



*15<sup>th</sup> Annual*

Crossroads Interdisciplinary Health Research Conference

*March 10<sup>th</sup>-11<sup>th</sup>, 2017*

*Halifax, Nova Scotia, Canada*

## **Conference Proceedings**



**DALHOUSIE  
UNIVERSITY**



## 15<sup>th</sup> Annual Crossroads Interdisciplinary Health Research Conference

*Friday March 10th  
Halifax Central Library*

<i>Time and Location</i>	<i>Activity</i>
1:00 <i>Paul O'Regan Hall</i>	<b>Check-In and Registration</b>
1:30-2:15 <i>Paul O'Regan Hall</i>	<b>Conference Welcome and Opening</b> <i>Elder Geri Musqua-Leblanc, Coordinator of Elders in Residence</i> <i>Brittany Barber and Caitlyn Ayn, Conference Co-Chairs</i> <b>Director's Welcome</b> <i>Dr. Jacquie Gahagan, Director, School of Health and Human Performance</i> <b>Welcome from the Healthy Populations Institute</b> <i>Dr. Sara Kirk, Scientific Director, Healthy Populations Institute</i>
2:15-4:00 <i>Paul O'Regan Hall</i>	<b>Keynote Panel – “Is a Food Secure Future Possible?”</b> <i>Introductions - Maureen Summers, Managing Director, HPI</i> <i>Moderator - Dr. Jacquie Gahagan</i> <i>Panelists - Dr. Catherine Mah, Memorial University of Newfoundland; Dr. Sylvain Charlebois, Dalhousie University; Ms. Cheyenne Joseph, University of New Brunswick; and Dr. Patty Williams, Mount Saint Vincent University</i>
4:00-4:30 <i>Paul O'Regan Hall</i>	<b>Coffee and Informal Networking Break</b>
4:30-5:30	<b>Mini-Course Breakout Sessions</b> <i>Dr. Shaun Boe, Lindsay Children's Room (blue nametag sticker)</i> <i>Drs. Brad Meisner, Susan Hutchinson, BMO Room (yellow nametag sticker)</i> <i>Dr. Mohammad Hajizadeh, Paul O'Regan Hall (green nametag sticker)</i>
5:30-6:30 <i>Paul O'Regan Hall</i>	<b>Break for Meal and Networking</b>
6:30-7:00 <i>Paul O'Regan Hall</i>	<b>Closing Remarks</b> <i>Introduction – Heather Johnston, Affiliate Liaison for Canadian Society for Biomechanics</i> <i>Speaker - Dr. Cheryl Kozey, Associate Dean (Research), Faculty of Health Professions, Dalhousie University</i> <b>Conference Day 1 Closing</b>

**Saturday March 11<sup>th</sup>**  
**Collaborative Health Education Building (CHEB), Dalhousie University**

8:00 170	<b>Check-In</b> <i>(All presenters are required to arrive with presentations at this time)</i>
8:30-9:00 170	<b>Breakfast and Networking</b>
9:00-9:30 170	<b>Conference Day 2 Opening</b> <i>Introduction – Ms. Caitlyn Ayn and Brittany Barber, Conference Co-Chairs</i> <b>Opening Remarks</b> <i>Dr. Alice Aiken, Dean, Faculty of Health Professions, Dalhousie University</i>
9:30-10:45 140, 150, 170, 264, 266, 268	<b>Oral Presentation Session 1</b>
10:45-11:00	<b>Break</b>
11:00-12:15 140, 150, 170, 264, 266, 268	<b>Oral Presentation Session 2</b>
12:15-1:10 170, 140	<b>Poster Presentation Session and Lunch</b>
1:10-1:25 140	<b>People’s Choice Poster Voting and Door Prize Draw Entry</b>
1:25-2:30 (Concurrent)	<b>Keynote Speaker – “Unsettling the Settler in Aboriginal Health Research: A Step Toward Praxis”</b> <i>Dr. Barry Lavallee, University of Manitoba (CHEB 170)</i> <b>Panel Discussion – “Biomechanics in Atlantic Canada”</b> <i>Dr. John Kozey, Dalhousie University; Dr. Ryan Frayne, Dalhousie University; Dr. Derek Rutherford, Dalhousie University; Dr. Scott Landry, Acadia University (CHEB 150)</i>
2:30-3:45 140, 150, 170, 264, 266, 268	<b>Oral Presentation Session 3</b>
3:45-5:30 170	<b>Conference Appreciation</b> <i>Caitlyn Ayn and Brittany Barber, Conference Co-Chairs</i> <b>Special Presentation of the Three-Minute Thesis</b> <i>Introduction – Dr. Lynne Robinson, Interdisciplinary PhD Program Director</i> <i>Presentation - Logan Lawrence, PhD (Health) Student, Dalhousie University</i> <b>Director’s Remarks</b> <i>Dr. Jacquie Gahagan, School of Health and Human Performance Director</i> <b>Closing Remarks</b> <i>Maureen Summers, Healthy Populations Institute Managing Director</i> <b>Awards and Closing</b>



## **Welcome from the Conference Co-Chairs**

Dear Delegates, Team Members, and Guests,

We are honoured to have you join us for the Annual Crossroads Interdisciplinary Health Research Conference.

Crossroads is a student-led academic forum that is hosted by graduate students in the School of Health and Human Performance at Dalhousie University. This event is unique in that it considers health from a variety of lenses, from the molecular to the systems level and at all intervals in between.

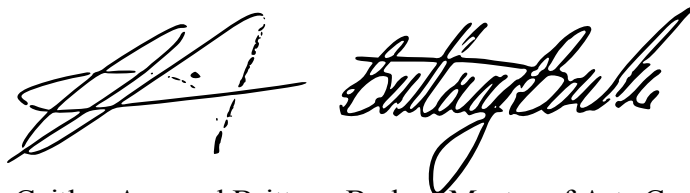
This year, we are celebrating the 15<sup>th</sup> anniversary of Crossroads with the largest numbers of delegates and attendees to date. Our Committee has reviewed over 200 abstracts from student health researchers in over 40 universities and a vast array of disciplines and fields. We are thrilled by this response, which has increased eightfold over the past four years alone. Of the abstracts reviewed, 160 will be presented throughout the course of this conference.

While this year is an important milestone in Crossroads history, it has also been a year of many firsts. For the first time, the Crossroads program has been developed in partnership with several affiliate organizations, including the Healthy Populations Institute (HPI), the Canadian Society for Biomechanics (CSB), and the Indigenous Health Interest Group (IHIG) at Dalhousie University.

This is also the first year that Crossroads has reviewed and accepted submissions from student health researchers beyond Canadian borders. Reaching an international scope is a particularly important achievement, as researchers are moving toward global collaboration to address health issues and inequities.

We encourage you to connect with your colleagues this weekend to learn new approaches, topics, and methods in health and wellness research. We would also love for you to share your experiences with us so that we can continue the success of this event this year and in the years to come.

Sincerely,

The image shows two handwritten signatures in black ink. The first signature on the left is 'Caitlyn Ayn' and the second signature on the right is 'Brittany Barber'. Both are written in a cursive, flowing style.

Caitlyn Ayn and Brittany Barber, Master of Arts Candidates in Health Promotion  
Co-Chairs, Crossroads Conference Planning Committee 2017

## Director's Welcome

Dear Crossroads 2017 Delegates,

On behalf of the faculty, staff, and students of the School of Health and Human Performance (HAHP) I would like to wish you all a very warm welcome to the 15<sup>th</sup> Annual Crossroads Interdisciplinary Health Research Conference.

This health and wellness research conference is fully student-led and has been organized by the graduate students within the School of Health and Human Performance since its inception. As one of the longest-running events of its kind, Crossroads has supported student researchers in dozens of programs and universities across Canada and has served as the catalyst for numerous other student-led research events.

It is important to note that Crossroads has a long history of collaboration and partnership over the years. The strongly interdisciplinary nature of the event encourages relationships not only between delegates, but also with community partners and research experts in a variety of health-related disciplines from kinesiology, to health promotion, to leisure studies and recreation management and beyond. It is for this reason that Crossroads has become one of the most cherished events organized within the School of Health and Human Performance (which, for those who may not know, is housed within the Faculty of Health Professions at Dalhousie University).

While the faculty from the School of Health and Human Performance fully support Crossroads, the continued success of this event is really thanks to the hard work and planning of our graduate students. Please be sure to get to know our graduate students who made Crossroads 2017 possible and to share your feedback with them on this important event.

It is my sincere hope that you enjoy this event as much as my colleagues and I do each year. I look forward to meeting you and learning more about your work over the course of Crossroads 2017!

Sincerely,



Dr. Jacqueline Gahagan  
Director (Interim), School of Health and Human Performance  
Dalhousie University





Healthy Populations Institute

On behalf of the Dalhousie University Healthy Populations Institute (Dal HPI), we would like to welcome you to the 2017 Dalhousie University Crossroads Interdisciplinary Health Research Conference. This student-led conference has gone from strength to strength over its 15-year history, from a one-day local event in its earlier years, to a two-day conference attracting student researchers from across Canada. HPI is proud to partner with the Graduate Student Society at Dalhousie University's School of Health and Human Performance to host this conference.

Formerly the Atlantic Health Promotion Research Centre (AHPRC), HPI was established in 1993 as a Senate-approved research Institute at Dalhousie University. Through excellence in research, capacity building, and knowledge translation, HPI is a leader in health promotion and population health research in Atlantic Canada and beyond. HPI has a focus on moving research 'upstream', through research that addresses the fundamental causes of ill-health for individuals and communities. We do this through:

#### **Research development**

HPI encourages and supports the work of interdisciplinary research teams and draws together collaborators from many sectors to design and carry out large, multifaceted projects.

#### **Capacity building and training**

HPI provides excellent research training opportunities for students (undergraduate and graduate), postdoctoral research fellows and faculty members as well as researchers from outside academia.

#### **Knowledge Translation**

HPI provides a vital mechanism for the development of knowledge translation tools, activities and research.

#### **Research Management**

HPI supports the success of the research Centre members by providing high quality, continuous and effective management of new and on-going research programs and activities.

We hope that your time at the conference is stimulating and engaging, and provides an opportunity for you to make new connections and learn from other students from across Canada. We look forward to meeting with you over the next couple of days.

Sincerely,

Sara Kirk, PhD  
Scientific Director  
Healthy Populations Institute

Maureen Summers, MSc  
Managing Director  
Healthy Populations Institute



Dear Colleagues,

Welcome to the Atlantic Canadian Society of Biomechanics Meeting, hosted in conjunction with this year's Crossroads Interdisciplinary Health Research Conference by Dalhousie University. We thank you for travelling from near and far to enjoy the breadth of biomechanics research we represent. This conference will have a wide variety of health related topics, with smaller sessions dedicated to biomechanics. We hope you will enjoy the next few days to socialize, connect and create new friendships, and opportunities.

*CSB Purpose and Mandate:*

*CSB/SCB was formed in 1973. The purpose of the Society is to foster research and the interchange of information on the biomechanics of human physical activity.*



*More and more, great biomechanics research is being performed by people from diverse disciplinary and professional backgrounds. CSB/SCB is attempting to enhance interdisciplinary communication and thereby improve the quality of biomechanics research and facilitate application of findings by bringing together therapists, physicians, engineers, sport researchers, ergonomists and others who are using the same pool of basic biomechanics techniques but studying different human movement problems.*

Dalhousie is happy to rekindle the Atlantic division of CSB and is doing so with the help of many research groups located at the university. The biomechanics community here encompasses the areas of Kinesiology, Biomedical Engineering, Industrial Engineering, Physiotherapy, and Neuroscience.

We hope you enjoy Atlantic CSB/Crossroads Interdisciplinary Health Research Conference 2017 and explore what Halifax has to offer.

Heather Johnston

*School of Health and Human Performance*

Dr. John Kozey

*School of Health and Human Performance*

## **Welcome from the Indigenous Health Interest Group**

The Indigenous Health Interest Group (IHIG) is an interdisciplinary collective of Indigenous and non-Indigenous students at Dalhousie University, studying in a variety of health professions. IHIG seeks to reduce Indigenous health inequities through education, empowerment, advocacy and research. These goals are fulfilled through three committees: Events & Outreach, Research, and Course/Curriculum Development; all of which work both on and off the Dalhousie campus.

For the 15<sup>th</sup> Annual Crossroads Interdisciplinary Health Research Conference, IHIG sought to improve the representation of Indigenous peoples and issues throughout all aspects of the event. With the recent release of the Truth and Reconciliation Commission, action is being taken across Canada to acknowledge and address the historical and ongoing injustices against Indigenous peoples in Canada, as well as the related effects on their health. Indigenous voices are needed in the fight for health equity, and IHIG is honoured to have Keynote Speaker Dr. Barry Lavallee of the Sauteaux/Metis First Nation sharing his thoughts and experiences with the Dalhousie health community. Indigenous perspectives on food security will also be heard in the panel discussion, thanks to Community Health Nurse Cheyenne Joseph of the Mi'kmaq First Nation.

IHIG is proud to support the inclusion of Indigenous research, voices, and traditions in Crossroads 2017. This is a step toward better awareness of and respect for Indigenous health practices across all health professions, both at Dalhousie and beyond. Learning opportunities, such as those presented at this year's conference, enable non-Indigenous students to become better informed about Indigenous cultures and concerns, resulting in well-rounded health practitioners and researchers. These opportunities also give voice to Indigenous students, faculty, and community members, and solidify their place in health dialogue.



## Our Speakers

### *Dr. Sylvain Charlebois*



Dr. Sylvain Charlebois is Dean of the Faculty of Management at Dalhousie University in Halifax. Also at Dalhousie, he is Professor in food distribution and policy in the Faculty of Agriculture. From 2010 to 2016, he was affiliated with the University of Guelph's Food Institute, which he co-founded. While at the University of Guelph, he was also the Associate Dean of Research for the College of Business and Economics. From 2004 to 2010, he was a member of the Faculty of Business Administration of the University of Regina in Regina, Canada. Dr. Charlebois is an award winning researcher and teacher. He also served as the Director of the Johnson-Shoyama Graduate School of Public Policy (Regina Campus).

His current research interest lies in the broad area of food distribution, security and safety, and has published four books and many peer-reviewed journal articles in several publications. He has published over 500 peer-reviewed and scientific publications in his career. His research has been featured in a number of newspapers, including The Economist, the New York Times, the Boston Globe, the Wall Street Journal, Foreign Affairs, the Globe & Mail, the National Post and the Toronto Star.

He is currently writing a fifth book on global food systems, to be published later in 2016 by Wiley. He conducts policy analysis, evaluation, and demonstration projects for government agencies and major foundations focusing on agricultural policies and community development both in Canada and in development settings. Dr. Charlebois is a member of the Global Food Traceability Centre's Advisory Board based in Washington DC, and a member of the National Scientific Committee of the Canadian Food Inspection Agency (CFIA) in Ottawa. He has testified on several occasions before parliamentary committees on food policy-related issues as an expert witness. He has been asked to act as an advisor on food and agricultural policies in many Canadian provinces, in the United States, Brazil, Austria, Italy

### ***Cheyenne Joseph***

Cheyenne Joseph is a member of Bear River First Nation, NS. She is a Dalhousie University alumni, having graduated in 1999 with a BScK and then in 2003 with a BScN. She is also a graduate of Lakehead University, ON in 2010 with a Master's of Public Health degree. Cheyenne has been a registered nurse for 14 years, working with Atlantic Canada's Indigenous communities on a variety of levels. She is currently the Acting Director for UNB's Aboriginal Nursing Initiative (at the Fredericton campus) and a Senior Instructor (at the Moncton site). Cheyenne is also the owner and operator of Mi'kmaq Mama, a website (and associated social media) sharing her culture, recipes and insights with viewers.



### ***Dr. Catherine Mah***



Catherine L. Mah, MD PhD leads the Food Policy Lab, a multidisciplinary program of research in the policy and practice of public health, with a focus on health-promoting innovations in the food system. Her work integrates population health intervention research and policy action on environmental contexts for consumption. The mission of the Food Policy Lab is to establish the conditions for many sectors and disciplines to act as champions for promoting health, using food as a tool for dialogue, analysis, and engagement. Its aim is to learn from and scale the ingenuity of diverse food system stakeholders to create a supportive policy environment with integrated health, social, and economic priorities. Dr. Mah holds funding from the Canadian Institutes of Health Research, Health Canada, and the Leslie Harris Centre of Regional Policy and Development. She is Assistant Professor of Health Policy at

Memorial University and is appointed at the Dalla Lana School of Public Health at the University of Toronto and the Centre for Addiction and Mental Health. She is a former member of the Toronto Food Policy Council and a founding member of the St. John's Food Policy Council.

