Since 2006 the Research Department at St. Joseph’s Care Group has hosted what has become the premier annual venue for the dissemination of research relevant to the health of Northwestern Ontarians.

The Research Department is pleased to host “Making a Difference: 2013 Showcase of Health Research”.

This event is made possible through the generous support of the Leadership Team at St. Joseph’s Care Group.
2013 Schedule of Events

8:30 am  Registration and Poster Set up - Kaministiquia Room

9:00 am  Welcome and Opening Remarks
Michel Bédard, Scientific Director, St. Joseph’s Care Group
Tracy Buckler, President & Chief Executive Officer,
St. Joseph’s Care Group

9:15 am  Do the Long-Term Effects of Traumatic Brain Injury Compound Normal Age-Related Cognitive Decline?
L Ozen, M Fernandes, A Clark, E Roy – Lakehead University,
University of Waterloo, University of Tennessee at Chattanooga

9:35 am  Evaluating Student Perceptions of the Human Papillomavirus (HPV) and the HPV Vaccine
M Kolobutin, L Kandler – Thunder Bay Regional Health Sciences Centre

9:55 am  Natural Immunity of Urban First Nations Against Haemophilus Influenza Type A
E Nix, W McCready, M Ulanova – Northern Ontario School of Medicine

10:15 am  Silly or Pointless Things People Do When Analyzing Data:
2. Using the Wilcoxon-Mann-Whitney Test to Deal with Heterogeneity of Variance
B Weaver – Northern Ontario School of Medicine
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<td>10:35 am</td>
<td><strong>Poster Presentations and Nutritional Break</strong> - McGillivray Room</td>
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<td>11:05 am</td>
<td><strong>Characteristics of Patients with Mental Health/Addictions Issues Who Present Frequently at the Emergency Department</strong>&lt;br&gt;MA Mountain, A Auger - St. Joseph’s Care Group</td>
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<td>11:25 am</td>
<td><strong>The Effects of Extracorporeal Shockwave Therapy (ECSWT), Joint Mobilizations and Exercise on Plantar Heel Pain in Patients with Plantar Fasciitis</strong>&lt;br&gt;P Sanzo – Lakehead University; Northern Ontario School of Medicine</td>
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<td>11:45 am</td>
<td><strong>Examining the Impact of Opioid Analgesics on Crash Responsibility in Truck Drivers Involved in Fatal Crashes</strong>&lt;br&gt;P Reguly, S Dubois, M Bédard – Lakehead University, St. Joseph’s Care Group</td>
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<td>12:05 pm</td>
<td><strong>The Effectiveness of a Group-Based Tutorial Direct Instruction Program for Foster Care Children</strong>&lt;br&gt;J Harper, F Schmidt, R Adduono, B Probizanski - Lakehead University, Children’s Aid Society of the District of Thunder Bay, Children’s Centre Thunder Bay, Dilico Anishinabek Family Care</td>
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<td>12:25 pm</td>
<td><strong>Poster Presentations and Lunch</strong> - McGillivray Room</td>
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*Presenter in Red
### Poster Presentations

1. **Adaptation of Electronic Health Care Records on Cloud for Primary Care and Public Health**  
   *S Mohammed, J Fiaidhi, O Mohammed* – Lakehead University

2. **Medical Withdrawal Support Services: Transforming “Health” and “Care”**  
   *B Groom, N Kiepek, L Kelly, D Toppozini* – Sioux Lookout Meno Ya Win Health Centre

3. **Staff Journey: Interdisciplinary Environment Creates Setting for Social Change**  
   *B Groom, N Kiepek, L Kelly, D Toppozini* – Sioux Lookout Meno Ya Win Health Centre

4. **Evaluation of Brief Outpatient Services in a Children’s Mental Health Community Clinic**  
   *S Chomycz, F Schmidt* – Lakehead University, Children’s Centre Thunder Bay

5. **A Preliminary Examination of a Strengths-Based Treatment for Adolescent Substance Abuse**  
   *N Harris, J Brazeau, E Rawana, K Brownlee* – Lakehead University

6. **Pathways to Care for Youth with Psychosis in Northern Ontario: Establishing the NorthBEAT Project**  
   *C Cheng, T Bedard, B Crawford, C Dewa, J Fogolin, M Katt, B Minore, N Plante-Dupuis* – St. Joseph’s Care Group, North Bay Regional Health Centre, Northern Ontario School of Medicine, Centre for Addiction and Mental Health, Lakehead University

7. **Psychosis 101: Evaluation of a Training Program for Northern and Remote Youth Mental Health Service Providers**  
   *C Cheng, A Howlett, C Lem, W deRuiter, M Hanson, C Dewa* – Canadian Mental Health Association - Thunder Bay Branch, University of Toronto, Centre for Addiction and Mental Health

8. **Engagement First, Marriage Second: Parallels Between our Clinical Work and Program Evaluation**  
   *C Cheng, A Howlett, C Lem, M Hanson* – Canadian Mental Health Association - Thunder Bay Branch, University of Toronto

9. **Inter Professional Care in a Mental Health Context**  
   *G Tippin, A Maranzan, MA Mountain* – Lakehead University, St. Joseph’s Care Group
10 My Health My Choices: Evaluating the Effectiveness of a New Mental Health Self-Management Group
A Mushquash, S Hagstrom, C Stewart, M Rossi – Dalhousie University, St. Joseph’s Care Group, Lakehead University

11 Building Capacity for Ethical Practice and Supporting Resiliency in Community Mental Health Nursing
S Filice, K Jones-Bonofiglio – Lakehead University

12 Abuse and Smoking Cessation in Nursing Practice
P Smith, M Spadoni, V Proper – Northern Ontario School of Medicine, Lakehead University

13 Seasonality, Stress, and Eating Behaviours
A Rawana, J Tan – Lakehead University

14 Absenteeism and Presenteeism in Patients Seen in a Co-Located Primary Care Mental Health Clinic
S Kelly, SK Bailey, J Haggarty, J Goertzen – Northern Ontario School of Medicine, St. Joseph’s Care Group, Lakehead University, Fort William Clinic

15 High School Completion and Labour Force Participation Predict Community Wellbeing in Ontario First Nations
A Kruse, T Bruyere, B Cava, M Conrad, K Constantin, V Ewen, J Gustafson, E Leinonen, A Mushquash, CJ Mushquash – Lakehead University, Dalhousie University

16 Exploring the Intersectionality of Intimate Partner Violence and Mental Illness in First Nations Women
T Alani – Lakehead University

17 Impact on Health and Physical Activity with Participation in Dog Agility
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18 Motivation for Individuals with Cancer to Engage in Structured Versus Unstructured Types of Physical Activity
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19 Screen for a Day: Using Innovative Community Partnerships to Improve Cancer Screening Completeness for Under and Never Screened Women in Northwestern Ontario
L Kandler, M Kolobutin, A McMullen – Lakehead University, Thunder Bay Regional Health Sciences Centre

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20 The Treatment of Musculoskeletal Disorders in the New Millennium: The Physiological Effects of Extracorporeal Shockwave Therapy (ECSWT)
*P Sanzo – Lakehead University, Northern Ontario School of Medicine*

21 The Effects of Extracorporeal Shockwave Therapy (ECSWT) in Patients with Insertional Achilles Tendinopathy
*P Sanzo – Lakehead University, Northern Ontario School of Medicine*

22 Examining the Association of the Combined Effects of Alcohol and Cannabis on Unsafe Driving
*S Dubois, N Mullen, B Weaver, M Bédard – St. Joseph’s Care Group, Lakehead University*

23 Validating Two Aspects of an Epidemiological Approach to Crash Risk
*S Dubois, C Gibbons, M Bédard – St. Joseph’s Care Group, Lakehead University*

24 Assessing Fitness-to-Drive: Practical Tips on Choosing the Right Screening Tools for Your Practice
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25 Decreasing Driver Speeding on a Simulated Drive with Feedback and Reinforcement
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26 The Impacts of Stopping Driving: Prospective and Retrospective Views
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27 The Effects of Mindfulness-Based Cognitive Therapy on Driving Skills in Individuals Who Have Experienced a Traumatic Brain Injury: A Pilot Study
*L Patterson, H Maxwell, M Bédard – Lakehead University*

28 Assessing the Relevance of the Simulator as a Screening Tool for At-Risk Older Drivers: Phase I
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29 Family Members Recommendations for Advance Care Planning in Long-Term Care Homes: A Qualitative Study
*K Ramsbottom, ML Kelley – Lakehead University*

30 Music Students’ Experiences of Music Interaction with Residents in Two Northwestern Ontario Long-Term Care Homes
*S Saukko, M McKee, D Jobin-Bevans, L Vaugeois, ML Kelley – Lakehead University*

*Presenter in Red*
Do the Long-Term Effects of Traumatic Brain Injury Compound Normal Age-Related Cognitive Decline?

