humboldt, Saskatchewan and the surrounding rural area. The response rate to the survey was 71.0 percent (%). During a clinic visit and following informed consent, blood samples were collected from participants for genotyping of the TLR4 299 and 399 SNPs. Subjects also underwent spirometry (forced vital capacity (FVC), forced expiratory volume at one second (FEV1) and FEV1/FVC ratio). Genotyping was received for 1911 subjects. Of these, 1725 also had viable lung function results. Respiratory symptoms and doctor diagnosed asthma were reported by questionnaire. The adjusted mean (standard error) values for FEV1, FVC and FEV1/FVC ratio were 3.2 (0.02)ml., 4.0 (0.02)ml, 0.8 (0.001)ml, respectively. The overall prevalence of asthma, and wheeze was 7.9% and 36.4%, respectively. More men than women reported wheeze (p<0.001), while more women than men reported a history of asthma (p<0.01). For TLR4 299, the distribution of Asp299Asp was 86.4%, Asp299Gly was 13.4%, and for Gly299Gly was 0.2%. For TLR4 399, 87.8% were Thr399Thr, 11.4% Thr399Ile and 0.8% Ile399Ile. While Hardy-Weinberg equilibrium was met for the 299 genotype (p >0.05), it was not met for the 399 genotype (p < 0.001). Wheeze was significantly greater for the combined TLR4 299 mutations, Asp299Gly and Gly299Gly, than for the Asp299Asp (wild type). There was a trend for polymorphisms of TLR4 399, Thr399Ile and Ile399Ile to be associated with increased wheeze (p=0.07). Within gender, females had increased wheeze with the combined variant types of either TLR4 299 (p<0.05) or TLR4 399 (p<0.05) when compared with wild types. No associations were found for asthma or lung function outcomes for either TLR4 299 or 399 mutations. These findings raise the possibility that the TLR4 polymorphisms place women, but not men, at higher risk of developing airway disease.

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Correlates of Health Indicators, Resources, and Risk Behaviors in Urban, Small Town, and Rural Saskatchewan
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Background: Some analysis indicates that significant differences in health exist between rural and urban Canada. However, it is unclear whether predictors of health are consistent across urban, small town, and rural settings. The Research: 1) Do prevalence rates of self-reported health indicators, resources, and risk behaviors differ according to 'place' settings (rural, small town, and urban)? 2) Do established social and individual predictors of health indicators, resources, and risk behaviors vary across 'place' settings? Methods: The Saskatchewan Population Health and Dynamics Survey (SPHDS) was a large cross-sectional telephone survey with an excellent response rate. The sample for this study is 6,927 respondents aged 20+: 43.9% rural (n=3041); 20.6% small town (n=1427); and 35.5% urban (n=2459). We used raw and adjusted odds ratios (95% CI) to compare the association between predictors and health outcomes across different settings. Predictors examined included age, gender, marital status, income adequacy, and education. Health indicators consisted of seven measures of self-reported physical and emotional well-being; resources included five measures; and risk behaviors were assessed on seven indicators. Results: The adjusted odds of reporting good/very good/excellent health were greater for: rural residents who were aged 20-49 and 50-59, with adequate income, secondary school graduation or higher, non-smokers, married, and not overweight; small town respondents aged 20-49, who had education at or beyond secondary school graduation level, were non-smokers; and urban dwellers aged
20-49 and 50-59, with adequate income, secondary school graduation, non-smokers, and not overweight. The adjusted odds of reporting one or more chronic conditions were lower among: rural residents aged 20-49; small town respondents aged 20-49 and 60-69, who were not overweight; and urban residents aged 20-69, with adequate income, and who were not overweight. Findings are reported for the other health indicators, resources, and risk behavior logistic regression models. **Conclusions:** For health outcomes, resources and risk behaviors, the impact of predictors and the predictors themselves do indeed vary by place by residence. Possible explanations for patterns exhibited in this study are discussed from the perspective of the social structural composition of urban, small town, and rural contexts.

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**Connecting Alaska Communities, Supporting Cross Cultural Communication**

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How do we connect geographically remote rural communities? How do we learn from the strengths of culturally diverse people? How do we facilitate a learning environment that surmounts distance, utilizes appropriate technology and is culturally responsive? Together learners and facilitators of a University of Alaska cancer education course for village-based Community Health Aide/Practitioners (CHA/Ps) discover ways to bridge the geographically diverse, vast distances across Alaska, a state that comprises one-fifth the landmass of the contiguous United States. Surprises and challenges await both learners and instructors participating in a semester-long telephone audioconference course without visual interface. The distance education course, Cancer: Risk, Diagnosis and Treatment, is offered to all who are interested, but has been developed especially for Community Health Aide/Practitioners, who are the primary healthcare providers for medical care in rural Alaska. While current trends tend to utilize electronic media (computers and teleconferencing) as a methodology for distance learning, the telephone is often forgotten as a familiar and readily available method to connect people who are geographically, socially or technologically isolated. CHA/Ps, most of whom are Alaska Native, have a rich oral tradition that functions as the foundation of cultural knowledge acquisition and dissemination. Distance education via telephone communication is congruent with Alaska Native oral traditions and offers an effective means for bridging distances and connecting communities. Participants of this distance learning telephone course not only report increased cancer knowledge and awareness of cancer, but also report increased patient education for cancer prevention and early detection, and personal lifestyle changes to prevent and decrease cancer risks for themselves and their families. Both formative and summative course evaluations over the past four years demonstrate the effectiveness and practical value of distance learning via telephone audioconference as a way to bridge the challenges of distance education delivery in Alaska and as a positive and culturally responsive way of connecting village-based healthcare providers and their communities across the state.