***Dr. Patty Williams***

Patty Williams is a professor and Tier 2 Canada Research Chair in Food Security and Policy Change in Applied Human Nutrition at Mount Saint Vincent University. She is the founding director of FoodARC (recipient of the CIHR Partnership Award with the NS Food Security Network in 2011) and a Senior Research Scholar at Dalhousie's Healthy Populations Institute. Her research focuses on the use of participatory action research to engage trans disciplinary partners, including women experiencing food insecurity, in building capacity and moving knowledge to action, with the ultimate aim of creating the conditions for food security through social and systems change. She has led several national and provincial studies on food related policy change, including 7 cycles of provincial Participatory Food Costing and a SSHRC funded Community University Research Alliance, Activating Change Together through Community Food Security (2010-15), as well as the development of several innovative knowledge sharing tools such as the "Thought About Food?" series of tools on food security and policy change, a board game called 'The Hand You are Dealt', and an online toolkit called "Make Food Matter".



***Dr. Shaun Boe***



Dr. Boe is an Associate Professor in the School of Physiotherapy, Dept. of Psychology & Neuroscience, School of Health & Human Performance and Dept. of Physical Medicine & Rehabilitation, and Director of the Laboratory for Brain Recovery and Function ([boelab.com](http://boelab.com)), all at Dalhousie University. He also holds an Affiliate Scientist appointment at the Nova Scotia Health Authority. The goal of Dr. Boe's research program is to inform, develop and test interventions that aim to improve learning in health and disease. His lab approaches this goal through basic and applied research approaches. Basic research focuses on understanding the mechanisms underlying brain function and plasticity associated with learning. Applied research in the lab focuses on learning and recovery in patients post-stroke to understand the mechanisms underlying recovery, and how we can apply

this understanding to improve interventions used in neurorehabilitation. In addition to neuroscience and rehabilitation, Dr. Boe's research and teaching has an entrepreneurship and commercialization focus in the area of neurotechnology.

***Dr. Mohammad Hajizadeh***

I am an Assistant Professor at the School of Health Administration at Dalhousie University and cross-appointed with the School of Health and Human Performance and Department of Community Health and Epidemiology. I am also an Associate Research Scholar at the Healthy Populations Institute (HPI). I received my PhD in Economics from the University of Queensland and have held postdoctoral positions at McGill and Western Universities. Prior to my PhD studies, I worked as a lecturer at Tabriz University of Medical Sciences. A health economist by training, my primary research interests are analyzing equity of health care, measuring inequality in health and evaluating health and social policies. My other research interests include health services research, global health and economic analysis of chronic diseases.



***Dr. Brad Meisner***



Brad Meisner is Assistant Professor, Health Promotion, School of Health and Human Performance, Dalhousie University. His research interests include social and positive psychology of health and chronic disease with aging, as well as critical theoretical perspectives on health, health promotion, and aging. His research aims to challenge the misconceptions of normal aging as a function of inevitable decline.

### **Dr. Susan Hutchinson**

Susan is a faculty member in the School of Health and Human Performance. She is passionate about helping people to get more out of life when living with a chronic health condition through the application of evidence from health promotion and leisure studies to the design, implementation and evaluation of leisure-based chronic disease self-management educational initiatives.



### **Dr. Barry Lavallee**



Dr. Barry Lavallee is a member of Manitoba First Nation and Métis communities, and is a University of Manitoba trained family physician specializing in Indigenous health and northern practice. His clinical work has focused on the health and healing needs of First Nation and Métis communities. He has a Masters of Clinical Sciences from the University of Western Ontario. His research and clinical areas are chronic diseases, transgenerational trauma, impact of colonization on Indigenous communities and international Indigenous health. He is the Director of Student Support and Education for the Centre for Aboriginal Health Education, University of Manitoba and Indigenous Health UGME Curriculum Lead for the University of Manitoba.

## Sponsor Profiles

### *Dalhousie University Faculty of Health Professions*

The Faculty of Health Professions has an academic and **research vision** that is focused on global health, and the health and social well-being of individuals and their communities.

We adopt the World Health Organization (WHO) position that *"Health is a state of complete **physical, mental and social well-being** and not merely the absence of disease or infirmity"*. - Constitution of the WHO, 1948

Health and social well-being are **local and global issues** that concern our researchers across the biological structures of function and impairment to the macro structures of human **engagement and resilience**.

We have **research strengths** in quantitative methodologies and expertise in qualitative and applied research methodologies - especially **community-based** research and community engaged research.

### *Dalhousie University President's Office*

Since the beginning of his presidency, **Dr. Richard Florizone** has been committed to advancing the university's three-fold mission of teaching and learning, research and service to communities. In collaboration with Dal faculty, staff and students, he has worked to build a collective vision that advances "The Four R's": retention, research, returns to society and respect, while enhancing the university's economic, social and cultural impact.

Dr. Florizone began his term as Dalhousie's 11th president in July of 2013, bringing a unique mix of academic and professional skills developed through extensive experience with universities, companies and government in Canada and abroad. Previously, Dr. Florizone was vice-president, finance and resources at the University of Saskatchewan, where he was also a Policy Fellow in the Johnson-Shoyama Graduate School of Public Policy. He earned his PhD in physics from MIT and has been a senior adviser to the World Bank Group's International Finance Corporation in Washington, D.C., as well as serving in roles with Bombardier Aerospace, Cambridge University and the Boston Consulting Group.



## Our Partners

### *Platinum Level*

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*Dalhousie University Faculty of Health Professions*

### *Gold Level*

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*Dalhousie University President's Office*

### *Silver Level*

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Dalhousie  
Association of  
Graduate  
Students

*Dalhousie University Association of Graduate Students*

### *Bronze Level*

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DALHOUSIE  
STUDENT  
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University  
Faculty of  
Management*



Nova Scotia  
Physiotherapy  
Association

### *Our Donors*

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Canadian Federation of Students  
Symphony Nova Scotia  
Atlantic Business Interiors  
Pete's Frootique  
Lululemon  
Seven Bays Bouldering  
Dal Bookstore  
Venus Envy

## **Our Team**

### **Co-Chairs**

Caitlyn Ayn, Brittany Barber

### **Planning Committee**

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Robyn Burns

Kirk Furlotte

Denver Hilland

Natalie Houser

Sarah MacCallum

Rachelle Manett

Holly Mathias

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Christie Silversides

### **IHIG Affiliate Liaison**

Nicole Doria

### **CSB Affiliate Liaison**

Heather Johnston

### **HPI Affiliate Liaison**

Maureen Summers

### **Undergraduate Liaison**

Bridget Irwin

### **Faculty Representatives**

Dr. Brad Meisner, Health Promotion Division

Dr. John Kozey, Kinesiology Division

Dr. Karen Gallant, Leisure Studies Division

*The committee would like to send thanks to all partners, sponsors, and donors*

*Special thanks to Howard Matheson*

## **Athletic Identity in Recreational Athletes Based on Playing History**

Marita Alfieri, Dalhousie University

Presented by: Alfieri, Marita

**Introduction:** Competitive and recreational sport are popular in North America. Few studies have examined levels of athletic identity in the large population of recreational athletes, and no studies have examined ex-competitive athletes in recreational sport. **Purpose:** The purpose of this study is to determine if levels of athletic identity vary between recreational athletes with a past in competitive sport and life-long recreational athletes. Furthermore, when applicable, if time since competitive career effects current levels of athletic identity among competitive athletes with continued participation in sport. **Methods:** Athletic identity will be measured using the 10-item athletic identity measurement scale (AIMS) and general playing and demographic information will be collected through the online service tool Opinio. **Anticipated Results:** It is expected that ex-competitive athletes who left competitive sport the most recently will demonstrate the strongest levels of athletic identity, additionally, ex-competitive athletes who left competitive sport longer ago will have levels of athletic identity similar to life-long recreational athletes. Finally, among ex-competitive athletes, a longer competitive career is expected to result in a current higher level of athletic identity. **Significance:** This research may help researchers better understand the adjustment in identity in life after competitive sport and also, understand if continued participation in sport can ease the transition out of a competitive career by gradually decreasing athletic identity. In addition, this information could be beneficial to recreational organizations for program design, to know what athletes expect and want from recreational sport.

Athletic Identity  
Psychology, Sports  
Athletic Retirement  
Sport Career Transition  
Recreational Sport

## **An Approach to Reducing Health Risks within the Prison System for Indigenous Offenders**

Farihah Ali, York University

Presented by: Ali, Farihah

**Introduction:** It has been documented that the Indigenous population and the prison population are two vulnerable groups that are more likely to experience poor health, and more specifically contract HIV/AIDS. Furthermore, Indigenous populations are also overrepresented in these two groups.

**Methods:** By conducting a comprehensive scoping review, this paper will identify whether alternatives to incarceration, such as community-based or restorative justice measures, reduce health risks, more specifically HIV and Hepatitis C, among Indigenous offenders. Indigenous alternatives are consistent with Indigenous traditional approaches because they align with the principle of healing. Additionally, it has been documented that while decreasing the overall rate of Indigenous people in the prison system, alternatives to incarceration serve a dual purpose: i) rehabilitating the offender; and ii) reducing the likelihood of contracting HIV.

**Findings:** The findings suggest that there is substantial room for improvement in implementing culturally appropriate alternatives to incarceration, and clear gaps in the literature. Despite widespread agreement on the relationship between Indigenous health and incarceration, there is a lack of rigorous data that supports the idea that alternatives to sentencing reduces Indigenous offenders risk of poor health. However, there have been some successful culturally appropriate community-based alternatives that have been implemented in Canada, such as the Aboriginal Justice Strategy and Gladue Courts.

**Conclusion:** If Indigenous people were given appropriate sentencing alternatives, then health inequities related to HIV could potentially significantly decrease.

Indigenous  
Overrepresentation  
Corrections  
HIV/AIDS  
Restorative Justice

## **iHear: development of a universal screening program for hearing loss across Canada and globally**

Laura Allen, Dalhousie University Faculty of Medicine; Ashley Robinson, Dalhousie University Faculty of Medicine; Adam Rocker, University of Ottawa Faculty of Medicine; Deanna Lammers, University of Ottawa Faculty of Medicine; David Chan Chun Kong, University of Ottawa Faculty of Medicine; Matthew Bromwich, University of Ottawa Faculty of Medicine, Children's Hospital of Eastern Ontario; Manohar Bance, Dalhousie University, QEII Health Sciences Centre;

Presented by: Allen, Laura; Robinson, Ashley

**Introduction:** The purpose of the “iHear” study is to screen for hearing impairment in grades 1-2 children in Halifax. We aim to determine the incidence of hearing loss and improve rates of early intervention. In 2015, the Ottawa iHear team developed and tested a novel method of auditory testing. The project will be expanded to Halifax for the 2016/2017 school year.

Interactive testing is performed through an iPad application called the “Shoebbox Audiometer” which enables children to seek a sound stimulus through a game that assesses hearing sensitivity.

**Methods:** In schools, the Halifax team will test 250-500 grades 1-2 children. Those with positive screens will be referred to an audiologist for workup of the hearing loss.

**Results:** iHear has effective results. Since January 2015, Ottawa has screened 251 children. Twelve screened positive and were offered appropriate intervention. The application fills a large void. There is currently no automated hearing test technology for children in Canada. Based on Ottawa's results, we estimate that this study will improve our understanding of hearing loss in Halifax and allow for earlier detection and treatment. iHear intends to set the stage for the integration of iPad audiometry as a universal screening tool for children Canada-wide.

**Conclusions:** Hearing plays a critical role in the development of communication skills. Undiagnosed hearing loss interferes with social, emotional, and cognitive development. Auditory testing is often expensive and labour intensive. Early childhood is a critical period for screening due to the lasting impact of hearing loss and the profound difference made by intervention.

Audiology  
Otolaryngology  
Hearing loss  
Children  
Screening

## **Significance of The TRPM2 Channel Signal in the Human Gastric Cancer Cell Lines**

Shekoufeh Almasi<sup>1,2</sup>; Barry Kennedy<sup>3</sup>; Shashi Gujar<sup>3</sup>; and Yassine El Hiani<sup>1</sup>.

<sup>1</sup> Department of Biology; <sup>2</sup> Department of Physiology and Biophysics; <sup>3</sup> Department of Microbiology and Immunology, Dalhousie University, Halifax, Nova Scotia, Canada.

Presented by: Almasi, Shekoufeh

**Introduction:** Transient receptor potential, melastatin-2 (TRPM2) is identified as nonselective channel, permeable to calcium, and which has been shown important for tremendous cell processes from controlling cell calcium homeostasis to the regulation of cell growth and death in cancer cells. However, the transduction pathways activated by TRPM2 in cancer remain largely unclear. **Methods:** We generated TRPM2 knockdown in gastric cancer cell lines. Knockdown cells were tested for cell proliferation, apoptosis, autophagy, and mitochondrial function in comparison to control cells. Afterward, cells were treated with different anti-cancer drugs to study the effect of TRPM2 channels' function on chemosensitivity. **Results:** In the present study, we have studied the role of TRPM2 in gastric cancer model. We demonstrated that TRPM2 is functionally expressed in AGS gastric cancer cells, and that its pharmacological inhibition or genetic deletion causes decreased cell proliferation. Moreover, our results show that this effect was concomitant with a decrease in both autophagy flux and expression of autophagy markers (e.g Beclin-1, LC3A/B, ATGs 3,5,7,12). We found that TRPM2 downregulation causes a significant decrease in basal and maximal mitochondrial oxygen consumption rates (OCR), and the ATP production. Results showed that TRPM2 downregulation synergistically enhances anticancer effect of Paclitaxel and Doxorubicin in gastric cancer cells through changing the proliferation and apoptosis. **Conclusion:** These results provide compelling evidence that TRPM2 plays an important role in gastric cancer survival, and propose TRPM2 as a potential therapeutic target, where its pharmacologic inhibition may provide an innovative strategy to inhibit gastric cancer cell proliferation.

TRPM2

gastric cancer

proliferation

autophagy

mitochondria

## **Cerebellar corticogenesis in the ACP2 mutant mice; Purkinje cell neurodevelopmental disorder**

Niloufar Ashtari, University of Manitoba; Xiaodan Jiao, University of Manitoba, Maryam Rahimi Balaei, University of Manitoba; Saeid Ghavami, University of Manitoba; Hassan Marzban, University of Manitoba

Presented by: Ashtari, Niloufar

**Introduction:** A mouse mutant called nax (naked-ataxia); resulting from a mutation in Acp2 gene shows cerebellar defects and neuronal degeneration in its cerebellum. In the Acp2 mutant mouse, three layer cerebellar cortex (Granule cells, Purkinje cells (Pcs) and Molecular layer) was found to decrease significantly and monolayer Pcs turn to multi-layered Pcs that ectopically invade the molecular layer. Reelin is an large extracellular signaling protein important in Pcs monolayer formation in cerebellar cortex. It is required for Pcs distribution from the clusteric stage to establish a monolayer of Pcs between the molecular and granular layer of the cortex. We hypothesize that the establishment of monolayered Pcs is independent of the Reelin pathway, however rely on Reelin through MAPK signaling pathway.

**Methods:** Acp2 mutant mice were used for study and molecular expression and distribution were assessed by immunohistochemistry and Western blotting.

**Results:** The cerebellar cortex of the Acp2 mutant mice reveals the presence of Pcs in a randomized, dispersed manner spanning the entire molecular layer rather than a monolayer in the cerebellar cortex. The pattern of Reelin expression shows a down-regulation in both wild type and mutant, while lower amount of protein is detected in nax mutant. ERK1/2 as a downstream of Reelin signaling pathway accordingly shows a different pattern of expression.

**Conclusions:** multilayer Pcs may be due to the failure of appropriate cross-talk between Acp2 and the Reelin/ERK1/2 signaling pathway during early postnatal cerebellar development.

neurodevelopmental disorder  
development  
central nervous system  
cerebellum  
purkinje cells

## **Double Jeopardy: An exploration of the effects of racism and ruralism on the mental health of ANS**

Rhonda Atwell, Dalhousie University

Presented by: Atwell, Rhonda

**Introduction:** The effects of racism on the mental health (MH) and well-being of African Canadians is increasingly becoming an area of health and scholarly research. Circumstances like multi-generational trauma, racial oppression, and a lack of socio-economic opportunity in society have known and direct impacts on the psychological and social- wellbeing of African descendants in North America. Geographical spatial management of African descendants has been used as a method to isolate, monitor, control and impoverish Black people. However, there is a dearth of literature that looks at the combined effect of racism and rurality on the MH of African descended people. This proposed research will attempt to explore the combined impacts of racism and rurality on the MH and well-being of African Nova Scotians (ANS). **Methods:** Through the use of a qualitative, photo-voice method, focus groups of 4-6 participants in 3 separate indigenous rural ANS communities will be assessed. Participants will explore personal perceptions of their community environment through taking photographs and composing written narratives. **Anticipated Results:** It is hoped that results from this study will reveal the combined impact of racism and rurality on MH outcomes for ANS, which may therefore influence government policy. **Significance:** Training health care professionals in cultural competence may help them understand the deficits that race and isolation place on these marginalized communities in NS. Results will also contribute to the growing literature on the combined effects of racism and rurality on the MH and well-being of ANS.