Lana Ozen  
Department of Health Sciences, Lakehead University

Myra Fernandes  
Department of Psychology: Cognitive Neuroscience, University of Waterloo

Amanda Clark  
Department of Psychology, University of Tennessee at Chattanooga

Eric Roy  
Department of Kinesiology, University of Waterloo

**Background/Objectives:** Traumatic brain injury (TBI) and the natural aging process are each known to have a negative impact on executive functioning, yet little is known about their combined effect. In the current study, we tested the prediction that the long-term effects of a TBI sustained earlier in life would compound normal age-related cognitive decline in older adulthood.

**Method:** We compared a group of 9 older adults who sustained a TBI an average of 50 years in their past to a group of 15 age- and education-matched older adults without a history of TBI on neuropsychological task performance. Participants were also screened for cognitive impairment using the Mini-mental state exam (MMSE).

**Results:** While all participants scored in the normal range on the MMSE, the TBI group had a lower mean score compared to the control group. The TBI group also performed significantly worse than control group on attention tasks that have an executive component: The Trail Making B task and the incongruent condition of the Stroop task. Attention and memory tasks without an executive component did not differentiate the groups.

**Conclusion:** Our findings suggest that attention tasks requiring various aspects of executive processing, such as response inhibition and cognitive flexibility, can be used to detect chronic impairments in healthy older adults who sustained a remote TBI. The MMSE results provide further evidence to suggest that healthy older adults with a past TBI may be at a higher risk for age-related cognitive impairment compared to older adults with no history of a TBI.
Evaluating Student Perceptions of the Human Papillomavirus (HPV) and the HPV vaccine

Michelle Kolobutin  
Prevention and Screening Services,  
Thunder Bay Regional Health Sciences Centre

Liane Kandler  
Thunder Bay Regional Health Sciences Centre

Background/Objectives: Post-secondary students have a poor of understanding of the human papilloma virus (HPV), as well as varied levels of sexual health behaviours that increase their risk of contracting HPV and having it develop into cervical and or anal cancer.

Method: To understand the information needs of post-secondary students with respect to HPV and the HPV vaccine, Confederation College and Lakehead University students were invited to complete a brief questionnaire. Available on paper or online, the questions broadly assessed demographic information, sexual health practices, and understanding of the human papilloma virus (HPV).

Results: Data collection is ongoing with approximately 315 questionnaires collected and 275 available for analysis. Preliminary analyses suggest that respondents were primarily female (74.9%) and in the process of completing a college degree (62.0%). Understanding of cervical cancer, the role of HPV in cervical cancer, and understanding of HPV overall was self-rated as good or very good by 30.6%, 31.9%, and 32.3% of respondents, respectively. Responses also indicated misperceptions among students regarding the purpose of Pap tests, the frequency at which a Pap test is required, how an individual can become infected with HPV, how HPV can be prevented and who is eligible for the HPV vaccine. Common barriers to HPV vaccination included fear of side effects and safety concerns.

Conclusion: Of concern, students hold significant misconceptions of HPV and how it is contracted, as well as report clear barriers to vaccination. Outreach targeting this population would benefit from clear information; potential methods of information dispersal are discussed.
Natural Immunity of Urban First Nations Against Haemophilus Influenza Type A

Eli Nix  
*Medical Sciences, Northern Ontario School Of Medicine*

William McCreedy  
*Medical Sciences, Northern Ontario School of Medicine*

Marina Ulanova  
*Medical Sciences, Northern Ontario School of Medicine*

**Background/Objectives:** Prior to the introduction of the Haemophilus influenza type b (Hib) vaccine in the early 1990s, Hib was a major cause of invasive bacterial infections in children. Experts speculated that in the post-vaccine era, non-type b strains might exploit the niche previously occupied by Hib. Indeed, an increase in invasive infections caused by non-type b Haemophilus influenza has been reported in Canada. In northwestern Ontario, a high incidence of invasive Haemophilus influenza type A (Hia) disease has been documented, with nearly all cases found in First Nation (FN) populations. The reasons for an increased susceptibility of FN to this infection are unknown. As the development of a new Hia vaccine is now being considered to protect the high-risk populations, it is necessary to assess their natural immunity against this infection.

**Methods:** Serum samples were obtained from 50 FN and 50 non-FN adult volunteers. The natural anti-Hia immunity of the participants was assessed by a serum bactericidal assay (SBA), a measure of the functional activity of serum antibodies activating the classical complement pathway.

**Results:** FNs participants possessed significantly higher SBA scores compared to non-FNs (geometric mean score 376.7 (95%CI 233.1-608.9) versus 106.8 (95%CI 55-207.2), p=0.0004.

**Conclusion:** The finding that FNs have more potent bactericidal antibodies against Hia compared to the rest of the population despite being disproportionately affected by invasive Hia disease may reflect differences in the carriage rates between the populations. This data provides an important baseline for future studies directed toward the development of a new Hia vaccine.
Silly or Pointless Things People Do When Analyzing Data:
2. Using the Wilcoxon-Mann-Whitney Test to Deal with Heterogeneity of Variance

Bruce Weaver
Human Sciences Division, Northern Ontario School of Medicine

Background/Objectives: Parametric statistical tests such as the independent groups t-test and analysis of variance (ANOVA) assume that the scores are sampled randomly from normally distributed populations with equal variances. Rank-based nonparametric tests do not require normally distributed populations. Therefore, they are often described as ‘distribution-free’ tests. It is important to note, however, that distribution-free does not mean assumption-free. For example, when it is used as a nonparametric analog to the independent groups t-test, the Wilcoxon-Mann-Whitney test assumes that the two populations are identical apart from a possible shift in location. One way populations can differ is in the amount of spread. It has been known for some time that the Wilcoxon-Mann-Whitney test is adversely affected by heterogeneity of variance when the sample sizes are not equal.

Method: Zimmerman (2003) used computer simulations to examine the impact of heterogeneity of variance on the large-sample Wilcoxon-Mann-Whitney test when sample sizes are equal.

Results: Zimmerman’s simulations demonstrated that even when sample sizes are equal, very small differences between the population variances cause the large-sample Wilcoxon-Mann-Whitney test to become too liberal, sometimes severely so, depending on the shape of the underlying populations. At the same time, the independent samples t-test performed very well, even with non-normal populations.

Conclusion: These findings serve as a reminder that distribution-free does not mean assumption-free, and demonstrate that in some circumstances, parametric tests may be far more robust to violations of their assumptions than are the corresponding nonparametric tests.
Characteristics of Patients with Mental Health/Addictions Issues Who Present Frequently at the Emergency Department

Mary Ann Mountain
Mental Health Outpatient Programs, St. Joseph’s Care Group

Alaine Auger
Getting Appropriate Personal & Professional Supports, St. Joseph’s Care Group

Background/Objectives: Mental Health and Addictions treatment agencies have an obligation under HSAA and MSAA agreements to reduce the frequency of return visits to the emergency department within 30 days of patients with mental health or addictions issues. The purpose of this study was to gather information about the needs of these patients in order to determine what community resources would need to be put in place in order to divert some proportion of these visits to the emergency department (ED).