Racism  
Ruralism  
Mental Health  
African Nova Scotians  
Cultural Competence

## **Exploring Reasons for Use of E-bikes in Halifax: A Qualitative Study**

Emma Avon, Dalhousie University; Sara Kirk, Dalhousie University

Presented by: Avon, Emma

**Introduction:** Within Nova Scotia 15% of adults are meeting physical activity (PA) guidelines (Doctors Nova Scotia, 2014). Active transportation (AT) is proven to improve public health outcomes (Transport Canada, 2011) as 85% of Canadian adults are not getting enough PA (Statistics Canada, 2013; Janssen, 2012). Bicycling allows one to be physically active while traveling to destinations, therefore offering health, economic, and sustainability benefits (Litman, 2003). Further, e-bikes provide an effective mode of transportation because they can reduce fossil fuel emissions when replacing transportation by car, can increase PA levels among users, and overcome barriers, like hilly terrain, that may be encountered through other modes of AT (Lieswyn & Wilke, 2016; Giles-Corti, Foster, Shilton, & Falconer, 2010; Peterman, Morris, Kram, & Byrnes, 2016). This qualitative study will explore the reasons for e-bike use in Halifax and how users would promote e-bikes to others as a form of AT.

**Methods:** This study will use semi-structured interviews to explore individual e-bikes use. Participants will be recruited through posters at local bike shops, social media, and public spaces around Halifax. Interviews will be audio recorded and transcribed. Transcripts will be coded and analyzed using the 6 phases of thematic analysis (Braun & Clarke, 2006) to uncover the main reasons for using e-bikes in Halifax.

**Anticipated Results:** It is expected that interviews will reveal both benefits and barriers to the use of e-bikes, providing insight into their viability as a form of AT in the Halifax region.

**Significance:** The potential impact of these results will inform why individuals use e-bikes and might help develop policy, infrastructure and tools to encourage use within the city.

Active Transportation

E-bikes

Barriers

Bicycling

Physical Activity

Benefits

## **Frequency of physical education courses and high school student classroom engagement**

Taylor Aymar, Université Sainte-Anne; Véronique Brideau-Cormier; Roger Gervais; Caroline Fitzpatrick

Presented by: Aymar, Taylor

**Introduction:** Education represents one of the most important social determinants of health. Research suggests that physical activity in youth can benefit academic achievement and mental functioning. To date, research has yet to assess if the frequency of physical education classes in school is positively correlated with classroom behavior and work habits. The purpose of this study is therefore to examine the hypothesis that youth who attend a school that offers more periods of physical education will show better classroom engagement.

**Methods:** We tested this link with 1207 pre-adolescents attending grade 7 in the province of Quebec. Participants were followed in the context of the Quebec Longitudinal Study of Child Development. Students reported the many periods of physical education they received per 9-day cycle. Teachers reported classroom engagement using 5 items (i.e., follows instructions, works autonomously, pay attention).

**Results:** Multiple regression analysis were conducted to examine associations between physical education and mean classroom engagements scores. After statistically controlling for previous year classroom engagement, sex, and socioeconomic status, physical education positively predicted classroom engagement in grade 7, standardized beta=.06,  $p<.05$ .

**Conclusion:** Classroom engagement is an important predictor of achievement and high school completion. Physical education represents modifiable contextual factor. Consequently, our results suggest that increasing the time devoted to physical education class could benefit comprehensive interventions designed to improve youth academic achievement.

Social determinants of health

Physical education

Classroom engagement

Achievement

Physical activity

## **Development of a Trust in Sport Measure**

Brogan Bailey, Dalhousie University

Lori Dithurbide, Dalhousie University

Presented by: Bailey, Brogan; ,

Introduction - Many professional athletes and coaches have cited great team chemistry as an essential factor in producing a winning team (Beaucamp & Ey, 2014) and research investigating variables such as group cohesion (e.g., Carron, Bray & Eys, 2002), collective efficacy (e.g., Short, Sullivan & Feltz, 2009), and leadership (e.g., Chelladurai, 1990) have all been shown to contribute to team performance (Beauchamp & Eys, 2014). One variable that has lacked considerable research within sport literature is trust. This research has provided the impetus for trust research to move into the world of sport. The purpose of this research is to develop a sport-specific measure of trust. Methods - Procedure will follow typical scale development parameters as follows: 1) developing an understanding through a comprehensive literature review of trust in sport and organizational science; 2) item generation, which entails the development of a comprehensive list of items and narrowing of those items through an expert review process, think aloud protocol and pilot testing; and 3) a confirmatory factor analysis will be conducted to identify the factor structure of an instrument based on participant's responses to pilot data.

Validity and reliability will also be tested for. Anticipated Results - The factor analysis will reveal a factor structure similar to the theoretical framework developed a priori. Furthermore, the measure will be validated as a distinct measure of trust in sport. Conclusions/Significance - This research aims to develop a definition and measure of trust in sport that will allow future researchers to effectively assess trust within sport and examine how it relates to different sport variables (e.g. cohesion, collective efficacy and performance).

Trust

Sport

Group Dynamics

Measurement Development

Performance

## **A longitudinal study of the reciprocal relations between drinking motives and drinking behaviour**

Kristen M. Bailey, Department of Psychology & Neuroscience, Dalhousie University; Sean MacKinnon, Department of Psychology & Neuroscience, Dalhousie University; Sherry Stewart, Departments of Psychology & Neuroscience, Psychiatry & Community Health and Epidemiology, Dalhousie University

Presented by: Bailey, Kristen

**Introduction:** Heavy and problematic drinking among undergraduates has been well documented (White et al., 2006). Cooper's (1994) motivational model of alcohol use has been used to understand risk factors and identify intervention targets for problematic drinking in undergraduates (see Grant et al., 2007). Longitudinal studies have provided inconsistent evidence regarding which drinking motives predict changes in drinking behaviour over time (Armeli et al., 2010; Read et al., 2003). Also, reverse causality studies have found that drinking behaviour is predictive of later drinking motives in adults but not adolescents (Schelleman-Offermans, 2011; Cruzen, 2013). This study sought to examine the reciprocal relations between drinking motives and drinking behaviour in young adults. **Methods:** Data was collected from 302 undergraduates every 6 months in a 4-wave, 18-month longitudinal study design. Participants completed self-report questionnaires regarding their drinking motives, drinking behaviour, and drinking problems through online questionnaires at each wave.

**Results:** Cross-lagged structural equation modelling was used to examine causal ordering and reciprocal effects of drinking motives on drinking behaviour and visa versa. There was poor model fit for most models except coping-with-anxiety motives and drinking problems such that coping-with-anxiety motives was predictive of later drinking problems and vice versa.

**Conclusion:** Drinking motivated by a desire to cope with anxiety may lead to more problematic drinking and conversely problematic drinking may lead to increased drinking motivated by a desire to cope with anxiety among undergraduates. Implications for prevention and treatment of problematic drinking in this high-risk population will be discussed.

Drinking Behavior

Alcohol Drinking in College

Motivation

Causality

Longitudinal Studies

## **Core endurance and functional mobility in lower limb amputees**

Nathan Baker, Dalhousie University

Presented by: Baker, Nathan;

Lower limb amputation has an incidence rate of 1.2-1.4 per 10,000 people worldwide. In Canada Peripheral Arterial Disease (PAD) and diabetes are responsible for 80% of the amputations. Also, 58% of unilateral lower limb amputees experience at least one fall every year, this can cause serious injury for these amputees. Core endurance may be used to predict functional mobility in lower limb amputees. We can use literature published about core endurance and functional mobility in the elderly to try and predict a correlation between these two variables for lower limb amputees. The aim of this study will be to determine whether or not there is a correlation between core endurance and functional mobility in lower limb amputees, and also to determine whether or not core endurance affects an amputee's functional mobility differently with or without their prosthesis. We will use the AMPPRO and the AMPnoPRO to determine the participants' functional mobility with and without their prosthesis, and we will use a modified plank test to determine core endurance. These measurements are still in the process of being collected. The expected outcomes of this study are that the amputees with higher levels of core endurance would also have higher levels of functional mobility. We also expect that the correlation between core strength and functional mobility without a prosthesis will be higher than the correlation between core strength and functional mobility with a prosthesis.

## **Change the Pain - Assessing the Efficacy of Dance Therapy as a treatment for Chronic Pain**

Rebecca Barnstaple, York University; Joseph DeSouza, York University

Presented by: Barnstaple, Rebecca; DeSouza, Joseph FX

**Introduction:** Chronic pain affects increasing numbers of Canadian and remains difficult to treat. There are precedents for the use of dance in the treatment of symptoms associated with chronic pain, along with a need for evidence-based research in this area. Our group proposes a parallel group study design comparing outcomes for participants receiving dance therapy versus psycho-education for the management of chronic pain conditions.

**Methods:** Participants will be divided into four 8-week treatment groups - Dance Therapy, Psycho-education, Both, Wait list.

Baseline measures will be made one week prior to commencing treatment, and at one week post-treatment. Measures include resting EEG correlated with validated scales for psychological and physical function (QoL, PHQ).

**Anticipated Results:** We will look for evidence of brain-based biological changes such as our group has observed in other populations following participation in dance - for example, in Parkinson's patients, we have observed marked improvements in balance, gait, and depression scores, as well as lateralized differences in resting alpha peak power and peak frequency (Levkov et al 2014). We will also investigate the basis for self-reports of improved function and diminished symptoms made by participants in previous groups.

**Conclusions/Significance:** Dance offers a cost-effective means of providing group treatment that may improve the lives of people with chronic pain, while having no adverse side effects and many associated benefits, such as increased social time and exercise. By investigating neurobiological changes associated with participation in dance and correlating these with other measures, we hope to provide insight into the mechanisms of how dance may help people with chronic conditions.

Dance Therapy  
Pain  
Longitudinal  
Brain  
Neurorehabilitation  
Chronic Pain  
Electroencephalography

## **Correlation of Family History of Low Back Pain(LBP) with LBP Development in Response to Sitting**

Matthew Barrett, Memorial University

Presented by: Barrett, Matthew;

**Introduction:** With respect to low back pain, it appears that some people tolerate seated postures better than others. Currently it is not known what factors drive this differential response to sitting. The purpose of this study is to investigate the relationship between family history of low back pain (LBP) and the development of transient LBP in response to sitting.

**Methods:** In this ongoing study 18 participants were recruited from manual therapy clinics and a university population (average age  $25.6 \text{ years} \pm 8.9 \text{ (SD)}$ , height  $182 \text{ cm} \pm 6.0 \text{ (SD)}$ , and mass  $78.7 \text{ kg} \pm 8.9 \text{ (SD)}$ ). Exclusion criteria included age of less than 18 and/or a history of tumor, infection, fracture and/or previous surgery of the spine. A health screening form, including family history questions, was completed at the start of the experiment. Participants were then exposed to a 1-hour sitting trial with a standardized typing task. Ratings of perceived pain were recorded at 7.5-minute intervals using a 100 mm visual analogue scale. Participants were classified into pain groups based on clinically relevant thresholds of pain ( $<10\text{mm}$  change = non-pain developer (NPD),  $>20\text{mm}$  change = pain developer (PD) (Sokka, 2005)). A correlational analysis was conducted to examine the relationship between family history and transient pain response group (SPSS Statistics Software version 23).

**Results/Anticipated Results:** This is an ongoing study. Preliminary data show a trend towards higher incidence of family history in the PD group compared to the NPD group (5/9 NPDs, 4/6 PDs,  $r^2=0.500$ ,  $p=0.312$ ).

**Conclusions/Significance:** The relationship between family history and transient pain development may shed light on a genetic explanation for why some people develop pain in response to sitting whereas others do not.

biomechanics  
prolonged sitting  
low back pain  
family history  
pain development

## **Toxicity of cyanotoxins in murine brain cells: Potential implication for neurodegenerative diseases.**

Nora Benachour, Department of Sciences, Sainte-Anne University

Presented by: Benachour, Nora

**Introduction:** Cyanotoxins have been shown to be highly toxic for mammalian cells, including brain cells. However, little is known about their effect on inflammatory pathways. This study investigated whether mammalian brain and immune cells can be a target of certain cyanotoxins, at doses approximating those in the guideline levels for drinking water, either alone or in mixtures. We examined the effects on cellular viability, apoptosis and inflammation signalling of several toxins on murine macrophage-like RAW264.7; microglial BV-2 and neuroblastoma N2a cell lines. We tested cylindrospermopsin (CYN), microcystin-LR (MC-LR), and anatoxin-a (ATX-a), individually as well as their mixture. In addition, we studied the neurotoxins  $\beta$ -N-methylamino-l-alanine (BMAA) and its isomer 2,4-diaminobutyric acid (DAB), as well as the mixture of both.

**Methods:** Cellular viability was determined by the MTT assay. Apoptosis induction was assessed by measuring the activation of caspases 3/7. Cell death and inflammation are the hallmarks of neurodegenerative diseases. Thus, our final step was to quantify the expression of a major pro-inflammatory cytokine TNF $\alpha$  by ELISA.

**Results:** Our results show that CYN, MC-LR and ATX-a, but not BMAA and DAB, at low doses, especially when present in a mixture at threefold less concentrations than individual compounds are 3–15 times more potent at inducing apoptosis and inflammation.

**Conclusion:** Our results suggest that common cyanotoxins at low doses have a potential to induce inflammation and apoptosis in immune and brain cells. Further research of the neuroinflammatory effects of these compounds in vivo is needed to improve safety limit levels for cyanotoxins in drinking water and food.

Cyanotoxines

Low doses

Apoptosis

Inflammation

Brain cells

Neurodegenerative diseases

## **Searching for the “Gold Standard” of Infant Pain Assessment: A Review of Neurophysiological Methods**

Britney Benoit, School of Nursing, Dalhousie University, Centre for Pediatric Pain Research, IWK Health Centre, Maternal Newborn Program, IWK Health Centre; Ruth Martin-Misener, School of Nursing, Dalhousie University ; Aaron Newman, Department of Psychology and Neuroscience, Dalhousie University; Margot Latimer, School of Nursing, Dalhousie University; Centre for Pediatric Pain Research, IWK Health Centre; Marsha Campbell-Yeo, School of Nursing, Dalhousie University; Centre for Pediatric Pain Research, IWK Health Centre; Department of Pediatrics, IWK Health Centre

Presented by: Benoit, Britney

**Introduction:** While infant pain assessment has historically relied on behavioural pain scores, use of neurophysiological imaging methods is an emerging trend. The aim of this work was to describe the neurophysiological methods that have been used to construct the scientific knowledge base in the field of infant acute pain assessment.

**Methods:** A systematic search of key electronic databases (CINAHL, PubMed, PsycINFO, EMBASE) was conducted from database inception to October 2015. The search strategy included key terms for infant, acute pain, pain response, and neurophysiological imaging methods. Of the 2411 abstracts screened, 19 articles were retained and data on study methodology were extracted.

**Results:** Of the included studies, nine utilized near infrared spectroscopy (NIRS), two utilized functional magnetic resonance imaging (fMRI), and eight utilized electroencephalography (EEG) as the primary outcome. There was variability in research designs and procedures in those studies utilizing NIRS, whereas studies utilizing EEG and fMRI reported consistent methods across studies. Of the eight EEG studies, six reported event-related potentials (ERPs) as the primary outcome. All of the ERP studies identified a distinct nociceptive-specific potential, which was found to be stimulus intensity dependent, independent of sleep state, and present in preterm and full term infants.

**Conclusion:** Of the neurophysiological methods used to date, ERPs appear to be the most consistently described indicator of infant nociception. While additional research is needed, ERPs may be a valuable neurophysiological indicator to supplement behavioural pain tools for use in clinical research to advance our understanding of infant pain responding.

Acute pain  
infant  
neuroimaging  
neurophysiological assessment  
pain assessment

## **Health equity in the SDGs: a nested case study of maternal, newborn and child health in Ethiopia**

Nicole Bergen, University of Ottawa

Presented by: Bergen, Nicole;

**Introduction:** The United Nations 2030 Agenda for Sustainable Development calls for the reduction of preventable health inequities arising from discrimination. The proposed research addresses health equity in the topic of maternal, newborn and child health (MNCH) in the 2030 Agenda, with a country focus of Ethiopia. The central research question is: what are the implications of the conceptualization of health equity on its operationalization in MNCH policies, programs and practices across global, national and subnational levels in Ethiopia?

**Methods:** The research will be conducted as a nested qualitative case study, analysing the case of MNCH interventions in Jimma Zone, Ethiopia within a multi-level analysis of health equity conceptualization, measurement and policy/programmatic development. Qualitative research methods will include document analysis, analysis of primary data (collected through key informant interviews), and analysis of secondary data (selected questions in an extensive qualitative survey that is part of an ongoing intervention trial in Jimma Zone).

**Anticipated results:** The findings of this research are anticipated to show that the representation of health equity across the 2030 Agenda reflects national conceptualizations, and influences the advancement of health equity at national and subnational levels.

**Significance:** The means to achieve and sustain improvements in health equity require multi-level and multi-sectoral collaborative efforts. The proposed research will contribute to knowledge of how health equity is understood by actors at different levels of governance, and how these understandings impact how health equity is pursued through policies, programs and practices.

health equity  
social determinants of health  
maternal health  
global health  
qualitative research

## **Rheumatoid arthritis and comorbid anxiety: An investigation of the impact on disease presentation**

Caitlin Blaney, University of Manitoba

Presented by: Blaney, Caitlin;

**Introduction:** Clinical observations have identified high rates of anxiety symptomology among patients with rheumatoid arthritis (RA); preliminary estimations predict up to 40% of RA patients would meet diagnostic criteria for an anxiety disorder. Despite this high prevalence, and the growing understanding of the impact of comorbid depression on disease course and complexity, there is a paucity of research investigating the influence of comorbid anxiety in RA. The objectives of my dissertation include: 1) examining the relationship between anxiety (both symptomatology and diagnoses) and RA severity/activity over time, as well as 2) testing the impact of a targeted short-term intervention for comorbid mental health dysfunction on RA disease presentation. **Methods:** The first objective will be accomplished using data from the longitudinal province-wide immune-mediated inflammatory disease (IMID) study established in Manitoba. The second objective will require implementation of a 2-day mental health intervention on patients treated at the Health Science Centre, diagnosed with RA and presenting with mental health symptomology. **Anticipated Results:** I expect anxiety disorders involving chronic, enduring stress states (e.g., generalized anxiety disorder) to be associated with worse disease trajectory over time compared to those without an anxiety disorder. I also expect a targeted mental health intervention will improve both anxiety and depressive symptomatology, and RA severity indicators. **Conclusions/Significance:** The proposed research program will significantly contribute to the dearth of literature regarding anxiety in the context of RA, as well as potentially provide means of feasibly mitigating worsened health consequences associated with comorbid anxiety for RA patients.

rheumatoid arthritis

anxiety

comorbid mental health dysfunction

mental health interventions

physical health

mental health

## **Wanting to Sweat Together: Relationship between Community and CrossFit**

Brandon D. Blenkarn, Dalhousie University

Presented by: Blenkarn, Brandon

**Introduction:** Physically-active leisure offers numerous physical, psychological and social benefits. Intrinsically motivated physical activity offers increased enjoyment and long-term participation. Further, there are heightened benefits when physically-active leisure activities occur in community environments. CrossFit is a community-oriented fitness regime significantly growing in popularity, with 14,000 affiliates and approximately two to four million participants. This study is in the pre-proposal stage and the framework will be presented with the goal of examining the relationship between sense of community and intrinsic motivation within CrossFit.

**Methods:** The proposed study is a mixed-methods, cross-sectional design. Comprised of descriptive qualitative and a quantitative correlational aspect, participants will be recruited from CrossFit gyms and respond to online surveys. Participants will complete demographic information, followed by several qualitative responses. Following, they will complete scales that assess motivation and sense of community.

**Anticipated Results:** Quantitative results will be analyzed using a Pearson Correlation coefficient to determine relationships between sense of community and intrinsic motivation. Qualitative results will be examined to determine any descriptive themes regarding community and motivation.

**Significance:** Understanding motivations behind physical activity is important as activity rates are declining overall. Motivation for physical activity currently focuses on extrinsic motivators, such as blood pressure or weight loss. Understanding community factors on these motivations contributes to the literature and knowledge of why people choose their leisure activities.

Physical Activity  
CrossFit  
Community  
Motivation  
Leisure

## **Actigraphy: a valid ‘real-world’ measure of physical activity for manual wheelchair users with SCI**

Sophie Bourassa, Department of Rehabilitation, Université Laval, Centre for interdisciplinary research in rehabilitation and social integration, Centre intégré universitaire de santé et de services sociaux de la Capitale-Nationale, Institut de réadaptation en déficience physique de Québec; Krista L. Best, Department of Rehabilitation, Université Laval, Centre for interdisciplinary research in rehabilitation and social integration, Centre intégré universitaire de santé et de services sociaux de la Capitale-Nationale, Institut de réadaptation en déficience physique de Québec; François Routhier, Department of Rehabilitation, Université Laval, Centre for interdisciplinary research in rehabilitation and social integration, Centre intégré universitaire de santé et de services sociaux de la Capitale-Nationale, Institut de réadaptation en déficience physique de Québec; Jaimie F. Borisoff, International Collaboration on Repair Discoveries (ICORD), Rehabilitation Engineering Design Laboratory, British Columbia Institute of Technology; Kathleen A. Martin Ginis, Department of Kinesiology, University of British Columbia

Presented by: Bourassa, Sophie

**Introduction:** The benefits of physical activity (PA) are well-known (e.g., reduced risk of chronic disease, improved physical and psychological function, increased socialization). However, less than 50% of individuals with spinal cord injury (SCI) who use manual wheelchairs (MWC) are active enough to accrue these health benefits. There has been an increased focus on increasing PA for individuals with SCI, but evaluating PA for MWC users requires valid objective outcome measures. **Method:** Design- Cross-sectional. Participants- 12 community-living adults with SCI who used a MWC for mobility were recruited. Procedure- First, participants donned two Actigraphs (i.e., a lightweight, accelerometry-based activity monitor), one on the arm and one on the rear wheel. Then, during one two-hour session at the Centre for Interdisciplinary Research in Rehabilitation & Social Integration, participants completed a series of PAs (e.g., read a magazine, slalom, wheel outside), which varied among no, low, moderate and high intensity. The Actigraphs collected bouts of PA (i.e., activity counts). A research assistant collected heart rate (HR) and rating of perceived exertion (RPE) at the end of each PA. Data Analysis– Preliminary analysis included graphic observation of activity counts for each PA, and bivariate correlations (Pearson  $r$ ) between average activity counts and (HR and RPE).

**Results:** Preliminary results suggest that Actigraphy can discriminate between various PA intensities. Activity counts correlated with HR and RPE increased across no, low and high intensity PA. It was harder to discriminate between moderate and high intensity PA.

**Conclusion:** Actigraphy is a valid objective measure of PA for discriminating between various intensities of PA in individuals with SCI using MWCs.

Manual wheelchair  
Spinal cord injury  
Actigraphy  
Physical activity  
Objective measure

## **Trunk Extensor Muscle Activation During a Series of Four Spine-Focused Yoga Postures**

Jodi Brake, Dalhousie University

Presented by: Brake, Jodi

**Introduction:** Low back pain (LBP) is a common problem in society, often due to lack of core muscular endurance and coordination, particularly in the trunk extensor muscles. Literature shows that muscular endurance and functional coordination training, lead to improvements in pain. Yoga therapy has been examined in many studies, in comparison to other treatments, and consistently has favorable outcomes on back pain, muscular endurance, and coordination. The Bikram Yoga sequence encompasses postures called “spine strengthening” poses, consisting of four trunk extension poses that are said to strengthen the erector spinae muscles and therefore, maintain and rehabilitate spinal health. Our goal is to determine which erector spinae muscles are mainly activated during the four “spine strengthening” postures, and if they reach the amplitude in which muscular strength will be increased.

**Methods:** Ten healthy female participants will perform the “spine strengthening” postures to the best of their ability. Surface electromyography will be used to collect activation data of the erector spinae muscles (cervical, upper, and lower thoracic, and lumbar). Root mean squared data from each muscle during each pose will be normalized to the participant’s maximum voluntary isometric contraction (MVIC), analyzed using a repeated measure ANOVA, and presented as a percentage of the MVIC.

**Anticipated Results:** It is expected that the various yoga postures will produce different muscle activation patterns for each of the erector spinae muscle sections, however not to the amplitudes required to increased muscular strength.

**Significance:** We hope these findings will help guide trunk extensor exercise and rehabilitation programs for patients with LBP.

Yoga  
Electromyography  
Extension  
Muscle activation  
Erector spinae

## **From Hospital to Home for Medically Complex Children: A Scoping Review**

Sydney Breneol, BScN RN, Dalhousie University; Julia Belliveau, BScPharm, MHA, Dalhousie University; Christine Cassidy, RN BScN PhD, Dalhousie University; Janet Curran, PhD RN, Dalhousie University

Presented by: Breneol, Sydney

**Background:** Children with Medical Complexity constitute a small but resource-intensive subgroup of Children with Special Health Care Needs. Their medical fragility and resource-intensive needs put them at greater risk for inadequate transitions from hospital to home, and subsequent adverse outcomes and hospital re-admission. This scoping review aims to map empirically researched interventions, frameworks, programs or models that could inform or support the transition from hospital to home for CMC. **Methods:** We conducted a scoping review of three electronic databases (PubMed, EMBASE, CINAHL) and hand-searched four high impact paediatric journals and reference lists of relevant articles. Two reviewers independently screened the literature results according to inclusions/exclusion criteria and extracted data from included studies. Themes were identified through thematic analysis of the included studies. **Results:** Of the 2,088 abstracts retrieved, 14 studies met the inclusion criteria. Following analysis, we identified three major categories of interventions: Comprehensive care plans (or medication list) (n=3), Complex Care Programs (CCPs) (n=8) and Integrated delivery models (n=3). **Conclusions:** In the absence of evidence-based guidelines to ensure adequate transitions from hospital to home for CMC, identification of potential models to support this transition is imperative. We identified interventions, frameworks, models and programs in the literature that might inform the development of such guidelines; however, there is a need for consensus around the definition for CMC and the limited number of these studies signals the need for further research to improve the transition from hospital to home and ultimately, improve patient and family outcomes.

children with medical complexity  
complex care needs  
health care professional  
nursing  
paediatrics  
scoping review  
transitional care

## **How do heteronormative social expectations effect sexualrelationships of youngwomen with dyspareunia**

Katherine Brown, Dalhousie University

Presented by: Brown, Katherine

**Background:** Dyspareunia is a heterogeneous pain disorder associated with penetrative vaginal sexual intercourse that can impact approximately 10-15 % of women. However, little is known about the experiences these women face, particularly in relation to heteronormative social expectations about women's sexuality and sexual pleasure (Donaldson & Meana, 2011; Landry & Bergeron, 2011). Studies to date have been largely focused on older, heterosexual women who are pre-and-postmenopausal (Landry & Bergeron, 2011). Behaviors related to social taboos in sexual health create a number of barriers for individuals faced with pain related to sexual intercourse (Donaldson & Meana, 2011). A variety of determinants of health, such as sex, gender and age, can substantially impact on the ways in which this condition is understood, diagnosed and treated (Landry & Bergeron, 2011).

**Methods:** Using a scoping review methodology, the proposed study will explore how this condition is perceived and how treatments are described (e.g., biomedical, psychosocial, heteronormative).

**Results:** Emergent themes from the literature will identify the significant gap in knowledge when it comes to young women, sexuality, and first onset of dyspareunia.

**Conclusions:** Heteronormative expectations around sexuality and dyspareunia provide important insights into this disorder, its treatment and inform future research. Results from this study may also be useful in developing sexual health promotion interventions to reduce the hegemonic practices that exclude the experiences of women who do not have penetrative-penile-vaginal sexual relations and places barriers on patients who break the socially constructed roles placed upon their gender.

heteronormativity  
society  
social  
bias  
dyspareunia  
vulvodynia  
heterosexism

## **An exploration of mature women's aging experiences while in long-term relationships with younger men**

Ms. Sara Brushett, Dalhousie University; Dr. Brad Meisner, Dalhousie University

Presented by: Brushett, Sara

**Background:** Aging is more than physiological change. It is, in part, a psychosocial construct. Due to the aging population living longer than before, new concepts of aging are being brought to attention, such as the cougar phenomenon. A “cougar” is a colloquial term used to describe a relatively older woman who has romantic relationships with a younger man. Research on the cougar phenomenon and their experiences with aging is needed to explore women's health and well-being as they age. The purpose of this study was to explore experiences of aging and being a “cougar” among older women who engage in romantic relationships with younger men.

**Methods:** Qualitative data were collected through one-on-one, semi-structured interviews with three participants. Participants were women who were in, or had recently been in, a long-term romantic relationship with a younger man. Interview audio recordings were transcribed verbatim and thematic analysis was performed using the constant comparison method.

**Results:** Results conveyed both positive and negative experiences of aging that women encountered over their lifespan. These experiences were: a) reinforced by their romantic relationships with younger men, and b) found to operate on individual, interpersonal, and societal levels. Participants explained that their aging experiences were impacted by social norms that are gendered and largely negative towards women.

**Conclusion:** By going against social norms and embracing their own selves, participants proactively approached psychosocial changes of aging in a more positive, open, and affirming way. This study indicated that there is a need for more research on this topic to better understand aging as a woman within the cougar phenomenon.

Aging  
Ageism  
Social Norms  
Women's Health  
Qualitative Research

## **Caffeine Use by Professional Students: The Meaning Behind the Cup**

Marisa Buchanan, Dalhousie University; Joy Munroe, Dalhousie University

Presented by: Buchanan, Marisa; Munroe, Joy

**Background:** Coffee and tea are popular beverages consumed by many adults within Canada, including professional students. Coffee and most teas contain caffeine, a stimulant that often has physiological effects on the consumer. Although caffeine is one of the most commonly used substances in Canada, its consumption is not always considered to be substance (Lieberman et al., 2015).

**Methods:** This pilot study aims to understand and explore the desired social and physiological effects of caffeine use by professional students. This mixed methods study used quantitative data collected from ecological momentary assessment and qualitative data collected from semi-structured interviews. Participants reported instances of substance use, effects, meanings, and the way that substance use is viewed within their professional environment.

**Results:** Findings show that the consumption of caffeinated beverages among Canadian professional students is not merely for physiological purposes, but for sociological purposes as well. Results show that consuming caffeine is a large part of the professional student experience, as caffeine is consumed to increase social interactions, improve alertness, increase bonding amongst professionals and students, demonstrate business, and as a part of a routine.

**Conclusions:** This study reveals meanings and implications of caffeine usage amongst professional students in Canada. By understanding the way that professional students view their own use of caffeine within the culture surrounding caffeine within this population we can develop richer interpretations of substance use as a socially influenced phenomenon.

Caffeine  
Occupational Health  
Performance-Enhancing Substances  
Work Performance  
Quality Improvement

## **Key Predictors of Self-Rated Health and Use of Health Services Among Various Ethnic Groups**

Emily Budden, Dalhousie School of Nursing; Dr. Audrey Steenbeek, Dalhousie School of Nursing; Dr. Margot Latimer, Dalhousie School of Nursing; Dr. Amy Bombay, Dalhousie School of Nursing/Department of Psychiatry; Dr. Gordon Flowerdew, Department of Community Health and Epidemiology

Presented by: Budden, Emily

**Introduction:** Maritime universities have become mosaics of cultural, ethnic and racial diversity more so than ever before. Although an abundance of research exists on the racial/ethnic disparities in health and healthcare, there remains a paucity of studies thus far, examining key predictors of self-rated health and use of health services among undergraduate students from different cultural, ethnic and racial groups.

**Methods:** The proposed research will utilize a secondary analysis on data previously collected from the 2012 Maritime Undergraduate Student Sexual Health Services Survey (n=10, 361); an online survey administered to undergraduate students attending 8 Maritime universities. The outcome variables: self-rated health and health service use will be analyzed between the different ethnic groups with theoretically important predictor variables.

**Anticipated Results:** Univariable logistic regression will be used to examine individual relationships between self-rated, overall health, health services use (stratified by race/ethnicity and sex/gender) and the independent variables. Multivariable logistic regression will then examine and predict relationships and interactions between self-rated health and health service use with the independent variables.

**Conclusions:** The aim of the research will be to determine the key predictors of self-rated health among undergraduate students from various cultural, ethnic and racial groups. By examining which determinants of health are key predictors for higher rating of self-reported health, clinicians, decision makers and policy planners will be in a better position to tailor their university healthcare services.

Nursing  
Health Services  
Social Determinants of Health  
Cultural Competency  
Health Promotion

## **A Leisure perspective on the debate over neighbourhood drinking establishments in Halifax, NS**

Robyn Burns, Dalhousie University; Dr. Karen Gallant, Dalhousie University

Presented by: Burns, Robyn

**Introduction:** While social drinking is a common leisure activity, much of the literature has focused on alcohol abuse, deviance, and hedonism, largely excluding the study of social ties and social support that may be cultivated over a drink with friends. Leisure Studies mostly adheres to this dominant discourse, despite the absence of a health promoting mandate. Williams (2009) argues that Leisure scholars should avoid problematized and moralistic judgement. Oldenburg's (1999) concept of 'third place' (i.e., welcoming informal public gathering places) provides a valuable lens for the proposed project, suggesting pubs may be important sites for fostering social inclusion, cohesion, and capital (1999). Opportunities for casual social interaction may be reduced in areas undergoing rapid change and gentrification (Colic-Peisker & Robertson, 2014), such as North-Central Halifax. Here, the debate over drinking establishments appears pervasive, evidenced through halted proposals, contentious neighbour relations, and extensive media coverage, in what is known as a highly connected, albeit changing, neighbourhood. **Purpose:** The purpose of this study is to describe the discourse that informs debate over neighbourhood drinking establishments in North-Central Halifax. **Methods:** Critical Discourse Analysis methods will be used to further our understanding of this debate through written discourse (i.e., local news media) and oral discourse (i.e., key informant interviews) (Gee, 2011; Phillips & Hardy, 2003). **Results:** It is anticipated that local discourse functions as a form of rhetoric towards a desired outcome. **Significance:** This study is novel and timely for its position within a rapidly changing neighbourhood and consideration of drinking as an enjoyable form of casual leisure.