Methods: All ED records of patients who attended ED in 2010 at least once for a visit related to mental health or addictions were reviewed. The charts of patients who made nine or more visits to the ED for any reason were selected for this project.

Results: The sixty-five most frequent users of ED made a total of 1420 visits in 2010, most frequently for reasons related to primary health care provision. The second most frequent reason for presentation at emergency was addictions and the third was mental health.

Conclusion: Determination of the needs of frequent visitors to emergency can facilitate planning for appropriate alternative services. Development of new mental health and addictions services to address these needs will be discussed.
The Effects of Extracorporeal Shock Wave Therapy (ECSWT), Joint Mobilizations and Exercise on Plantar Heel Pain in Patients with Plantar Fasciitis

Paolo Sanzo
School of Kinesiology, Lakehead University; Northern Ontario School of Medicine

Background/Objectives: Plantar fasciitis is the most common cause of heel pain today. Two million people are treated for plantar fasciitis yearly accounting for 11-15% of visits to medical professionals. It is estimated that 10% of the population will develop plantar fasciitis during their lifetime. Treatment for plantar fasciitis may include a variety of interventions. We examined the effects of ECSWT, joint mobilizations and exercise on heel pain in patients with plantar fasciitis as measured via the Visual Analog Scale (VAS) and Lower Extremity Functional Scale (LEFS).

Methods: Subjects (N=75) were randomly assigned into 3 groups: ECSWT (group 1), ECSWT and joint mobilizations to the foot and ankle (group 2) or ECSWT and stretching and strengthening exercises for the foot and ankle (group 3). A VAS for pain and LEFS was measured pre-treatment and 3 months post-treatment.

Results: All groups demonstrated statistically significant improvement over time in VAS (pain at rest F=34.6, p=.0001; pain following activity F=215.3, p=.0001; overall improvement in pain F= 325.3, p=.0001) and LEFS (F=-65.7, p=.0001) scores. There was a statistically significant difference between groups for joint mobilizations combined with ECSWT for heel pain following activity (F=4.8, p=.01).

Conclusion: As physiotherapists we normally do not treat with only one modality or treatment approach but rather a combination of treatments. ECSWT and joint mobilizations of the foot and ankle offers a combination of treatment for patients with plantar fasciitis that may improve function and reduce heel pain at rest and after activity.
Examining the impact of Opioid Analgesics on Crash Responsibility in Truck Drivers Involved in Fatal Crashes

Paula Reguly  
Department of Health Sciences, Lakehead University

Sacha Dubois  
Research Department, St. Joseph’s Care Group

Michel Bédard  
Research Department, St. Joseph’s Care Group

Background/Objectives: To estimate the prevalence of licit opioid analgesic (OA) use, and examine the association between licit OA use and crash responsibility among large truck drivers.

Methods: A sample of large truck drivers, 20 or older, with BAC=0, involved in a fatal crash was obtained from the US Fatality Analysis Reporting System (FARS) database (1993-2008). OA use was defined as a positive serum drug test for one Schedule II OA. Crash responsibility (measured by proxy as one or more crash-related unsafe driver actions (UDAs)) was compared between OA users and non-users, controlling for age (linear and quadratic), other drug use, and driving history.

Results: Prevalence of OA use was under 0.2% until 2004 then appeared to increase, with the highest rate of 0.5% (~28,000 US large truck drivers) in 2007. Male OA users demonstrated increased odds of committing an UDA (OR: 2.18; 95% CI: 1.35; 3.52); females were excluded due to small numbers. The quadratic age-OA use interaction was significant, and an inverse curvilinear relationship between age and odds of committing an UDA was observed. Exposure to stimulants and other drugs; one or more collisions, speeding infractions, and other driving convictions were positively and significantly associated with committing an UDA.

Conclusion: The findings suggested increasing prevalence of OA use after 2004, and demonstrated a significant association between OA use by males and crash responsibility (controlling for age, other drug use, and driving history). Future research should consider other large truck driving populations, and address environmental and crash-related factors.
The Effectiveness of a Group-based Tutorial Direct Instruction Program for Foster Care Children

Julia Harper  
*Department of Psychology, Lakehead University*

Fred Schmidt  
*Children’s Centre Thunder Bay; Children’s Aid Society of the District of Thunder Bay*

Rachel Adduono  
*Dilico Anishinabek Family Care*

Bruce Probizanski  
*Children’s Aid Society of the District of Thunder Bay*

**Background/Objectives:** Children in foster care are frequently behind in educational achievement (Flynn, Ghzal, Legault, Vandermeulen, & Petrick, 2004) and perform below grade level (Trout, Hagaman, Casey, Reid, & Epstein, 2008 for a review).

**Method:** This study evaluated the effectiveness of a direct instruction literacy and math program (Teach Your Children Well; TYCW) in a small group format to educationally disadvantaged children in foster care. Across the two years of the study, 101 children in long-term foster care, between grades 1 and 8 inclusive, participated in this randomized control trial intervention. Half were randomly assigned to the 30-week experimental TYCW condition, while the other half served as wait list controls. Children were assessed at baseline and post-intervention on word reading, spelling, sentence comprehension, and mathematic skills using an academic measure of functioning, the Wide Range Achievement Test Forth Edition (WRAT4).

**Results:** An analysis of covariance (ANCOVA) demonstrated a statistically significant increase in standard scores on reading decoding, spelling and mathematic skills for those who received the tutoring. Meaningful effect sizes (small to moderate range) were also found in support of the tutoring intervention across these three domains.

**Conclusion:** The implications of these findings as they relate to improving educational achievement among foster children are discussed.
Adaptation of Electronic Health Care Records on Cloud for Primary Care and Public Health

Sabah Mohammed  
Department of Computer Science, Lakehead University

Jinan Fiaidhi  
Department of Computer Science, Lakehead University

Osama Mohammed  
Department of Software Engineering, Lakehead University

Background/Objectives: eHealth is evolving with the availability of the new emerging technologies. Ubiquity and cloud computing are the most promising technologies that are contributing to both primary care and public health as well as to enable their integration. The adaptation of such emerging technologies requires not only the close cooperation and rapid information-sharing among many healthcare partners including primary care units and the biosurveillance hubs, but it also requires the enforcement of a successful security mechanism. This article introduces a prototype of an infrastructure for sharing electronic health care records on a secure cloud for the purpose of primary care and public health usage.

Methods: The developed Lakehead University Cloud (LU_Health_Cloud) involves the major security components needed to build a trusted environment based on the Distributed OSGi framework along with a distributed authentication service. The trusted environment allows biosurveillance to be conducted over primary care private clouds including patient information from the electronic medical records. It also allows the primary care to enforce services that can assist in disease diagnosis through use of differential diagnosis, clinical pathways and data mining. Two types of testing has been conducted to validate the usability and efficiency of the LU_Health_Cloud: Authentication Tests and Prediction Tests using sound authentication attacks (e.g. Malware Access Control-Injection Attack) and sound medical diagnosis data sets (e.g. H-CUP).

Results: A prototype for securely sharing CCR healthcare records over the cloud has been developed and tested. The prototype initial tests shows high degree of security and moderate level of prediction for diagnosing new cases based on given data set.

Conclusion: The LU_Health_Cloud has been tested for sharing CCR (Continuity of Care Records) healthcare records over small scale collaborating units. The security enforcement and the data mining predictive power for assisting medical diagnosis and biosurveillance have also been tested.
Medical Withdrawal Support Services: Transforming “Health” and “Care”

Bobbi Groom  
*Medical Withdrawal Support Services, Sioux Lookout Meno Ya Win Health Centre*

Nikki Kiepek  
*Medical Withdrawal Support Services, Sioux Lookout Meno Ya Win Health Centre*

Len Kelly  
*Physician, Sioux Lookout Meno Ya Win Health Centre*

Debbie Topponzini  
*Medical Withdrawal Support Services, Sioux Lookout Meno Ya Win Health Centre*

**Background/Objectives:** In December 2011, the Sioux Lookout Meno Ya Win Health Centre opened its doors to the 5-bed inpatient Medical Withdrawal Support Services (MWSS). The focus of the poster is to provide education to health professionals about the findings of the first-year program evaluation.