Drinking establishments

Third Place

Community Cohesion

Casual social interaction

Urban Development (Gentrification)

## **Does the Team Configuration Impact Access to Nova Scotia Primary Healthcare Nurse Practitioners?**

Kristen Callaghan, Medicine, Dalhousie University; Emily Gard Marshall, Department of Family Medicine, Dalhousie University; Ruth Martin-Misener, School of Nursing, Dalhousie University; Colleen O'Connell, Department of Family Medicine, Dalhousie University

Presented by: Callaghan, Kristen

**Introduction:** The addition of nurse practitioners (NPs) in primary healthcare is a care model implemented across Canada to address patient needs, including accessibility. Care models including NPs are varied; in Nova Scotia, these are not predefined and often not well documented, providing a gap in knowledge for replication and comparison. This study expands on recent work defining practice configurations of Nova Scotia primary healthcare NPs (consultative, dyad and multiprofessional) by comparing NP access in each configuration.

**Methods:** Data were collected as part of the Models and Access Atlas of Primary Care in Nova Scotia (MAAP-NS) study, a telephone and fax survey of all primary healthcare providers province-wide. Accessibility measures included urgent and non-urgent NP appointment wait times, after-hours coverage and acceptance of new patients. NP accessibility was compared between the three configurations.

**Results:** The multiprofessional configuration had shorter median NP appointment wait times: 0.5 days for urgent appointments vs 6.5 days (dyad,  $p=0.004$ ) and 4.5 days (consultative,  $p=0.003$ ), 4 days for non-urgent appointments vs 15 days (dyad,  $p=0.020$ ) and 3.5 days (consultative,  $p>0.05$ ). Only NPs in multiprofessional configurations provided after-hours coverage. Over 50% of NPs in each configuration were accepting new patients.

**Conclusion:** While NP accessibility appeared to be greatest in multiprofessional configurations, NPs in all configurations increased practice capacity by accepting new patients. These results support the current shift toward team-based care and should be considered along with local needs and resources in decisions on team configuration implementation.

Nurse practitioners  
Primary healthcare  
Accessibility  
Nova Scotia  
Team-based care

## **Cultural narratives in psychiatry: Barriers to mental health for communities of colour in Canada**

Vashti Campbell, Memorial University

Presented by: Campbell, Vashti

**Introduction:** Indigenous, Immigrant, Refugee, Ethno-cultural and Racialized (IIRER) people have different experiences of colonization and settlement. My research examines systemic and institutionalized racism in Mental health care (MHC), and explores the effects of transcultural frameworks, institutional policies and diagnostic texts on psychiatric praxis from the perspectives of hospital-based MHC providers and IIRER patients.

**Methods:** I will 1) conduct an environmental scan of existing public and organizational policies related to MHC of IIRER populations; 2) make a comparison of local policies and diagnostic methods with evidence-based recommendations and leading practices; and 3) study personal narratives of both patients and care-providers related to quality of cultural care in hospital-based MHC settings. I will explore relationships across regions, diagnostic categories, and ethno-cultural identifiers by reviewing demographic and diagnostic mental health data from provincial and national data centres.

**Anticipated Results:** My research will identify strengths and limitations of current transcultural care models. Based on my findings, I will develop patient- and physician- informed best practices for transcultural MHC, focusing on structural and systemic barriers in the clinical encounter. I will illuminate the processes of social exclusion within MHC, identifying patterns and transcultural practice issues that warrant further exploration.

**Significance:** My research contributes to better understanding how health care policies and organizational culture affect patient experiences of MHC. Nationally, policy discourse related to human and health care rights will be advanced. Globally, this work will promote best practices for MHC with IIRER groups.

Psychiatry  
Culturally Competent Care  
Health Policy  
Narration  
Policy Analysis  
Data Interpretation, Statistical  
Postmodernism

## **Development of a Transfer Summary Tool for Patients with OI Transitioning to Adult Primary Care**

Jaimie Carrier, Shriners Hospital for Children - Canada

Presented by: Carrier, Jaimie

**Background:** The provision of a transfer summary, which consolidates important health-related information, is critical for improving the transfer of former pediatric patients into adult healthcare services. In an effort to optimize transition, an inter-professional task force was assembled to review the literature, appraise the evidence, develop guidelines, and create a transfer summary tool tailored to the osteogenesis imperfecta (OI) population.

**Methods:** Our methodology adhered to the process of developing evidence-based guidelines and consisted of the following steps: (1) Expert Task Force Composition; (2) Literature Review and Analysis; (3) Consensus Development Based on Evidence; (4) Guidelines and Conflict of Interest; (5) Revision Dates and Plan for Updates.

**Results:** The inter-professional task force consisting of clinicians, researchers and former pediatric patients. The literature search revealed a paucity of research on the transition process for patients with OI and no published transfer summaries for former pediatric patients transitioning into adult healthcare services. Over 5 iterative cycles, the OI transfer summary tool was created, which included the following topics: (1) primary health care needs; (2) work and education; (3) functional capabilities, mobility and transport; (4) psychosocial needs and concerns; (5) medical needs and concerns; and (6) general information.

**Conclusion:** The creation of a clinically meaningful, patient-focused, transfer summary contributes to the paucity of OI and transition literature, and offers a process for developing tools to facilitate the transition of former pediatric patients into adult healthcare services. Future research is needed to evaluate the implementation and evaluation of the summary tool in practice.

transfer  
inter-professional  
primary care  
pediatric  
tool  
transition

## **Evaluating the Use of a Health Crew (H-Crew) to Promote Mindfulness Meditation Sessions**

Avery Marie Carter, St. Francis Xavier University

Presented by: Carter, Avery

**Introduction:** Universities offer a variety of optional activities to promote health and well-being. Mindfulness meditation is one such initiative; found to decrease students' perceived stress and increase positive emotion and self-compassion (Rogers, 2013). Despite these benefits, mindfulness sessions are often undersubscribed. One potential solution, however, is health discussion groups; found to increase participation in activities and target barriers to participation, such as lack of experience (Meier, Stock, & Krämer, 2007). **Methods/Anticipated Results:** The objective of this study was to test the effectiveness of a health crew (H-crew) to promote mindfulness sessions to students in first-year residences and classrooms. Through engaging face-to-face presentations, and a 15-minute sample of mindfulness meditation delivered by a health professional, we predicted a positive impact on awareness and participation in the mindfulness sessions offered on campus. Furthermore, we hypothesized that participation as an H-Crew member would reinforce positive health attitudes and behaviours. The effectiveness of H-crew was evaluated using pre-post measures of: past experience of mindfulness, intentions to participate in the sessions, perceived efficacy of H-Crew, and stress levels. Effectiveness of the sessions was indirectly assessed using an exit survey at the actual mindfulness sessions, asking how participants heard about them. **Conclusions/Significance:** Although the pilot study will be conducted on a relatively small sample of university students, it provides a test of the general effectiveness of the technique. If successful, it has the potential to expand to other activities and settings.

health promotion  
peer health education  
health discussion groups  
university  
mindfulness

## **What do medical students learn about social class from the formal curriculum?**

Terrilyn Chiasson, Mount Saint Vincent University

Presented by: Chiasson, Terrilyn

**Introduction:** Medical education recognizes social determinants of health, wherein some members of society experience health and healthcare inequities due to social circumstances, which may be part of deeply-ingrained social class backgrounds unfamiliar to most medical students, mainly from middle or upper class social backgrounds.

**Methods:** A substantial amount of teaching in the first two years of this medical school is done through tutorials using case studies and two types were analyzed using Foucauldian-influenced discourse analysis to examine how social class is discursively constructed through the formal materials of the curriculum. In addition, interviews were conducted with six medical students who had studied these same cases as part of their curriculum.

**Results:** Upon analysis, it was found that in the introduction of some cases there was mention of social class and social determinants of health to explain that the social backgrounds of some individuals may lead to inequities in healthcare and health, yet in the actual medical case presented there was little application of this information and patients are expected to change their lifestyles to improve health, regardless of their circumstances. Students interviewed provided solid definitions of social class, and the social determinants of health, but reiterated expectations that all patients follow certain individual lifestyle behaviours to improve their health, regardless of social circumstances.

**Conclusions:** While the curriculum analyzed does discuss social class and social determinants of health in theory, it does not teach a practical application of this analytic or practice framework that students can take forward in practice.

medical education

social class

social determinants of health

formal curriculum

Foucault

## **HOPES Student Run Health Centre: Interprofessional education and increasing social responsibility**

Braydon Connell, Dalhousie University; Heather Webster, Dalhousie University

Presented by: Connell, Braydon; Webster, Heather

**Introduction:** HOPES (Halifax Outreach Prevention Education Support) is a student led initiative with the objective of establishing an interprofessional (IP) community Health Centre for marginalized populations at St. Andrew's church Sunday Suppers. HOPES aims to provide health professional students a unique IP education (IPE) experience, helping to understand student's learning during team-based care and potentially increasing empathy for marginalized individuals.

**Methods:** A retrospective pre-test/post-test design will be used to administer the Interprofessional Collaborative Competency Attainment Survey (ICCAS) and Jefferson Empathy Scale – Health Professional Students (JES-HPS) to student volunteers of HOPES. HOPES has students involved from 9 health professional programs from 3 institutions. It is anticipated that all programs will participate in the surveys. Semi-structured focus groups will be conducted to understand student IP experience with HOPES better.

**Anticipated Results:** After volunteering with HOPES, it is anticipated that students will demonstrate improved scores regarding behaviors associated with person-centered, team-based, collaborative care, and higher rates of empathy.

**Significance:** Participation in HOPES will promote collaborative learning, challenge misconceptions and expose students to care experiences, advocacy, and social responsibility. Learning will involve IP patient/clients encounters and reinforced by formal/informal communication. HOPES has the potential to drive interest in serving marginalized populations with empathy and stimulate frontline care careers. We propose HOPES as a model for IPE with implications for optimal learning environments to promote team-based care.

student-run-clinic  
inter-professional education  
collaborative  
empathy  
marginalized  
social responsibility  
advocacy

## **Mental and Physical Health Differences Between Burnout, Engagement, and Other Work Experiences**

Ryan Cook, Acadia University

Presented by: Cook, Ryan

**Introduction:** The literature appears to be drifting away from the original three-dimensional structure of burnout, towards only measuring exhaustion. However, all three components represent important work-related difficulties that many people experience, and the construct cannot truly be measured without all three dimensions. Another point of contest in the literature is how burnout is experienced concurrently with its debatable opposite ‘work engagement.’ The current study provides insight into both of these issues by using cluster analysis to identify common experiences of burnout and engagement, and exploring how these clusters differ in terms of mental and physical health.

**Method:** A sample of 274 university students completed a survey. They were then grouped based on their individual exhaustion, cynicism, self-efficacy, and vigor scores. The mental and physical health of clusters were compared.

**Results:** Five clusters existed in the sample which, from largest to smallest, were: Engaged, Overextended (high exh only), Ineffective (low s-e only), Disengaged (high cyn only), and Burnout. The Engaged cluster had significantly better physical health than every other cluster. There were no differences in physical health between the others. The Engaged cluster also had the best mental health, the Overextended, Disengaged, and Ineffective clusters had equally poor mental health, but the Burnout cluster had significantly worse mental health than everyone else.

**Conclusions:** Burnout is not exhaustion alone, all three components are equally important. Actually, burnout is particularly mentally debilitating. Additional analyses leaned toward a bipolar relationship between burnout and engagement. Implications for interventions and future burnout research are discussed.

burnout  
engagement  
work  
health  
exhaustion  
workplace  
stress

## **The eShift model of palliative home care: The impacts on family caregiver respite**

Ann Marie Corrado, Health and Rehabilitation Sciences Program, University of Western Ontario; Sandra Regan, Arthur Labatt Family School of Nursing, University of Western Ontario; Lorie Donelle, Arthur Labatt Family School of Nursing & School of Health Studies, University of Western Ontario

Presented by: Corrado, Ann Marie

**Introduction:** Family caregivers are an important component of home-based palliative care as they provide unpaid assistance to their family and friends, during their last days and weeks of life. In recent years, over one third of caregivers in Ontario have reported feelings such as depression, anxiety, and distress. In 2010, in London Ontario, the South West Community Care Access Centre developed a new model of palliative home care called “eShift” led by an interdisciplinary team of healthcare professionals, that focused care both on the patient and their family caregiver. The eShift model connects personal support workers to a remote registered nurse (via technology) to offer palliative care in a client’s home and simultaneously provide family caregivers with respite. This study aims to examine the impact of the eShift model of palliative care on family caregiver respite, particularly sleep and stress.

**Methods:** This mixed methods study will involve secondary data analysis of 16 interviews that were conducted with family caregivers and questionnaires to measure sleep and stress, before and during eShift. Quantitative data will be analyzed using a paired t-test and the qualitative data will be analyzed using thematic analysis.

**Anticipated Results:** This study will provide evidence about the impact of the eShift model on caregiver respite and well-being.

**Significance:** The Canadian Caregiver Strategy has advocated for the need to safeguard the health and wellbeing of family caregivers as well as the urgent need to invest in research on family caregivers. Therefore, the results of this study will provide additional evidence to inform decisions that support family caregivers and the wide-spread implementation of eShift across Ontario.

Palliative care  
Family caregivers  
Respite  
Home care  
Interdisciplinary team

## **Shoulder Mobility Differences with Total Rotator Cuff Tears**

Colleen Dewis, Dalhousie University; Heather Johnston, Dalhousie University; Dr. John Kozey, Dalhousie University

Presented by: Dewis, Colleen

**Introduction:** Factors such as age, gender, work history and activity level can impact shoulder range of motion(ROM), and a rotator cuff injury can have significant impacts (Gill, Gustafsson et al. 2006). Recovery following repair has shown improvements in pain, strength and ROM values in most patients (Cofield, Parvizi et al. 2001). This paper presents a comparison of the ROM differences between traditional clinical measures and a functional reach technique for asymptomatic and symptomatic participants.

**Methods:** Range of motion values were collected using a goniometer, utilizing standard clinical assessment methods. For asymptomatic patients, ROM was collected from their right arm (N=6). Symptomatic participants were collected on their injured side (N=5).

**Preliminary Results:** ROM values for asymptomatic participants are consistently larger than their symptomatic cohort. These differences were statistically significant for abduction, passive flexion, passive abduction, and passive external rotation.

**Discussion:** The average values for the asymptomatic group are slightly lower than those expected by the American Association of Orthopedic Surgeons of 180o for flexion and abduction, and 90o for internal and external rotation (Surgeons 1965).

Future work will include larger sample size, as well as examining the changes to ROM values of the symptomatic group at approximately 3 months following surgical rotator cuff repair.

Range of Motion  
biomechanics  
reach  
rotator cuff tear  
reach envelope

## **Knowledge, Attitudes, Beliefs and Behaviours of Public and Providers About Pharmacists as Immunizers**

Antonia Di Catri, St. Francis Xavier University

Presented by: Di Castri, Antonia

**Introduction:** Despite recommendations by the National Advisory Committee on Immunization, vaccine coverage among adults in Canada remains suboptimal. There have been limited studies on the knowledge, attitudes, beliefs and behaviours of community-dwelling members of the public and healthcare professionals about the changing role of pharmacists as immunizers in Canada. Historically interventions aimed at improving vaccine coverage have been education focused, which has proven insufficient to initiate behaviour change.

**Methods:** This is a quantitative research design using two online surveys targeted towards vaccine providers and community dwelling adults and their knowledge, attitudes, beliefs and behaviours regarding vaccines and pharmacists as immunizers.

**Results:** The purpose of this research is to glean a deeper, more informed understanding of the knowledge, attitudes, beliefs and behaviours of community-dwelling adults, pharmacists and vaccine providing physicians and nurses regarding vaccines and pharmacist delivery of them.

**Conclusions/Significance:** Knowledge generated from this research will serve as pre-program data for a larger interventional study through the Canadian Center for Vaccinology. Summary reports of the findings will be distributed to decision-makers at a provincial level, public health decision makers, professional associations and membership, and members of the community to generate interest and awareness in the field of vaccinology, impart knowledge and catalyze practice and behaviour change. These data have the potential to contribute to public health decision making regarding an expanded role of pharmacists in adult vaccination. This expanded role maybe an important factor in a multi-interventional program to improve vaccination amongst adults.

Nursing  
Public health  
Vaccination  
Pharmacists  
Community survey

## **Cost-effectiveness of the use of human milk derived fortifier for exclusive human milk diet**

Timothy Disher, Dalhousie University/IWK Health Centre; Dr. Louis Beaubien, Dalhousie University; Dr. Marsha Campbell-Yeo, Dalhousie University/IWK Health Centre

Presented by: Disher, Timothy

**Background:** Mother's own milk is recommended as the primary source of nutrition for all neonates, with pasteurized donor milk considered an acceptable alternative when volumes are insufficient. Human milk is particularly important for extremely preterm children. Some suggest that the use of bovine human milk fortifier may eliminate the previously established benefits of the use of donor milk to supplement mom's own milk in extremely low gestational age neonates. An exclusive human milk (EHM) diet can be achieved with human milk derived fortifiers, but these are costly. The purpose of this study was to develop a cost-effectiveness model of EHM diets.

**Methods:** A markov decision model was developed using TreeAge Professional to measure the cost-effectiveness of an EHM diet over an 18-year time horizon, from the perspective of the Canadian public payer. Parameter inputs were derived through a search of the published literature. Costs were converted to 2016 Canadian dollars and, Costs and QALYs were discounted at 5%. The primary outcome was the expected value of the incremental cost-effectiveness ratio (ICER).

**Results:** The ICER of \$46,721.52 would be considered cost-effective using a typical Canadian willingness to pay of \$50,000/QALY. The decision was sensitive to variations in the cost of EHM fortifier, and relative risk reductions.

**Conclusions:** Despite high costs, an EHM diet is likely to be cost-effective for ELGA neonates. Future research should evaluate the benefits of EHM or improve the estimates of utilities accrued in later life.

neonatal  
breast feeding  
breast milk  
low birthweight  
preterm

## **eHealth interventions for parents in NICUs: Preliminary findings of a JBI systematic review**

Justine Dol, Health, Faculty of Health Professions, Dalhousie University, Centre for Pediatric Pain Research, IWK Health Centre; Alannah Delahunty-Pike, Centre for Pediatric Pain Research, IWK Health Centre; Marsha Campbell-Yeo, Centre for Pediatric Pain Research, IWK Health Centre, School of Nursing & Department of Psychology & Neuroscience, Dalhousie University

Presented by: Dol, Justine

**Introduction:** There is an emerging use of eHealth interventions in neonatal intensive care units (NICU) to improve family-centred care. While literature exists regarding parental experiences in the NICU, little is known about the “virtual” experience of parents and the role of eHealth interventions. Our objective was to examine the impact of eHealth interventions used in the NICU on parent-related and infant outcomes.

**Methods:** We systematically searched PubMed, CINAHL, PsycINFO and EMBASE from inception to November 2016 using the key terms for neonatal, parents, eHealth, education, and communication. Inclusion criteria were peer-reviewed empirical studies published in English related to eHealth interventions in the NICU focused on parents.

**Results:** Based on the search strategy, 2,617 articles were identified. After the removal of duplicates (n=77) and those meeting the exclusion criteria (n=2,542), 25 full-text articles were retrieved and screened. Using the Joanna Briggs Institute (JBI) methodology, n=10 articles were critically appraised and n=8 met acceptable inclusion. eHealth interventions varied considerably in design. The examination of effect was limited due to variability in study methodology and measurement instruments used. Most consistently reported parent-related outcomes were on the use of eHealth interventions (n=4), acceptance by parents (n=3), technical issues (n=4), and stress/anxiety (n=3). On neonatal-related outcomes, most studies reported on length of stay (n=5) or parental presence or interaction (n=3).

**Conclusion:** Despite the growing use of eHealth interventions in the NICU, there remains a paucity of consistent reporting to evaluate the effectiveness of neonatal eHealth interventions on the impact on parent-reported and infant outcomes.

eHealth  
Neonatal Intensive Care Units  
parents  
preterm infant  
review

## **Benefits of Physical Activity in Adolescents with Developmental Disabilities in a Community Setting**

Kearney Dover, Dr. Nigel Livingston

Presented by: Dover, Kearney

**Introduction:** Keeping up and maintaining physical fitness can be a struggle for the majority of the of population, but for vulnerable groups, such as those with disabilities may be a greater challenge. Students are all required to take part in a physical education class in their high school years. However, while some may choose to participate, others may not. Approximately 15% of the global population have some form of disability and although there's a growing number of programs aimed to promote inclusivity, their needs are still not being met than those without disabilities.

**Methods:** A mixed methods approach will be used in this study. Quantitative surveys will be composed for the students and parents to explore their habits at home and in the community as well as conducting interviews with parents and physical education teachers of the students for their time on school grounds.

**Results/ Anticipated Results:** Anticipated results would be that physical activity is in fact beneficial for high school students with developmental disabilities outside of school in a community setting. Barriers may be found that make this challenging for some students based on certain factors in their lives which have not yet been discovered.

**Conclusions/Significance:** Research and previous studies show that physical activity benefits adolescents with developmental disabilities. In any type of research, a large sample size will be extremely beneficial in the overall findings to determine if the students are receiving adequate amounts of physical activity outside of school.

Disability  
Community-based  
Healthy Living  
Activity  
Recreation  
Adolescents

## **Comparison of Approach and Avoidance Sexual Goals in Couples with Vulvodynia and Community Controls**

Justin Dubé, Dalhousie University; Dr. Natalie Rosen, Dalhousie University; Dr. Amy Muise, York University; Dr. Sophie Bergeron, Université de Montréal

Presented by: Dubé, Justin

**Introduction:** Vulvodynia (a vulvo-vaginal pain condition) is a prevalent sexual dysfunction that interferes with the sexual and relational functioning of affected couples. Having sex to pursue desirable outcomes (approach sexual goals; e.g., intimacy) is associated with enhanced sexual desire and relationship satisfaction whereas having sex to avoid negative outcomes (avoidance sexual goals; e.g., guilt) is associated with lower desire and satisfaction. Approach and avoidance sexual goals have been linked to the sexual and relationship well-being of both women with vulvodynia and their partners. Yet whether sexual goals differ in couples coping with vulvodynia, compared to community couples, is unknown. Enhancing knowledge about whether, and how, approach and avoidance sexual goals differ could help to account for the negative consequences that are commonly observed in couples affected by vulvodynia.

**Methods:** Women with vulvodynia (N = 163) and their partners and 151 control couples completed measures of approach and avoidance sexual goals.

**Results:** Both women with vulvodynia and their partners reported higher avoidance sexual goals than control women and partners. Couples affected by vulvodynia reported lower approach sexual goals than control couples. Women with vulvodynia also reported higher avoidance sexual goals and lower approach sexual goals compared to their partners.

**Conclusions:** Our findings suggest that the sexual goals of couples affected by vulvodynia differ from those of controls and support sexual goals as targets for psychological interventions to help couples coping with vulvodynia

Vulvodynia  
provoked vestibulodynia  
couples  
sexual motivation  
sexual goals

## **Characteristics and Service Use of Patients Screened but Ineligible for Early Psychosis Intervention**

Jordan Edwards, Western University; Dr. Ross Norman, Western University; Dr. Arlene Macdougall, Western University; Dr. Lena Palaniyappan, Western University; Dr. Paul Kurdyak, CAMH; Dr. Kelly Anderson, Western University

Presented by: Edwards, Jordan

**Background/ Purpose:** Psychotic disorders have a major effect on a person's quality of life and a significant economic impact. To date, there has been no research describing the characteristics and ongoing service use of people screened for early psychosis intervention (EPI) who do not meet the eligibility criteria of the program. These people may be at a high risk for unmet mental health care needs.

**Methods:** Using health administrative data obtained from the Institute for Clinical Evaluative Sciences, we constructed a retrospective cohort of incident cases of psychotic disorder. We linked data from the Prevention and Early Intervention Program for Psychosis in London, Ontario from 1997 through 2014. Using 5 years of follow-up, we compared characteristics and ongoing service use between those who were screened and those admitted.

**Results:** Compared to persons who were admitted into EPI (n=754), those who were screened (n=1059) were older, more likely to be female, and more likely to live in low-income neighbourhoods. A significant proportion (27.6%) were diagnosed with a personality disorder. Those screened were more likely to be involuntarily hospitalized (HR 1.37, 95%CI (1.09, 1.72)) and use emergency department services (HR 2.33, 95%CI (1.82, 2.94)) at 2 years, with trends persisting at 5 years.

**Conclusion:** Our findings suggest that people screened but found to be ineligible for EPI services have high levels of ongoing mental health service use, potentially indicative of unmet needs. Linkages with more suitable service providers are warranted, and these people may benefit from the implementation of specialized follow-up and treatment plans.

Mental Health  
Psychosis  
Early Psychosis Intervention  
Cohort  
Administrative Data  
Health Service Use

## **The Built Environment and its Influence on Physical Activity among African Nova Scotians**

Ogheneruemu Ememoh, Dalhousie University

Presented by: Ogheneruemu Ememoh

**Introduction:** Physical activity is an essential element of health. Physical inactivity can cause chronic diseases and is the fourth leading cause of death in Canada (Brymer & Davis, 2016). Studies have revealed that in North America and Europe, ethnic minorities are less active than their white counterparts (Dogra, Meisner, & Ardern, 2010), implying that the death rate as a result of insufficient physical activity is higher for ethnic minorities. Although it is widely accepted that the built environment strongly influences physical activity (Joseph et al., 2015), studies have not evaluated how changes in the built environment influence physical activity on minority groups in Nova Scotia. This research aims to explore the built environmental barriers and facilitators to physical activity among African Nova Scotians.

**Method:** Fifteen African Nova Scotians will be recruited across Halifax using a convenience approach through posters and snowball sampling. Data about the perceived built environmental barriers and facilitators will be collected using in-depth interviews.

**Anticipated Result:** There will be a link between physical activity and the built environmental structures (shops, schools, walkways, bikeways, parks/playgrounds, and gardens) in communities dominated by African Nova Scotians. It is expected that participants will discuss environmental barriers that hinder them from achieving the recommended level of physical activity, and identify some potential facilitators.

**Significance:** This study would generate awareness about the built environment of African Nova Scotians. It will also draw attention to the link between the built environment and physical activity. Finally, it will inform future development in communities dominated by African Nova Scotians.

Built environment

Physical activity

African Nova Scotians

Barriers

Facilitators

## **Examining Effectiveness of Motor Imagery Compared to Physical Practice in Learning Complex Movements**

Sarah Eppler, Dalhousie University; Tony Ingram, Dalhousie University School of Physiotherapy; Shaun Boe, Dalhousie University School of Physiotherapy

Presented by: Eppler, Sarah

**Introduction:** Motor learning, the acquisition and strengthening of a motor skill, is achieved through repetition and feedback, most often via physical practice (PP). Another form of practice that facilitates the acquisition of motor skills is motor imagery (MI), the mental rehearsal of a motor task without actual performance. To date, the evidence supporting the effectiveness of MI for aiding motor learning has been generated from the study of simple motor tasks that do not necessarily emulate the complexity of movements encountered in the real world. Similarly, the nature of learning examined in past work has been perceptual, as opposed to motor, limiting the degree to which we can conclude MI can aid in the learning of more motor-based skills. Given the paucity of information pertaining to the role of MI in the acquisition of complex skills, this study addresses the question: “is MI as effective as PP for learning complex movements in the absence of any prior physical exposure?”

**Methods:** Thirty healthy participants, randomized to a PP or MI group, will be asked to learn a complex trajectory on a touchscreen over five sessions. The trajectory was designed to emulate complex movements that emphasized motor learning. After observing the trajectory, the PP group will physically reproduce what they observed, whereas the MI group will mentally reproduce what they observed, only physically reproducing the trajectory on the final testing session.

**Anticipated Results:** Hypotheses include: 1) both groups will demonstrate learning over the course of 5 days; and 2) PP will be more effective than MI for learning a complex movement in the absence of prior physical exposure.

**Significance:** This research may assist in the rehabilitation of stroke and other brain injury patients.

Motor Learning  
Motor Imagery  
Perceptual Learning  
Skill Transfer  
Skill Acquisition

## **The social Organization of an Interprofessional Education Program**

Nadine Ezzeddine, Dalhousie University School of Nursing, Dr. Sheri Price, Dr. Deborah Norris,  
Dr. Brenda Sabo

Presented by: Ezzeddine, Nadine

**Introduction:** Interprofessional collaboration among health care professionals has been identified as essential to enhance patient care and is a key consideration in health human resources planning. Interprofessional education (IPE) is a key strategy towards promoting IPC and involves when students from two or more professions learn about, from and with each other<sup>1</sup>. Despite a move towards IPE, stereotypes held by students about their own profession and about each other have been recognized as a challenge to IPE. A further understanding of the role of stereotypes in IPE could provide insight into how to best enhance IPC.

Purpose: 1) Investigate the social relations that organize IPE interactions at Dalhousie University. 2) describe the norms and limits that organize IPE interactions in areas problematized by existing stereotypes.

**Framework and Methods:** I will be using critical social theory as a theoretical framework, and institutional ethnography (IE) as a method of investigation. Data collection will occur through observations, interviews, focus groups and texts (such as policies, facilitators' guides, and course syllabi). Participants will include facilitators, nursing students, and IPE committee members.

Results: The analysis will result in a series of visual maps that depict the social relations which dictate IPE delivery.

**Conclusion:** The intended outcome will be to inform future decisions about pedagogical organization of IPE. This will result in more effective collaboration and successful teams, hence improved patient safety and more effective health human resource models.

interprofessional relations

ethnography

social organization

stereotyped behavior

Students, Nursing

Facilitator

## Marine Telemedicine in Canada

Michelle Ferderbar, McMaster University

Presented by: Ferderbar, Michelle

**Introduction:** Telemedical Assistance Services (TMAS) serves as the cornerstone of medical consultation services for seafarers in Canada and across the world. Also known as radio medical, TMAS has been in use since the early 1920s to provide medical advice to vessels. Current legislation requires seafaring nations to provide medical advice via radio or satellite communication free of charge to all ships 24 hours a day regardless of their flag. For ships in Canadian waters, the Canadian Coast Guard serves as the most common initial point of contact for radio medical support.

**Methods:** Through an examination of the current status of TMAS in Canada, internal and external analysis was made within Canada as well as between Canada and other nations with a focus on the Centro Internazionale Radio Medico (CIRM). Equipment, types of calls, frequency of calls, and data gathering served as key points for analysis.

**Results:** Canada does not maintain adequate records when it comes to TMAS. A key suggestion is that Canada should increase their focus on data collection. There is also ample opportunity for Canada to create legislation to require AEDs on ships and have a greater focus on prevention. Electronic solutions including eModules, smart bands, and smart cards should be implemented.

**Conclusions:** Canada serves as a global leader for telemedicine at sea, and there is ample opportunity to gain similar recognition at sea by implementing simple measures that would enhance healthcare at sea.

Naval Medicine  
Consultation, Remote  
eHealth  
Maritime  
Telemedicine  
Radio

## **Exploring Older Adult Male Participation in a Free, Biweekly, Group-based, Indoor Walking Initiative**

Kassandra Fernandes, Lakehead University; Helle Møller, Lakehead University

Presented by: Fernandes, Kassandra

**Introduction:** Successfully performing activities of daily living is important to older adults. This requires competence in multiple dimensions of health. Although older adults have the most to gain from participating in physical activity, this age-segment of the population is the most sedentary. Research indicates that the most promising initiatives to help reverse this trend are those that are community-based, free, and easily accessible. Men are, however, underrepresented in these types of initiatives. This study will explore how older adult men describe their experiences, perceived benefits and facilitators to participating in a free, self-paced, group-based, biweekly indoor walking initiative in Thunder Bay.

**Methods:** The study employs a mixed methods study design, through sets of semi-structured, pre and post interviews with 10 older adult males 55 and over. This was supplemented by relevant quantitative information collected by survey and functional fitness testing. Interviews were transcribed and coded using NVivo software. Data will be examined for meaning using categorical aggregation and direct interpretation.

**Results:** The data collection process has been completed, and analysis is underway. Participant observation demonstrated that the walking initiative is popular and valued by older adults in Thunder Bay. Further preliminary findings will be shared.

**Conclusions:** Physical activity is beneficial to health across the life course, but further exploration of older adult physical activity initiatives is needed to assess the psychological and social benefits also associated with these types of initiatives—especially for older adult men. Focusing research on this population has the potential to improve public health initiatives geared toward this population.

Aged  
Aging  
Male  
Group Processes  
Walking  
Health Promotion  
Social Environment

## **Translating Ribosome Affinity Purification (TRAP) technology to analyze mature white adipocytes**

Carolina Figueroa, University of Maine/Maine Medical Center Research Institute (MMCRI);  
Victoria DeMambro, Maine Medical Center Research Institute (MMCRI); Clifford Rosen, Maine  
Medical Center Research Institute (MMCRI)

Presented by: Figueroa, Carolina

**Introduction:** Bone loss leads to increased risk of fracture<sup>1</sup>, and is commonly accompanied by an accumulation in bone marrow adipose tissue (MAT). Origin and functionality of MAT remains to be understood. We previously showed that MAT is a biologically active adipose depot that reflects metabolic status and may influence skeletal remodeling<sup>2</sup>. We aim to test the translating ribosome affinity purification (TRAP) technology in the inguinal white adipose tissue (iWAT) from EGFP-ribotagged mice<sup>3</sup> to analyze genetic expression of mature adipocytes isolated from adipose depots.

**Methods:** Females Adipo(Cre)-EGFPL10a mice (n=3) and WT-EGFPL10a (n=3) were harvested at 8 weeks old. Bone marrow mesenchymal stem cells (BMSCs) were isolated from long bones and cultured for 8 days under basal and adipogenic conditions. Oil Red O Staining and immunofluorescence against EGFP were performed after inducing adiponectin expression. TRAP was performed in iWAT by immunoprecipitation, followed by RT-qPCR. DAB-immunohistochemistry against EGFP was done to gonadal adipose tissue (gWAT) frozen sections.