**Methods:** A longitudinal outcomes measure was designed to measure indicators at the time of discharge, and again 2-weeks, 3-months and 6-months post discharge. The indicators were comprised of personal goals set by the client, such as increased time with children or not using a particular drug. A qualitative component included discussion of situations that interfered with attaining goals, and feedback regarding how to strengthen the inpatient program.

**Results:** Results demonstrate retention rates of 85 percent and high patient satisfaction. At 6-months post-discharge 22 percent of clients who were admitted for opiate dependence are abstinent from drugs, similar to findings at longer-term treatment centres. These comparative abstinence rates are promising. The program focuses largely on how to live healthy, happy lives (not just drug free lives) and findings suggest that many healthy behaviours (e.g. exercise, sleep hygiene) are not only continued post-discharge, but are indispensable in the recovery process.

**Conclusion:** The findings of the program evaluation provide an indication of the strengths of the program as well as ways to improve services to clients who attend the MWSS. Success of the program extends beyond a change in drug use, but impacts the overall quality of life by establishing other meaningful goals such as to “be a better parent” and “complete school”.
Staff Journey: Interdisciplinary Environment Creates Setting for Social Change

Bobbi Groom  
Medical Withdrawal Support Services, Sioux Lookout Meno Ya Win Health Centre

Nikki Kiepek  
Medical Withdrawal Support Services, Sioux Lookout Meno Ya Win Health Centre

Len Kelly  
Physician, Sioux Lookout Meno Ya Win Health Centre

Debbie Toppozini  
Medical Withdrawal Support Services, Sioux Lookout Meno Ya Win Health Centre

Background/Objectives: The purpose of this presentation is to provide an understanding of the process of designing and implementing a hospital-based medical withdrawal support service (MWSS) in Northern Ontario. The MWSS involves an interprofessional practice, including nursing, counselling, occupational therapy, physical therapy, traditional healing, dieticians and physicians. This paper focuses on the opportunities and challenges of interprofessional practice in the design and provision of medical withdrawal services in the Northwestern Ontario context.

Methods: The design is a descriptive approach involving experiential reflection of the processes undertook to develop the MWSS. It includes a discussion about the anticipatory planning that was involved as well as the learning that occurred through practice.

Results: The advanced planning and education was effective to design a successful service for clients as well as to facilitate supportive interprofessional working relationships. Many of the challenges that were encountered could not have been foreseen, particularly when they were in relation to divergent epistemologies of practice between professions.

Conclusion: The process of developing and implementing a MWSS involved constant collaboration and open communication to bridge epistemologies of practice between health professionals and in response to client needs. Practice changes and shifts in views and attitudes amongst staff are shared; particularly a deep structural shift from within. An unexpected finding was the emergence of an environment supporting transformative learning. Causal and sustainable factors are considered.
Evaluation of Brief Outpatient Services in a Children's Mental Health Community Clinic

Suzanne Chomycz  
Department of Psychology, Lakehead University

Fred Schmidt  
Children’s Centre Thunder Bay

Background/Objectives: The literature supports the effectiveness of brief therapy overall, however, there is a lack of evidence regarding its effectiveness in treating children’s mental health issues in a community-based setting. A program evaluation was conducted to investigate the effectiveness of Brief Services (defined as four treatment sessions or less) in a community-based clinic as well as compare characteristics of clients receiving Brief and Long Term Services (i.e., consisting of more than four treatment sessions).

Methods: Participants included 37 clients (21 parents and 16 adolescents) who completed one to four Brief Service treatment sessions in a community-based clinic. Data on standardized client and therapist measures of therapeutic alliance, parent mental health, and child functioning were collected.

Results: Brief therapy was found to be effective in improving youth and parent mental health issues, in that statistically significant changes were reported on a measure of child functioning for internalizing issues (ES = .52) and externalizing issues (ES = .44), parent and youth depression (ES = .59), anxiety (ES = .84), and stress (ES = .69), and caregiver strain (ES = .33). The difference between Brief and Long Term Service clients and the implications of the findings for the intake and referral process in a community-based setting will be described.

Conclusion: Thus, Brief Service can be beneficial in community-based clinics for treating a variety of parent and youth concerns.
A Preliminary Examination of a Strengths-Based Treatment for Adolescent Substance Abuse

Nick Harris  
Department of Psychology, Lakehead University

James Brazeau  
Department of Psychology, Lakehead University

Edward Rawana  
Department of Psychology, Lakehead University

Keith Brownlee  
School of Social Work, Lakehead University

Background/Objectives: Patterns of negative substance use can have various adverse effects on adolescent development. Research shows that psychosocial treatments can help some adolescents suffering from substance use disorders. However, there is still significant room for improvement in treatment outcomes among this population. Strengths-based treatment strategies and techniques may be one means of improving these outcomes. The current study examined changes in adolescent substance use following their completion of a five-week residential treatment for adolescent substance use issues.

Methods: Participants included adolescents who entered and completed a five-week residential strengths-based treatment for adolescent substance use issues (n = 110). Upon entering treatment, participants completed a series of psychological measures including the Psychoactive Drug History Questionnaire (PDHQ) and a Substance use treatment goal progress measure. In addition, measures were completed at three and six-month post-treatment periods. To assess changes in substance use and substance use goal progress over time Repeated Measures ANOVAS were utilized.

Results: Results showed a significant decrease in the amount of reported substance use from the time of admission to three-month post-discharge and from the time of admission to six-month post-discharge.

Conclusion: These findings suggest that participants who completed this residential strengths-based treatment for adolescent substance use were able to reduce their substance use over the 180 days following their completion of treatment. Implications for these findings, along with the need for future research are discussed.
Background/Objectives: The basic challenge in rural Early Psychosis Intervention (EPI) programs: how to adapt best practices from urban high population density areas to rural low population density areas. Youth with psychosis living in rural areas have longer duration of untreated psychosis and decreased access to service.

Methods: A pilot study was conducted about two different EPI services in the northern regions of Ontario—northwestern (NW) and northeastern (NE). Data about service delivery from each region were collected, comparing the two regions and differing models of EPI care adopted in each region. Outcomes including numbers treated per region, challenges and successes inherent in each model were collected.

Results: The total clients served in NW between 2007 and 2010 were 277 (90-112/year). The total clients served in NE was 831 (284-310 per year). Self-identified Aboriginal youth in Northern Ontario is ~20%. In NW program, Aboriginal youth was over-represented at over 30%, and in NE, Aboriginal youth was under-represented at ~12%.

Conclusion: Northern Ontario’s expansive geography and First Nations communities leaves EPI programs with the need to better understand clients’ unique presentations, experiences, and mental health care needs. In response to this gap, the North BEAT (Barriers to Early Assessment and Treatment) Project is a 3 year study to answer the question: What are the perceived service needs of Aboriginal and non-Aboriginal youth in Northern Ontario who experience first episode psychosis?
Psychosis 101: Evaluation of a Training Program for Northern and Remote Youth Mental Health Service Providers

Chiachen Cheng  
First Place Clinic and Regional Resource Centre, Canadian Mental Health Association - Thunder Bay Branch

Andrew Howlett  
Department of Psychiatry, University of Toronto

Carole Lem  
First Place Clinic and Regional Resource Centre, Canadian Mental Health Association - Thunder Bay Branch

Wayne deRuiter  
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Mark Hanson  
Faculty of Medicine, University of Toronto

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Background/Objectives: Most of the early psychosis intervention (EPI) training has focused on family physicians participants. In Northern Ontario, there is a shortage of primary care. This presentation will present evaluation results of a training program for Northern and remote youth mental health service providers.