**Results:** Adipogenesis induction caused EGFPL10a expression in Adipo(Cre)-EGFPL10a BMSCs but not in WT-EGFP. Efficiency of TRAP was shown by the expression of Cre gene only in Adipo(Cre)-EGFPL10a iWAT. EGFP-tagged mRNA obtained from iWAT adiponectin(+)-cells presented a differential expression of some pro-adipogenic transcriptional factors compared to whole tissue. Immunohistochemistry confirmed the expression of EGFP in Adipo(Cre)-EGFPL10a gWAT frozen sections.

**Conclusion:** TRAP technology successfully isolate cell-specific actively translating mRNA, showing that there is a differential transcriptional profile within the iWAT.

TRAP: Translating Ribosome Affinity Purification  
Osteoporosis

MAT: Marrow Adipose Tissue

gWAT: gonadal white adipose tissue

iWAT: inguinal white adipose tissue

## **Health provider input into development of a patient-reported self-management outcome measure**

Fracini, America Cristina, PhD Student Dalhousie University; Packer, Tanya, Professor Dalhousie University; Warner, Grace, Associate Professor and Post-Professional Coordinator; Kephart, George, Professor Dalhousie University; Auduly, Asa, Associate Professor Mid Sweden University, Sundsvall; Sampalli, Director, Research and Innovation Primary Health Care & Chronic Disease Management Nova Scotia Health Authority

Presented by: Fracini, America

**Introduction:** Many individuals with multiple conditions require complex, ongoing and often costly care. New ways to identify and support their needs is therefore a priority, with many jurisdictions investigating ways to overcome disease management barriers. Our long term goal is to develop a feasible, patient-centred measure of self-management (SM) that will become the primary instrument for clinical care and research; the Patient Reported Inventory of Self-management of Chronic Conditions (PRISM-CC). Development is being undertaken by researchers in Canada, Sweden and the Netherlands. Clinical utility of this tool must be planned from the start, meaning that the needs and perspectives of health providers should help to shape tool development. **Methods:** We will collect information from health care providers regarding current assessment of SM support for clients, needed attributes of a clinically useful measure, and barriers and facilitators to administration. Data collection will be guided by the Consolidated Framework for Implementation Research constructs. Focus groups with 5 interdisciplinary practice teams and individual interviews with decision-makers, already identified by Nova Scotia Health Authority, will be conducted. Other participants will be recruited through primary health and specialist teams who treat complex patients. Data will be analysed using Consolidated Framework for Implementation Research. **Anticipated Results:** We anticipate findings will shed light on provider knowledge/beliefs about patient SM, provider self-efficacy to support patient SM, perceived advantages/disadvantages of current measures and system barriers (time and resource constraints). **Significance:** Understanding provider perspectives will ensure that PRISM-CC has strong clinical utility.

Self Care  
Chronic Disease  
Health Services Needs  
Patient Evaluation  
Multimorbidity  
Self Management

## **Quantifying interface forces between goaltenders' legs and leg pads in ice hockey**

Ryan J. Frayne, Dalhousie University; James P. Dickey, Western University

Presented by: Frayne, Ryan

**Introduction:** Intra-articular hip injuries are common among ice hockey goaltenders. Awkward hip postures and transient forces during movements, such as the butterfly save technique, have been identified as potential causes of goaltender hip injuries. The extent that goaltender leg pads affect transient ice contact forces is unclear. Therefore, the objective of this research project was to develop and verify an equipment-goaltender interface force protocol to quantify the forces between a goaltender's leg and a leg pad while goaltenders perform butterfly movements.

**Methods:** Equipment-goaltender interface forces were collected in two randomized leg pad conditions (a flexible-tight leg channel and a stiff-wide leg channel goal pad). Eight goaltenders performed 5 butterfly drops and recoveries, in each condition, on a synthetic ice surface. Peak interface forces were quantified at the medial, anterior and lateral areas of the leg pad during butterfly drop, ice contact and recovery phases.

**Results:** Paired comparisons revealed that there were no significant differences in peak force between the two pad conditions at any time during the butterfly movement, or at any location on the goal pads. Estimated medial transient forces at ice contact were 2.88 times body weight (BW) for the Flex-Tight condition and 2.54 times BW for the Stiff-Wide condition.

**Conclusion:** This novel protocol provides a baseline understanding of the interactions between a goaltender's leg and their leg pads during butterfly movements. Future leg pad prototypes should be compared to these data to ensure that any equipment improvements do not result in an increase in transient ice contact forces during butterfly movements.

Biomechanics

Interface force

Ice hockey

Goaltender

Personal Protective Equipment

## **Revision of Anatomic Glenoid**

Jennifer Frazer, Dalhousie University; Mark Sorhaindo, Nova Scotia Health Authority;  
Ivan Wong, Nova Scotia Health Authority, Dalhousie University

Presented by: Frazer, Jennifer

**Introduction:** Most reporting on revisions of shoulder instability procedures are of open procedures and discussion is often around revisions of the Laterjet procedure. Here we describe an arthroscopic anatomic glenoid revision technique using iliac crest autograft to reconstruct the glenoid.

**Methods:** Visible hardware is removed and the subscapularis muscle is freed from adhesions. Malunited bone is cleared from the glenoid. The glenoid and Hill-Sachs lesions are measured and compared to the pre-op CT. A tricortical piece of bone harvested from the patient's ipsilateral iliac crest is placed onto a double barrel clear cannula. The graft is placed through the far medial portal, created using the inside-out switching stick method, and direct vision ensures that access is in the anatomic position. Two screws inserted over two K-wires placed through the cannula are tightened alternately to maximize compression of the graft's cancellous surface to the glenoid anterior rim of the glenoid. The bankart lesion is repaired on top of the graft to the anterior rim of the glenoid.

**Results:** There was excellent fixation of the iliac crest graft with good compression against the anterior rim of the glenoid. Revision reconstruction of an anatomic glenoid procedure is possible to do arthroscopically with a bankart repair to keep the new graft in the extra-articular space.

**Conclusions:** It is possible to revise an anatomic glenoid procedure to another anatomic glenoid reconstruction with autograft iliac crest and bankart repair arthroscopically. This technique is very similar to the primary procedure with the exception of taking previous hardware out. We confirm that there was no damage to the subscapularis from the initial surgery as well as in the revision surgery.

Shoulder  
Arthroscopy  
Autografts  
Bankart Lesions  
Shoulder dislocation

## **Representing Mental Health and Illness: A Discourse Analysis of #MyDefinition Anti-Stigma Campaign**

Breeanna Gallant, St. Thomas University

Presented by: Gallant, Breeanna

**Introduction:** Anti-stigma campaigns have been created in response to negative representation of individuals with mental illness. Sociologists have just begun to consider the unintended consequences of these new representations. The aim of this research was to analyze the local anti-stigma campaign #MyDefinition, which was developed and implemented on Fredericton university campuses, in order to answer the research questions: How are mental health and mental illness represented in #MyDefinition intended for STU and UNB Fredericton students?

**Methods:** The #MyDefinition campaign features portraits of individuals with mental illness accompanied by a description of their illness and accomplishments. Using Foucault's concept of governmentality, I conducted a critical discourse analysis of #MyDefinition campaign materials to examine the ways in which this particular campaign creates ideal ways of being mentally ill or mentally well.

**Results:** Findings demonstrate that the campaign forwards normative success stories in an effort to counter the stigma associated with mental illness. While these positive representations may counter stigma, they also unintentionally create an ideal way to be ill that may lead to more isolation for those who cannot meet this ideal.

**Conclusions/Significance:** Anti-stigma campaigns are a common component of health promotion campaigns. We must consider the unintended effects of addressing stigma by forwarding idealized representations of individuals with mental illness. These representations may further marginalize some individuals with mental illness. Future research should engage with viewers of the campaigns to consider their social effects.

Mental Illness  
Anti-Stigma Campaigns  
Social Stigma  
University Students  
Unintended Consequences  
Normative Successes

## **Mobile applications and the reliability of cardiovascular assessment for individuals with autism**

Connor Garagan, St Francis Xavier University; Celina Paolini, St Francis Xavier University; Allistair May, St Francis Xavier University

Presented by: Garagan, Connor; Paolini, Celina

**Introduction:** A current trend in the medical field is emerging where medical assessments and practices are designed around the use of assistive technology including mobile applications. The 6 Minute Walk Test (6MWT) is a reliable measure of cardiovascular endurance in populations with various disabilities. However there are no studies to show that the 6MWT is reliable in individuals with autism spectrum disorder (ASD). The purpose of our proposed research is to use a mobile application to examine the reproducibility of the 6MWT for individuals with ASD.

**Methods:** Participants will be instructed to walk as far as possible for the duration of six minutes. Four repeated walk tests in the span of two weeks will be performed using a mobile application (SA-6MWT). All tests will be conducted in a 40-meter corridor at a University or community complex. Participants with autism spectrum disorder will be aged 5 to 18 years old. **Anticipated Results:** The 6MWT will demonstrate good test-retest reliability and the SA-6MWT app will help account for any possible learning effect.

**Conclusions:** Our goal is to explore the possibility of using a mobile application to reliably assess cardiovascular health in individuals with ASD who have shown a preference for new technology.

Rehabilitation  
Autism Spectrum Disorder  
Mobile Application  
Outcome Measures  
Reproducibility of Results

## **Influences of Older Adult Participation in an Outdoor Adult Playground: A Social Ecological Approach**

Kevin Gardam, Lakehead University

Presented by: Gardam, Kevin

**Introduction:** An increasingly aging and sedentary population is one of the many infrastructural challenges currently encountered by Canadian municipalities. Outdoor adult playgrounds are one initiative municipalities have increasingly used to respond to these challenges. The playgrounds, which include easy-to-use all weather exercise equipment, are proliferating across Canada despite a dearth of research that examines factors influencing older adult participation. Thus, this research will examine a free older adult exercise program offered at a recently installed adult playground in the City of Thunder Bay, Ontario.

**Methods:** A case study methodology informed by the social ecological model will be employed. We will follow Yin's (2009) guidelines to conducting case-study research, with data being collected from multiple sources to present "an in-depth understanding of the case" (Creswell, 2013, p. 120). Data collection methods include document analysis, participant observations, and semi-structured interviews.

**Anticipated Results:** Group exercise classes have been an identified, yet rarely examined, enabler to older adult participation in outdoor gyms. We expect to build on this claim by identifying the perceptual, environmental, socioeconomic and demographical factors that influence older adults' uptake of a free outdoor exercise program.

**Significance:** Considering the stated outdoor adult playground has been described as a pilot project for the city (CBC, 2016), this research can help direct future outdoor adult playground planning for municipalities considering implementing similar initiatives. It will also provide insights into the potential benefits of an outdoor exercise program to increase physical activity in a traditionally disadvantaged population group.

Social Environment

Aging

Exercise

Local Government

Policy Making

## **Enhancement of Cardioplegic Solutions Using GPER Agonist in C5BL/6 Mouse Hearts**

Anjali Ghimire, Dalhousie University; Susan E. Howlett, Dalhousie University

Presented by: Ghimire, Anjali;

**Introduction:** High calcium ( $\text{Ca}^{2+}$ ) levels in ischemia promote contractile dysfunction and cell death in myocytes from aged or ovariectomized female mice. This suggests that low estrogen levels alter myocyte  $\text{Ca}^{2+}$  homeostasis promoting ischemia and reperfusion (I/R) injury. As I/R injury occurs during cardiac surgery, we propose a novel study to determine whether G-protein coupled estrogen receptor (GPER) agonists enhance benefits of cardioplegia designed to protect hearts from ischemic damage in young, adult and aged mice of both sexes.

**Methods:** Isolated Langendorff-perfused mouse hearts were perfused with Krebs-Henseleit buffer ( $37^{\circ}\text{C}$ ; 80 mmHg) for 15 min. Perfusion was then interrupted and St. Thomas' 2 cardioplegic solution was delivered ( $7-9^{\circ}\text{C}$ ) either with G1 (selective GPER agonist; 110 nM) or without G1 for 6 min, followed by 90 mins global ischemia ( $22-24^{\circ}\text{C}$ ) and 30 min reperfusion ( $37^{\circ}\text{C}$ ). ECG, aortic pressure, coronary flow, heart rate and left ventricular function were measured.

**Results/Anticipated results:** Preliminary results suggest that post-ischemic functional recovery of female adult mouse (9 mos) hearts perfused with cardioplegia+G1 was not significantly different compared to cardioplegia alone (left ventricular developed pressure  $\pm\text{SEM}=53.0\pm21.5\%$  for control,  $n=3$  vs.  $62.0\pm2.3\%$  for G1,  $n=4$ ). We hypothesize that there will be a difference in the level of recovery using G1 with an increased number of mice, especially in older age groups and in male mice.

**Significance:** These experiments will demonstrate whether the addition of GPER agonists to cardioplegia can enhance the beneficial effects of these solutions, in particular in aged animals. These results have the potential to improve outcomes during cardiac surgery, especially in older men and women.

Cardioplegic solutions  
GPER agonists  
Langendorff perfusion  
I/R injury  
Mouse hearts  
Aging  
Cardiac surgery

## **Gender Differences in Fundamental Movement Skills in Nova Scotian Children Between 8-12 Years of Age**

Lindsey Gibb, Dalhousie BSc Kinesiology Honours Student

Presented by: Gibb, Lindsey

**Introduction:** Fundamental movement skills (FMS) provide a foundation of movements essential for youth to maintain an active lifestyle. There has been limited research conducted in Atlantic Canada examining the gender differences with regards to fundamental movement skill (FMS) proficiency. FMS proficiency is correlated with moderate-to-vigorous physical activity (PA) participation. Research has suggested that males participate in significantly higher levels of PA, which may be correlated with greater object-control skill competency. This research defines FMS gender relationships and will direct PA interventions to encourage healthy active lifestyles. **Purpose:** The purpose of the proposed study is to examine the relationship between gender and object-control and locomotor FMS proficiency. **Methods:** The study will draw participant data from 800-1000 male and female participants who joined the Canadian Assessment of Physical Literacy (CAPL) study. The FMS data will be determined from an obstacle course that assesses both object-control and locomotor skills. **Anticipated Results:** It is expected that males will perform object-control movement skills with a higher proficiency than females. The females will score better for locomotor FMS in comparison to males. Overall, male FMS total score will be significantly higher than females. **Significance:** The anticipated results of this study could highlight areas for youth improvement in Atlantic Canada. The results could suggest that females must improve their FMS proficiency to minimize FMS as a contributing factor to the gender gap for PA.

Fundamental movement skills (FMS)  
Physical activity (PA)  
Physical literacy (PL)  
Canadian Assessment of Physical Literacy (CAPL)  
Children's health

## **A global take on healthy eating: Evaluating the international student experience**

Juanita Gnanapragasam, University of Alberta; Naomi Krogman, University of Alberta

Presented by: Gnanapragasam, Juanita

**Introduction:** Research shows that immigrants/international students' diets change drastically when they arrive to Canada. International students' beliefs, values, and culture heavily influence their understanding of healthy eating so understanding these students' perspectives provides valuable insight into their dietary patterns and will allow campus to create programming to better support these students.

**Objective:** My project aimed to define what "healthy eating" is to different populations of international students and the challenges they face to eating this way.

**Methods:** This was achieved by conducting semi structured interviews and focus groups with international students from various countries.

**Results:** Students are under-utilizing resources on campus and are still facing barriers to eating healthy like transportation, navigation of grocery stores, and language barriers. Three major themes emerged. Firstly accessibility to resources: for example the University needs to do a better job in promoting existing resources to students. Secondly, education: such as teaching students basic skills, how to eat successfully in the Canadian food landscape, and use appliances successfully. Lastly understanding: culture plays a big role in these student's diet. Understanding the relationship between food and barriers is critical in helping successfully advise and create resources for students.

**Conclusion:** The outcome of this project will support the University of Alberta to enhance the campus' sustainable food system in a way that allows the cultures of our international students to thrive, creating cultural sustainability, while developing support networks, through food services and programming, to cater to these student's specific challenges to eating healthy.

Emigrants and Immigrants  
Healthy Diet  
Communication Barriers  
Universities  
Food  
Eating  
Diet

## **Movement Related Increases in Blood Pressure During Arm Crank**

Savrina Goldenberg, BEN Lab, Kinesiology Program, School of Health and Human Performance, Dalhousie University; Michel Ladouceur, PhD, BEN Lab, Kinesiology Program, School of Health and Human Performance, Dalhousie University

Presented by: Goldenberg, Savrina

**Introduction:** Arm cranking at a higher cadence has shown to increase heart rate but not blood pressure. In addition, force related parameters have been used to predict an accurate mean arterial blood pressure (MAP) in the toes during exercise. The relationship between movement related forces and increases in upper limb MAP is unknown. The aim of the study is to test if movement related forces during arm cranking are associated with an increase in finger arterial blood pressure.