Methods: A mixed methods approach was used. Participants’ knowledge was measured using two validated questionnaires pre-intervention, immediately post-intervention, at 3 and 9 months follow-up. Statistical analysis was conducted to evaluate knowledge acquisition among participants of the two modes of intervention. At 6 months, focus group interviews were conducted to explore their experiences of the intervention and evaluation. Emerging themes were iteratively derived through a series of discussions involving independent coders.

Results: There were 19 participants across 4 agencies. Of the 19, almost half had over 10 years’ work experience. Early results showed that most participants preferred on-site training over video conferencing; however, the knowledge indicators showed no difference in knowledge acquisition between the two groups, even months post-intervention. Later 6 month data indicated that youth had increased access to services because participants believed they were part of a network with other providers and had an improved consultation relationship with EPI providers. The follow-up process engaged participants in learning.

Conclusion: The results are encouraging for service decision-makers to address mental health service needs in northern and remote areas. During this presentation, we will discuss key findings that suggest viable alternatives that lead to increased access to mental health services for rural and remote youth.
Engagement First, Marriage Second:  
Parallels between our Clinical Work and Program Evaluation

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Background/Objectives: Psychosis in youth often presents as a clinical challenge to mental health care providers, especially in remote areas such as northwestern Ontario, where the population density is low, and where the incidence of psychosis is low. Many generalist mental health care providers have expressed the need for more training. In this presentation, we will discuss engagement parallels between our clinical work with youth experiencing early psychosis and early psychosis program evaluation.

Methods: We delivered training based on the RETHINK Consortium training CD developed in the UK. The training was delivered concurrently via video conferencing and in-person over 2 days across northwestern Ontario. A mixed-methods approach was used to evaluate knowledge acquisition, mode of delivery, and access to services over a 9 month period. This presentation focuses on the 6 month focus group interviews with participants. Interviews were recorded and transcribed verbatim. Emerging themes were analyzed based on Charmaz’ constructivist grounded theory.

Results: Emerging themes suggested that one of the important outcomes of the training and subsequent evaluation was establishing partnerships between community services and early psychosis programs. The evaluation component was experienced as both new and engaging, and enhanced the overall learning experience. Certain factors were described as either facilitating or interfering with overall engagement to the knowledge about early intervention.

Conclusion: Engaging youth and their families is at the core of early psychosis intervention. Our results reflect existing literature about the importance of relationships at all levels of early intervention, including youth-youth, youth-clinician, family-clinician and clinician-clinician in partner services.
Inter Professional Care in a Mental Health Context

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Background/Objectives: The growing use of inter professional care (IPC) in Canadian health care necessitates research into the practice-based effectiveness of this model of collaboration. In mental health, the range of affected functioning may be particularly amenable to the comprehensive care available through IPC.

Methods: Data stemmed from clients with severe and comorbid disorders presenting to a mental health outpatient program. BASIS-32 symptom and psychosocial functioning scores were compared at intake, treatment planning, and discharge sessions in order to identify change associated with IPC.

Results: Difficulty with symptoms (depression/anxiety, psychosis, addiction/impulsivity) and psychosocial functioning (relation to self/others, daily living) were found to significantly improve over the course of IPC (p < .001) and beyond an initial wait list response. At discharge, 40% of clients met criteria for clinically significant change, while deterioration rates (3%) were lower than those widely reported in the mental health literature.

Conclusion: Findings suggest the practice-based effectiveness of IPC in a mental health setting, with clients reporting statistically and clinically significant improvement associated with treatment through the IPC model. More tightly controlled research is justified in order to identify the efficacy of IPC in mental health and to determine the conditions in which it is most beneficial to clients.
My Health My Choices: Evaluating the Effectiveness of a New Mental Health Self-Management Group

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**Background/Objectives:** Self-management represents an ability to manage one’s health difficulties and live a successful, meaningful life with those difficulties. Applying self-management to mental health is relatively new but there is hope that mental health self-management will be important for promoting overall health and improving utilization of appropriate mental health services. The objective of the present study was to test the effectiveness of a newly developed 7-week mental health self-management group program (i.e., My Health My Choices) offered as part of the St. Joseph’s Care Group Mental Health Outpatient Programs.

**Method:** We analyzed data from 126 adult community members who were referred to the My Health My Choices group. Information on mental health symptoms and self-management capacity were collected during the first group and during the last group.

**Results:** Analyses revealed that over the course of the group, symptoms (e.g., depression, emotional lability, substance abuse) decreased and capacity for self-management increased.

**Conclusion:** The new mental health self-management program My Health My Choices is effective in reducing symptoms and increasing clients’ capacity for self management which includes an understanding of their symptoms and appropriate treatments, engaging in activities that protect and promote health, monitoring and managing their symptoms and the impact of these symptoms on their functioning, emotions, relationships, and treatment adherence. These findings suggest that offering a mental health self-management program is beneficial and may have positive implications for clients continued participation in appropriate mental health services.
Building Capacity for Ethical Practice and Supporting Resiliency in Community Mental Health Nursing

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Background/Objectives: Two independent research studies were conducted to learn more about everyday ethical issues in community health nursing (CHN). The combined findings reveal exciting opportunities to build capacity for ethical practice and to support resiliency, growth, and development towards excellence in CHN practice.

Methods: Sylvane’s research titled “Public health nurses’ perceptions and resolutions of ethical dilemmas in practice: A grounded theory study”, was a qualitative exploratory study which examined the perceptions of public health nurses (n=12) in Northern Ontario. This study focused on ethical dilemmas faced in everyday practice and how these issues were resolved. Kristen’s research titled “What guides us here?” Exploring community nurses’ experiences of moral distress”, was a qualitative study using narrative inquiry to examine community health nurses’ (n=20) experiences of moral distress related to everyday ethical issues across Canada. The goals for this research were to acknowledge experiences of moral distress in this setting and to explore the available tools, resources, and supports.

Results: Sylvane’s findings provide the basis for supporting resilience, growth and development for ethical decision-making and reflective practice. Kristen’s study resulted in the creation of a self-directed e-learning module with narratives specific to key ethical issues in CHN practice to further discussions about everyday ethical issues and experiences of moral distress.

Conclusion: Building capacity for ethical practice requires that both formal and informal strategies be in place, which includes supporting a variety of educational initiatives. From undergraduate educational preparation to innovative continuing education opportunities for workforce development, barriers to ethical practice can be overcome health services.
Abuse and Smoking Cessation in Nursing Practice

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**Background/Objectives:** This discursive paper explores issues of abuse during smoking cessation counselling. During a training session for a smoking cessation intervention pilot study, nurses expressed concerns about issues of abuse that had unexpectedly surfaced during routine cessation counselling in their practice. As guidelines recommend integrating cessation interventions into practice, and abused women are more likely to smoke, it is not surprising that issues of abuse will sometimes be disclosed during these sessions.

**Method:** A literature review and synthesis of abuse and smoking cessation was undertaken to arrive at recommendations for practice.

**Results:** There are a few suggestions about how to manage abuse within cessation counselling, but none have been studied: (1) integrate stress-management strategies, (2) assess for abuse, (3) provide separate interventions for partners to create a safe environment, and (4) develop interventions that consider the relationship couples have with tobacco. However, coping strategies alone do not address abuse, screening without treatment is not helpful, and partner interventions assume both partners are open to quitting/counselling. In contrast, as with all clinical practice, abuse and cessation would be considered separate but intertwined problems, and following best practice guidelines for abuse would provide the guidance on how to proceed. After care has been taken to address abuse, it is the patient’s decision whether to continue with cessation counselling.

**Conclusion:** Guidelines addresses both care planning and the ethical/legal issues associated with the disclosure of abuse and provide a practical tool for addressing abuse that obviates the need to tailor cessation interventions to abuse. Relevance to clinical practice. This paper clarifies a relationship between smoking and abuse and the subsequent implications for smoking cessation interventions and highlights the importance of addressing abuse and smoking cessation separately, even though they are interrelated problems. It provides nurses with appropriate initial responses when abuse is disclosed during an unexpected encounter such as during a smoking cessation intervention.
Seasonality, Stress, and Eating Behaviours

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Background/Objectives: Previous research links seasonal mood changes to disordered eating behaviours. Research also shows that stress is associated with increased disordered eating (e.g., bingeing). The present study tests the hypothesis that perceived stress plays a role in the link between vulnerability to seasonal changes (seasonality) and disordered eating behaviours.

Method: A sample of 255 non-clinical individuals filled out measures of seasonality, perceived stress, depressive symptoms, and disordered eating behaviours.

Results: Multiple regression analyses identified perceived stress as a moderator in the relationship between seasonality with overeating ($\beta = 1.281; p = .001$), and seasonality with dysfunctional eating behaviours ($\beta = .004; p = .015$).

Conclusion: Overeating and dysfunctional eating behaviours are associated with seasonality in individuals particularly when they are in the presence of stress. These findings and their implications are discussed with limitations of the study in mind..
Absenteism and Presenteeism in Patients Seen in a Co-Located Primary Mental Health Clinic

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**Background/Objectives:** Mental health and workplace productivity are tightly linked. Disability from psychiatric disorders impairs workers’ functioning in many ways, including absenteeism and presenteeism. Workers experiencing psychological impairment may have distinguishing characteristics predicting when they present to primary care. We will examine characteristics of workers’ self-reported absenteeism and presenteeism, treatment response, and compare them to mental health patients whose complaints are not related to work.

**Method:** Subgroup analysis of 11 years of patient data collected in a Shared Mental Health Care (SMHC) clinic referred within a primary care setting. Analyses focused on the prediction of absenteeism and presenteeism in patients referred for mental health problems related to employment.

**Results:** Some psychiatric disorders (depression, somatization, anxiety) contribute more to the prediction of absenteeism and presenteeism than others. The combined effect of several disorders contribute more to predicting absenteeism and presenteeism than any disorder on its own, demonstrating that many psychiatric symptoms are highly correlated. Patients referred with work-related problems are distinct from the general patient population in terms of gender and the type and number of symptoms.

**Conclusion:** Patients with work-related mental health complaints form a distinct group that would benefit from early recognition of possible psychiatric disorders and symptoms that can be readily treated in Primary Care.
Background/Objectives: Examining social determinants of health (e.g., income and social status, education and literacy, employment and working conditions, physical environments, health services, culture) that may predict overall community wellbeing is necessary for informing policy decisions, especially among First Nations. The present study was designed to test if social determinants of health are related to wellbeing in First Nations communities.

Method: Using community-level data available from the Aboriginal Affairs and Northern Development Canada website (Government of Canada, n.d.) as predictors and the Canadian Indices of Wellbeing (Michalos, Smale, Labonte, et al., 2011) as outcome variables, this study tested the influence of various social determinants of health on community wellbeing in 74 First Nations communities in Ontario.

Results: Hierarchical linear regression was performed, controlling for band population, age and sex. High school completion and labour force participation were significant predictors of Community Wellbeing Score (p < .01).

Conclusion: Results demonstrated that high school completion and labour force participation were significant predictors of Community Wellbeing Score. Having established the feasibility of this method, future directions include examining Canada-wide data and testing more comprehensive and advanced models.
Exploring the Intersectionality of Intimate Partner Violence and Mental Illness in First Nations Women

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Background/Objectives: Literature has demonstrated that rates of partner violence experienced by First Nations women are higher than that of the Canadian population. Moreover, First Nations peoples experience mental health problems at a disproportionately higher rate than the rest of the Canadian population. The present study aimed to better understand the connection between these two, and other factors that may contribute to these elevated rates.

Methods: Available quantitative and qualitative data were reviewed to better understand ecological, systemic and historical circumstances that may contribute to higher rates of partner violence and mental illness.

Results: First Nations individuals are subject to higher rates of poverty, less access to health and economic resources, and they experience discrimination by Canadian systems. All of these factors can contribute to levels of mental illness and can be risk factors to experiencing violence.

Conclusion: Without understanding mental illness and partner violence, and the factors that contribute to the experience of both of these, these issues cannot adequately be addressed. Thus, researchers and health professionals are encouraged to adopt a more holistic approach to mental health.
Impact on Health and Physical Activity with Participation in Dog Agility

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**Background/Objectives:** The average Canadian participates in low amounts of physical activity (PA) (Ham et al., 2009). Considering health benefits that participation in regular PA provides (Warburton et al., 2010), determining alternative avenues for exercise is important. Research demonstrates how sport participation can provide various physical and psychosocial health benefits (Khan et al., 2012). Dog ownership also positively affects PA rates (Oka & Shibata, 2009). Many types of dog sports, ranging in intensity, provide exercise for dog owners. Agility is a more physically demanding dog sport, requiring human/dog teams to complete an obstacle course. The impact of agility participation on individuals overall health and PA levels was explored.

**Methods:** Demographic information and PA behaviour was collected (n=6). PA information focused on frequency, intensity, and duration of agility participation. One-on-one semi-structured interviews were conducted to explore how participation impacted health and PA levels.

**Results:** Participants were adult females involved in agility from 4-30 years, competing in 1-5 events/year. Training sessions/week averaged 3.5 for 45 minutes totalling 158 min/week. Thematic analysis generated themes of accessibility, seasonal trends, physical, mental, and social health benefits.

**Conclusion:** Participation in agility was considered a form of exercise that positively contributes to physical and psychosocial health. Contribution to physical health depended on overall levels of PA. The nature of PA was unique as it was achieved in short but frequent bouts, with intensity often varying between moderate and vigorous. The average minutes of PA/week met the Canadian PA guidelines of 150 minutes of moderate to vigorous PA.
Motivation for Individuals with Cancer to Engage in Structured Versus Unstructured Types of Physical Activity

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Background/Objectives: In 2012, an estimated 27,900 people will die of cancer in Ontario, and 72,300 new cases will be diagnosed (Canadian Cancer Society, 2012). Individuals with cancer may feel overwhelmed with emotions and must rely on coping strategies to overcome associated challenges. Structured physical activity (PA) programs such as WE-Can and unstructured PA such as walking represent two distinct coping mechanisms used by individuals with cancer. Research has yet to explore why individuals with cancer may be motivated to engage in structured and/or unstructured types of PA and how this influences their ability to cope.

Methods: Demographic information and level of structured and unstructured PA was collected. A one-on-one semi-structured interview followed to further explore why participants engage in PA and how this affects their ability to cope with cancer.

Results: Female participants (n=5, 60 yrs+) indicated self-doubt, prior to the program, in their ability to exercise due to cancer treatment effects and other physical restrictions. Pre/post assessments gave the participants specific goals to work toward enhancing their motivation to regularly participate and attend classes. Levels of PA increased after the treatment phase and improvements in weight, strength, and endurance were evident.

Conclusion: Participation in the WE-Can program influenced participants’ motivation to engage in more unstructured PA (i.e., walking, weight/band training). A sense of relatedness developed as participants viewed other class members pushing physical boundaries within a safe and monitored environment. PA had multiple benefits and was used as a coping strategy for participants in conjunction with support from family and friends.
Screen for a Day: Using Innovative Community Partnerships to Improve Cancer Screening Completeness for Under and Never Screened Women in Northwestern Ontario

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**Background/Objectives:** In Northwestern Ontario, accessing cancer screening services can be difficult. The Ontario Breast Screening Program’s Mobile Coach aims to decrease barriers to screening through Screen-for-a-Day events to increase screening uptake in under / never screened women. The research purpose is to assess the impact of these innovative clinical screening practices.

**Methods:** Under screened individuals include those without a health care provider, access to screening, and of Aboriginal ethnicity. Collaborating with community health clinics, the Mobile Coach hosted 12 screening events for breast, cervical and colorectal cancer screening; individuals were invited to participate in the research by completing a questionnaire assessing how they learned about the event, screening history, perceived personal health, and importance of screening.

**Results:** To date, 51 women have completed the questionnaire (63% response rate; mean age 57.4 years, SD 6.7). Of these women, 17.8%, 11.8%, and 43.1% reported not having previously been screened for breast, cervical, and colorectal cancer, respectively. Among previously screened individuals, mean time since last screen was 4.4 years (SD 3.8) for breast cancer, 5.2 years (SD 6.7) for cervical cancer, and 2.0 years (SD 1.28) for colorectal cancer. The majority of respondents (45.1%) rated their health status as neutral; additional questionnaire findings will be presented.

**Conclusion:** Implications for screening practices and reaching under/never screened populations will be discussed. Findings suggest that by locating cancer screening in the community environment instead of a hospital, we increase the accessibility of these services to women in the Northwest and remove potential barriers to screening.
The Treatment of Musculoskeletal Disorders in the New Millennium: The Physiological Effects of Extracorporeal Shockwave Therapy (ECSWT)

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Background/Objectives: ECSWT is used to treat patients with tendinopathies, myopathies, non-uniting fractures and stress fractures. Success and recurrence rates depend upon the location and type of disorder treated. The purpose of this paper is to summarize the research findings and physiological effects of ECSWT.

Methods: Information was obtained through a comprehensive literature review of articles from 2000 to present from a variety of journals and databases.

Results: ECSWT produces increased interface tissue tension and cracking. Cavitation bubbles and a water jet effect create microscopic holes and hemorrhaging. Other hypothesized effects on pain include the degeneration of sensory nerves, activation of the Gate Control Theory, chemical alteration of receptor neurotransmitters, decreased calcitonin gene related peptide and substance P. ECSWT stimulates an immune response and activates and recruit stem cells in the focal region. ECSWT has a positive effect on bone and an 80% success rate with non-uniting fractures. There is an increase in growth factor, increased neovascularization and osteoblast formation at the fracture site and an increased number of muscularized blood vessels and fibroblasts and a killing effect on bacteria present. Negative effects of ECSWT include petechiae, dermal erosions, swelling, dizziness, sleep disturbance, nausea, hair loss, delay in bone healing and decreased stability of experimentally produced fractures.

Conclusion: The exact mechanism of effects remains controversial but research has demonstrated positive findings with little complications and negative effects. Availability and cost of treatment is one concern but ECSWT may be utilized more often and earlier limiting long term costs and courses of these disorders.
The Effects of Extracorporeal Shockwave Therapy (ECSWT) in Patients with Insertional Achilles Tendinopathy

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Background/Objectives: The purpose of this study was to assess the effects of ECSWT on heel pain in patients with insertional Achilles tendinopathy as measured via the VAS and LEFS. Over the past few decades, there has been an exponential increase in participation in recreational and competitive sporting activities. Unfortunately, this has been paralleled by an increase in the incidence of Achilles tendinopathy. Depending upon the sport or activity, the rate of injuries may be as high as ten times that in age-matched controls. Treatment for Achilles tendinopathy varies from conservative to surgical procedures with variable results. The use of ECSWT offers a new option for treatment consideration.

Methods: A one-group pre-test post-test design was used. Functional status was measured using the LEFS. Heel pain was measured using a VAS for pain at rest, pain after activity and overall improvement pre-treatment. 27 subjects were treated with ECSWT and the VAS and LEFS was measured 3 months post-treatment. A Wilcoxon Signed Rank Test was used to analyze the findings.

Results: There was a significant difference from pre-treatment to post-treatment for VAS for heel pain at rest (Z=2.34, p=.019); heel pain after activity (Z=3.77, p=.0001); overall improvement in heel pain (Z=3.92, p=.0001); and in the LEFS scores (Z=3.00, p=.003).

Conclusion: ECSWT offers an exciting and new intervention for the treatment of Achilles tendinopathy. In the future, we may see this treatment utilized earlier and in more clinical facilities. This may limit the progression of the disorder and the long term healthcare costs associated with Achilles tendinopathy.
Examining the Association of the Combined Effects of Alcohol and Cannabis on Unsafe Driving

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Background/Objectives: Research demonstrates that driving under the influence of alcohol or cannabis alone is associated with increased crash risk. This study explores the combined influence of alcohol and cannabis on unsafe driving.

Methods: Drivers 20 years and older, drug and alcohol tested, involved in a United States fatal crash (1991-2008) were examined using a case-control design. Cases were drivers with at least one potentially unsafe driving action (UDA) recorded in relation to the crash (e.g., weaving); controls had none recorded. We examined the prevalence of driving under the influence of alcohol, cannabis, and both agents, for drivers involved in a fatal crash. Adjusted odds ratios of committing an UDA for both the additive effects of alcohol when combined with THC and the synergistic effects of both THC and alcohol were computed via logistic regression.

Results: Over the past two decades, the detection prevalence of THC and Alcohol in car drivers has increased approximately five-fold from below 2% in 1991 to above 10% in 2008. Each additional .01 BAC unit increased the odds of an UDA approximately 7-10% for the additive effect and 7-16% for the synergistic effects.

Conclusion: Drivers positive for both agents were more likely to make an error than drivers positive for either alcohol or Cannabis only. Future research examining Cannabis concentration levels, alcohol, and driving are necessary. Given the increased associated risk was seen at lower levels of alcohol concentration, driver and public health education should highlight the association of this possible effect on unsafe driving.
Validating Two Aspects of an Epidemiological Approach to Crash Risk

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Background/Objectives: In the hierarchy of study designs, observational studies are considered to provide weaker evidence due to the potential bias of self-selection and the challenge they present in determining causal relationships. Yet, for many situations – experimental approaches are neither feasible nor ethical. Our study examines the validity of two aspects of our epidemiological approach to assessing crash risk – sample choice and use of driver related factors (DRFs) as a proxy measure of crash responsibility.

Methods: Using the Fatality Analysis Reporting system, we first replicated two epidemiological approaches to crash risk (Perneger 1991; Blower 1998). To examine the validity of our sampling approach we compared the results of Perneger’s original paired crash sample to all crashes during the same period – a visual comparison is reported. Validity of DRFs as a proxy measure of crash responsibility was assessed by examining raw, chance-corrected, and chance-independent crash responsibility agreement between the head-on crash configuration and DRFs.

Results: Both epidemiological approaches were replicated accurately. Using all crash cases versus only paired crash cases results in parallel, but more conservative, results. Observed raw agreement when responsibility was assigned by head-on crash configuration versus any DRF was 94%. Chance-corrected and chance-independent agreement were relatively high (Kappa = 0.76; Phi = 0.83).

Conclusion: Both aspects of our epidemiological approach to assessing crash risk were validated. While epidemiological approaches have limitations given their inherent biases they are still essential research designs that are many times the only choice for researchers.
Assessing Fitness-to-Drive: Practical Tips on Choosing the Right Screening Tools for Your Practice

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Background/Objectives: Assessment of older patients’ fitness to drive is a difficult challenge faced by physicians. Many screening tests have been proposed, but to date, none of them has proved universally acceptable in meeting the needs of physicians or their patients. Therefore, it is likely that researchers will continue to propose new screening tests.

Methods: We provide a list of seven questions that physicians should ask about any screening procedure they are considering for use in their practice. The questions are arranged in hierarchical order such that one can stop at any point when the answer to a question is unsatisfactory.

Results: The seven questions are: 1) How suitable is the gold standard? 2) Are the study participants similar enough to your patients? 3) Are screening test properties reported? 4) Are the screening test properties good enough to make the test useful? 5) Have the test’s properties been independently confirmed? 6) Is there any conflict of interest? 7) How acceptable would the test be to your patients?

Conclusion: We hope that this list of seven questions will prove to be a useful guide to physicians and other clinicians as they critically appraise both currently available and yet to be proposed screening tools for fitness-to-drive.
Decreasing Driver Speeding on a Simulated Drive with Feedback and Reinforcement

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Background/Objectives: Research suggests that driver feedback combined with reinforcement can increase safe driving (i.e., reduce speeding and tailgating). Although promising, it is currently unknown whether both feedback and reinforcement are required to increase safe driving or whether similar results could be achieved with just one of these components. We investigated the amount of speed reduction that could be achieved on a simulated drive with just one intervention component (i.e., feedback alone or reinforcement alone) compared with feedback and reinforcement combined.

Methods: Twenty-eight men (7 per group) aged 18-29 completed a 30-minute simulated drive using a 2x2 design (feedback or not; reinforcement or not). Real-time feedback consisted of a dashboard device informing participants of their current speed relative to the speed limit using lights. Reinforcement consisted of drivers earning points for driving at or below the speed limit; points were later exchanged for a gift card, with its value determined by the number of points earned.

Results: Compared with control participants, drivers who received feedback combined with reinforcement spent less time driving above the speed limit, had a slower mean speed, and had a smaller standard deviation of speed (all p-values < .05). Drivers exposed to reinforcement alone showed speed reductions similar to drivers who received both feedback and reinforcement. Drivers exposed to feedback alone drove at speeds similar to control participants.

Conclusion: Reinforcement alone was necessary and sufficient to achieve a reduction in drivers’ speed. This information could be used to inform policy-makers and car manufacturers.
The Impacts of Stopping Driving: Prospective and Retrospective Views

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Background/Objectives: This project aimed to identify impacts of driving cessation from the perspective of older drivers and former drivers. Identifying discrepancies between anticipated impacts and those impacts actually experienced has the potential to affect how one prepares in advance for driving cessation or the experience itself of transitioning to former-driver status.

Methods: Participants included 17 adults aged 65–88 years residing in a city in northwestern Ontario, Canada. Using a semi-structured interview guide, focus groups and interviews were held with 11 current drivers (5 men, 6 women) and 6 former drivers (1 man, 5 women). The guide included questions about their thoughts or experiences of stopping driving with respect to mobility, personal impact, impact on others, engagement with life, and finances.

Results: Impacts discussed fell into four categories: 1) lifestyle (e.g., difficulty attending leisure activities, learning to use the public transit system), 2) social (e.g., feeling dependent, isolated, or lonely), 3) identity (e.g., loss of self-esteem), and 4) emotional (e.g., sadness). Former drivers used several methods to cope with driving cessation, including: 1) resisting (e.g., attempting to have a revoked licence reinstated), 2) accepting, and adapting to, their non-driver status, and 3) adopting a positive perspective (e.g., identifying benefits of stopping driving such as relief from the stress of driving).

Conclusion: Although the impacts of stopping driving were significant, there were few discrepancies between anticipated impacts and experienced impacts. This information could assist with developing interventions to ease the transition to former-driver status.
The Effects of Mindfulness-based Cognitive Therapy on Driving Skills in Individuals Who Have Experienced a Traumatic Brain Injury: A Pilot Study.

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**Background/Objectives:** Mindfulness-based cognitive therapy (MBCT) may offer new rehabilitation opportunities for individuals with TBI. This pilot study aimed to examine the efficacy of MBCT as a method of improving driving safety within a TBI population with depressive symptoms.

**Methods:** Assessment protocol included completing a simulated drive along with the Useful Field of View and Attention Network tests. Participants in the intervention arm completed a ten-week MBCT program. The control arm participants were instructed to continue as they normally would. At the end of the MBCT program, the assessment protocol was repeated in both arms.

**Results:** Eight participants completed the pre-post comparison. The mean age of participants in the control arm (N=3) was 49 (SD=14.526) and two-thirds were male. Similarly, the average age of participants in the treatment arm (N=5) was 47.8 (SD=13.312), and 40% were male. Of the 10 variables that were examined for pre/post changes, 9 trended towards improvements in the intervention arm as compared to the control arm. For example, after controlling for baseline differences, the intervention group’s mean number of demerit points (M=36.860, SE=8.569) was lower than that the control group (M=60.283, SE=11.123). However this effect (as with all other comparisons), was not statistically significant, F(1, 7)=2.735, p=.159. This is likely a consequence of low power due to small sample size.

**Conclusion:** Although statistical significance was not found, the intervention arm trended towards improvements in all but one of the outcome measures. Therefore, future studies could aim to extend these findings using a larger sample size to maximize statistical power.
Assessing the Relevance of the Simulator as a Screening Tool for At-Risk Older Drivers: Phase I

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Background/Objectives: Persons over 65 are the fastest growing segment of Canada's population. This has resulted in a rapid increase in the number of older persons holding driver’s licenses. The Candrive Study is a comprehensive, longitudinal study of older drivers and the factors that impact their driving safety. As a Candrive sub-project, the current study aims to assess the relevance of the simulator as a screening tool for at-risk older drivers. In Phase I, described here, we developed simulator scenarios of challenging driving situations based on cognitive load indices and physiological responses.

Methods: Five simulator scenarios were developed to examine a number of variables including gap acceptance, obstacle avoidance and driver errors. A convenience sample of volunteers completed the scenarios, along with The Attention Network Test, Useful Field of View Test, and physiological measures.

Results: Twenty-seven participants completed the pilot testing. This sample was young (M=26.93, SD=8.84) and fairly evenly split between the sexes (55.2% male). The scenarios showed variability over a hierarchy of difficulty levels as exhibited by gradients in performance and physiological measures. For example, when participants were told to turn left at an intersection, the amount of time (gap) between oncoming vehicles had a statistically significant effect on the number of these vehicles participants allowed through before turning, F(1,26)=137.66, p<0.001.

Conclusion: Phase 1 of this project demonstrated successful development of a series of simulated scenarios designed to challenge drivers and assess a number of driving skills. In phase 2, we aim to further validate our scenarios using participants from the Candrive cohort.
Family Members Recommendations for Advance Care Planning in Long-term Care Homes: A Qualitative Study

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**Background/Objectives:** Advance Care Planning is essential for providing quality palliative care within a long term care (LTC) setting and improves family satisfaction. Knowing the resident’s values, beliefs and their wishes for end-of-life can help provide a good death for residents. A sub-study conducted as part of the Quality Palliative Care in Long-term Care Alliance, including St. Joseph’s Care Group in Thunder Bay, explored family member perspectives and experiences with Advance Care Planning (ACP) in LTC.

**Methods:** Eight family members were interviewed in two faith based long-term care (LTC) homes about their perspectives and experiences of advance care planning (ACP).

**Results:** This presentation will illustrate how the family members envision how the LTC homes can better facilitate ACP conversations. Recommendations to facilitate ACP conversations included considering who will initiate ACP, knowing the residents, education and timing of ACP conversations in order to provide quality end-of-life care. Families and substitute decision makers are receptive to having ACP conversations, however they expect LTC staff to initiate and facilitate these conversations.

**Conclusion:** ACP is essential to providing quality palliative care within long term care homes. This research can provide LTC home staff with valuable information on how and when to have these crucial conversations with residents and family members.
Music Students’ Experiences of Music Interaction with Residents in Two Northwestern Ontario Long-Term Care Homes

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Background/Objectives:  This research arose from a collaboration between the department of Music, Social Work, and the Quality Palliative Care in LTC Alliance. Music students who were enrolled in the Creative Community Engagements in Music class through the Department of Music, participated in music activation with residents in two St. Joseph’s Care Group Long-Term Care (LTC) homes in Thunder Bay, Ontario. The goal of the study was to document the students’ experiences, particularly, to see if the opportunity to make music with LTC residents changed student attitudes towards older people and aging.

Methods:  At the end of the course, nine of the music students participated in an hour long focus group and four participated in individual interviews which were transcribed verbatim and qualitatively analyzed.

Results:  Students’ perceptions evolved from initial hesitation and uncertainty to greater confidence communicating and interacting with residents. They witnessed the awakening effect of music on many of the residents, and they developed deep concern and compassion for the residents as they grew to know them better. However, the experience was also frightening for the students who were unprepared for the frailty of the residents. Some students found the interactions disturbing reminders of the marginalization of seniors in society.

Conclusion:  Students grew in their understanding of the importance of music in the lives of frail older people in LTC. The lives of both residents and students were enriched by the experience. Future delivery of a course like this needs to give special attention to the preparation and debriefing of students.
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