**Methods:** 20 health participants will be recruited to participate in the study. After baseline measurements and a warm up, each participant will follow an incremental exercise protocol on the arm crank ergometer at a set cadence of either 45 or 90 rotations per minute. During the exercise protocol, continuous blood pressure measurement (Portapres®) as well as trunk and three-dimensional upper-limb kinematics (NDI Certus, Segments: trunk, upper arm, arm, handle) will be recorded. Heart rate and heart contraction timing will be monitored using, respectively, a Polar heart rate monitor and a 3-Lead electrocardiogram. The two experimental conditions (45 and 90 RPM) are tested on separate days.

**Anticipated Results:** It is expected after that a higher cadence of arm cranking will result in a significant increase in blood pressure when accounting for co-variables like power output and heart rate. It is also expected that a model of finger arterial blood pressure during arm cranking using orthostatic, systolic and movement related force parameters will generate a good prediction of the recorded blood pressure.

**Significant:** The anticipated results will prove that prescribing faster cycling exercise may be an effective strategy for enhancing blood flow response in patients with peripheral arterial disease.

Arm Ergometry  
Blood Pressure  
Movement  
Heart Rate  
Arterial Pressure  
Biomechanics

## In Pursuit Of The “Designer Vagina”

Meghan Gosse, Dalhousie University

Presented by: Gosse, Meghan

**Introduction:** This study provides insight into some of the reasons women undergo female genital cosmetic surgery (FGCS) despite a lack of reliable information on the potential risks and long-term outcomes. Additionally, this project examines how FGCS is marketed and presented on FGCS clinic websites.

**Methods:** Data was collected online between July 2014 and September 2014 and consisted of a comparative study using qualitative content media analysis to examine 30 posts on Canadian and American based online FGCS discussion boards, and 30 surgeons’ websites promoting FGCS.

**Results:** Results show that the motives women describe for undergoing FGCS mirror the motives presented on the surgeons’ websites. Clinic websites and women’s posts present appearance and physical issues as the two most common rationales for surgery, followed by physical discomfort and sexual issues. I found that women’s genitals were divided into “right” and “wrong” or “normal” and “abnormal” genitals through the active practices and processes of medicalization as well as the pathologization of female genital diversity through the promotion of one ideal genital aesthetic. Finally, I found that surgeons’ websites advertise FGCS as a “low-risk” procedure, which acts as a reasonable solution for correcting an “abnormal” body part and which women are increasingly becoming aware of.

**Conclusion:** FGCS is an invasive intervention on a body part that not many can see, and until recently, it had no standard aesthetic. Although genital distress is not a new phenomenon, women’s genitals are now firmly a part of the self-surveillance and improvement imperatives of cosmetic surgery culture.

The Body  
Normalization  
Women's genitalia  
Cosmestic Surgery  
Women's Health

## **Responsive Feeding: Experiences of Mothers with Infants in Child Care Settings**

Ami Goulden, Mount Saint Vincent University

Presented by: Goulden, Ami

**Introduction:** Responsive feeding is a reciprocal relationship between infant and caregiver whereby the baby's feelings of hunger and satiety are recognized and responded to effectively. Responsive feeding and breastfeeding are accepted as ideal feeding methods by the NS Standards for Food and Nutrition in Regulated Child Care Settings and the World Health Organization. With an increasing reliance on child care, daycares may have an impact on infant feeding outcomes. The objective is to learn about the infant feeding experiences of mothers with infants in child care centres.

**Methods:** This will be a qualitative research study using an interpretive phenomenological approach. Purposive sampling will be used to recruit five to seven mothers of children between the ages of six and 18 months attending a child care centre. The mother will have attempted breastfeeding and the child will have been introduced to complementary foods. Data will be collected through an interactive interview. Thematic analysis will be used to analyze data with the support of MAXQDA.

**Anticipated Results:** Mothers who breastfeed are more likely to have established the responsive feeding relationship. Child care centres will support mothers to use these methods but may demonstrate some inconsistency in their daily practice.

**Significance:** Given the widely accepted benefits of both breastfeeding and responsive feeding, there is rationale for exploring these topics. Along with the increasing number of children receiving care outside of the home, Nova Scotia has one of the lowest breastfeeding rates at six months postpartum in the country. Uncovering the experiences of these mothers is worthwhile because a greater understanding will assist to better support parents via policy and resource development.

Feeding Methods

Weaning

Breast Feeding

Responsive Feeding

Satiety Response

Bottle Feeding

Child Day Care Centers

## **Ethical ambiguity in long-term care: Exploring the ethical reasoning process of frontline staff**

Michelle Greason, University of New Brunswick

Presented by: Greason, Michelle

**Introduction:** Here I report on my research into the ethical reasoning process of long term care (LTC) staff. In partnership with five LTC facilities in New Brunswick, this is a research project focusing on empirical ethics. **Methods:** Seven interdisciplinary focus groups were conducted with frontline LTC staff. Participants were presented with vignettes of ethical situations, drawn from previous interviews, and written in form and content to generate ethical debate. Participants were asked to discuss the vignettes, and how they might deal with the issues therein. Focus group discussions were audio-recorded, transcribed and subjected to critical discourse analysis to identify participants' own meanings, concerns, and priorities in dealing with difficult situations and their level of confidence in recognizing and dealing with ethical issues. **Results:** Analysis revealed staff perceive, and make ethical decisions within, a very different organizational culture than that declared in institutional policies. Staff typically did not have difficulty determining the ethical thing to do, though frequently experienced moral distress, that is, being aware of the ethical thing to do, though feeling powerless to act accordingly as a result of real, or perceived, institutional constraints. Resulting from the experienced moral distress, ethical decisions are often made, and shaped, by: 1) being told what to do/fear of consequences; 2) deferring decisions to family; 3) "having a meeting;" 4) workplace culture and socialization. **Conclusions:** Findings suggest in order to better understand how/why frontline staff make ethical decisions the way they do, we require a better understanding of the interaction between frontline practice, organizational philosophies, and public policy.

empirical ethics  
long-term care  
ethical reasoning  
moral distress  
workplace culture  
policy

## **Mitigating Morbidity: Community-Based Solutions to Maternal Health's Silent Crisis**

Katharina Gref, Dalhousie University

Presented by: Gref, Katharina

**Introduction:** Millions of women worldwide are affected by life-altering maternal morbidities each year. Global health programs and policies, however, have largely focused on maternal mortality, neglecting to address the more complex issue of morbidity. Maternal morbidity, defined as lifelong disability resulting from pregnancy and childbirth, is heavily influenced by social determinants. In this paper, community-based health programs operated by Partners in Health (PIH), BRAC, and the Comprehensive Rural Health Project (CRHP) are evaluated for their ability to not only address morbidity, but to provide a new model for global health based in solidarity.

**Methods:** Program evaluation was completed utilizing secondary data including official reports, organizations' self-reported data, and complimentary literature published in peer-reviewed journals, which determined the capacity of programs operated by PIH, BRAC, and CRHP to provide the eight interventions outlined by the United Nations Development Programme (UNDP) as essential to improving maternal health outcomes.

**Results:** This research finds that with consideration to the current state of global health policy and a lack of human resources and infrastructure for health in the Global South, socially conscious programs utilizing community health workers provide a cost-effective and viable way of addressing maternal morbidity and are able to successfully address the eight UNDP interventions.

**Conclusions:** By addressing the social determinants of health, these programs effectively reduce and prevent maternal morbidity. Furthermore, community-based health programs operated by PIH, BRAC, and the CRHP not only address morbidity, but further provide a model for global health based in solidarity.

Community Health Workers  
Maternal Morbidity  
Global Health  
Maternal Health  
Social Determinants of Health

## **The human-associated microbiota in health and frailty**

Michael W. Hall, Dalhousie University; Robert G. Beiko, Dalhousie University

Presented by: Hall, Michael

**Introduction:** With recent advances in technology we are realizing the full impact that our resident microbiota have on our health. The oral cavity and the human gut both host diverse and distinct communities of microorganisms. Links between the microbiota of these environments and a number of disease states have been identified, creating the potential for novel treatments and diagnostic applications.

**Methods:** Barcode gene sequencing was used to identify the microbiota in the oral cavity of ten healthy dentistry students and in the fecal samples of 47 residents in a Nova Scotian elder care facility. Bulk DNA sequencing and computational inference were used to investigate the functional capabilities of the microbiota. Subjects were sampled over time, up to one month (frailty) or one year (oral health).

**Results:** We identify the members of the healthy oral microbiota and probe their temporal properties. Stability of the oral microbial communities is not guaranteed by a state of oral health, and the rate of community drift varies between subjects. We identify microbial taxa and gene pathways that are associated with low or high frailty. We observe varying levels of community stability between subjects, but find no significant association between stability and frailty.

**Significance:** Our studies represent some of the first to investigate oral health and elder frailty using a cross-sequential design that incorporates multiple subjects and a temporal gradient. This allows us to investigate not only the differences between subjects or environments but also the temporal consistency within a sampling site. This is particularly crucial for studies on human health, where changes in health status, behaviour, diet, etc. can be reflected in changes in the microbiota.

microbiota  
human microbiome  
oral health  
computational biology  
metagenomics

## Orthographic Learning and Adults

Teba Hamodat, Dalhousie University; Rebecca Tucker, Dalhousie University; Dr. Hélène Deacon, Dalhousie University

Presented by: Hamodat, Teba

**Introduction:** Canadians with low literacy skills are more likely to be unemployed, have lower income, and suffer from poorer health (Statistics Canada, 2013). As such, it is important to understand how adults become skilled readers. Share (2008) proposes that the process of orthographic learning (learning new spelling patterns), helps individuals recognize words more efficiently when they are encountered again, thereby freeing more mental resources for things like comprehension. Here, we investigate whether adults engage in orthographic learning during independent reading of connected text, and whether this learning facilitates subsequent learning of related words.

**Method:** Adults will be asked to read 6 stories with embedded nonwords (e.g., feap) at Time 1. At Time 2 they will read 12 additional stories, 6 of which will contain nonwords that are morphologically or orthographically related to the nonwords seen at Time 1 (e.g., refeap or pefeap) and 6 of which will contain novel complex nonwords (e.g., rejoje or pejoje).

Orthographic choice tasks and a naming task will test whether orthographic learning took place.

**Anticipated Results:** In line with similar research in children (Tucker et al., 2016), we expect adults will learn the spelling patterns of the nonwords from encountering them in text. Critically, we speculate that prior learning will facilitate subsequent learning of novel related words.

**Significance:** This study extends upon prior research with children to inform our understanding of how adults learn the spelling patterns of novel words and how this learning affects future learning of related words. Importantly, this is an initial step towards understanding one contributor to skilled reading comprehension in adults, which is related to health outcomes.

orthographic learning  
self-teaching  
learning transfer  
morphology  
orthography  
phonological decoding

## **A Methodological Account of a MI-via-CALC Intervention for Improving Health in First-Time Mothers**

Jacqueline Harvey, Lakehead University, School of Kinesiology; Dr. Erin Pearson, Lakehead University, School of Kinesiology

Presented by: Harvey, Jacqueline

**Introduction:** The postpartum period is a vulnerable time for the onset of overweight and obesity in first-time mothers. Motivational Interviewing applied using Co-Active life coaching tools (i.e., MI-via-CALC) is a validated telephone-based cognitive behavioural technique that has shown considerable utility for evoking health improvements in populations with obesity. It is the aim of this study to examine the impact of a MI-via-CALC intervention on physical activity engagement, body composition, and psychological health indices among first-time mothers during the first year of motherhood.

**Methods:** Twenty inactive, new mothers aged 18 years or older with a Body Mass Index  $\geq 25$  kg/m<sup>2</sup> will participate in a telephone-based, 8-week MI-via-CALC intervention delivered by Certified Professional Co-Active Coaches. Assessments will occur at baseline, mid-, and post-intervention, and will involve the completion of body composition measures and several questionnaires (e.g., quality of life, motivation, and a semi-structured questionnaire to explore study experiences).

**Anticipated Results:** Data collection and analysis are ongoing. Given the promising results of MI-via-CALC interventions among other populations, it is expected that after completing the intervention, participants will have higher physical activity rates, as well as improved body composition profiles and psychological health indices compared to baseline values.

**Significance:** It is anticipated that the results of this research project will inform the development of future large-scale health behaviour change MI-via-CALC interventions aimed at improving health among postpartum women, which could help reduce the prevalence of overweight and obesity among those of childbearing age in the Northwestern Ontario region.

Postpartum Period  
Health Behaviour  
Body Composition  
Ontario  
Motivation  
Exercise  
Quality of Life

## **Ankle Bracing's Effect on Lower Extremity Biomechanics During Athletic Performance Tasks**

Zachariah Henderson, School of Kinesiology, Lakehead University; Paolo Sanzo, School of Kinesiology, Lakehead University

Presented by: Henderson, Zachariah

**Introduction:** Ankle bracing is commonly used in sport to prevent injury; however, research concerning the effectiveness of ankle braces in preventing injuries is conflicting. Biomechanically, it has been suggested that ankle braces may increase injuries in other areas of the body and alter natural protective mechanisms at the ankle, including the peroneus longus response. Ground reaction forces (GRF) and biomechanics may also be altered at and above the ankle. Additionally, research has been inconclusive and contradictory with respect to the effect of ankle bracing on performance, with some research suggesting bracing negatively affects performance and others showing no effect. Therefore, the purpose of this study will be to examine the effect of ankle bracing on GRF and lower extremity electromyography (EMG) during performance measures.

**Method:** Participants will complete a vertical jump and cutting task under three conditions (no brace, ASO EVO © brace, and Active Ankle © T1 brace) in a counterbalanced fashion. The EMG activity of the gastrocnemius, peroneus longus, medial and lateral hamstrings, rectus femoris, and gluteus medius muscles and GRF will be recorded during take-off and landing for the vertical jump. The EMG activity of the gastrocnemius, peroneus longus, medial and lateral hamstrings, rectus femoris, and gluteus medius muscles and GRF will be recorded during directional changes for the cutting task.

**Anticipated Results:** Decrease in vertical jump height and agility time when wearing a brace. Reduced EMG activity and decreased GRF when wearing a brace.

**Significance:** By collecting biomechanical data during performance tasks, differences between braces with respect to performance task results may be explained by biomechanical changes from wearing a brace.

Ankle injuries  
athletic performance  
electromyography  
human kinetics  
vertical jump  
agility

## **Child Catastrophizing about Parent Pain: Risk Factor for Children of Parents with Chronic Pain?**

Kristen S. Higgins, Dalhousie University, IWK Health Centre; Christine T. Chambers, Dalhousie University, IWK Health Centre; Natalie O. Rosen, Dalhousie University, IWK Health Centre; Simon Sherry, Dalhousie University; Somayyeh Mohammadi, Dalhousie University, IWK Health Centre; Mary Lynch, Dalhousie University, QEII Health Sciences Centre; Alexander J. Clark, Dalhousie University, QEII Health Sciences Centre; Marsha Campbell-Yeo, Dalhousie University, IWK Health Centre

Presented by: Higgins, Kristen

**Introduction:** Children whose parents have chronic pain are at greater risk for pain and mental health problems than other children (Higgins et al., 2015). Children's catastrophizing about their pain predicts negative outcomes (Vervoort et al., 2006); catastrophizing about parents' pain may confer risk through similar mechanisms and be increased in this population due to greater exposure to parent pain. This project examines relationships between child catastrophizing about parent pain, child outcomes, and parent pain. **Methods:** In an ongoing study, children (ages 8-15) of parents with chronic pain (duration at least 6 months) completed a modified Pain Catastrophizing Scale for Parents (PCS-P; Goubert et al., 2006) regarding parent pain. Children and parents reported on their pain and catastrophizing about their own pain, and children reported on their internalizing symptoms. **Results:** Preliminary analyses included 15 children (mean age=11.47 years, SD=2.62, Nfemales=8) and parents (Nfemales=12, mean pain intensity=6.64, SD=1.91). Child PCS-P scores were associated with catastrophizing about their own pain ( $r=0.60$ ,  $p=0.038$ ) and marginally with anxiety ( $r=0.57$ ,  $p=0.051$ ). Child PCS-P scores were related to parent pain interference ( $r=0.66$ ,  $p=0.010$ ), but not to parent ( $r=0.39$ ,  $p=0.187$ ) or child ( $r=0.36$ ,  $p=0.207$ ) pain intensity or parent pain catastrophizing ( $r=0.33$ ,  $p=0.248$ ). Rumination about parent pain was associated with child internalizing symptoms ( $r=0.61$ ,  $p=0.036$ ). **Conclusions:** Results should be interpreted cautiously given the small sample to date; data from the final sample (estimated  $N=70$ ) will be reported. Preliminary results suggest that children's catastrophizing about parents' chronic pain may be a risk factor for children's outcomes warranting further study.

Pain Catastrophizing  
Chronic Pain  
Child  
Parents  
Child Health

## **Risky Play: Exploring perspectives and recommendations of Nova Scotian parents**

Denver Hilland, Dalhousie University

Presented by: Hilland, Denver

**Introduction:** Physical activity in the early years is a predictor of physical activity throughout the lifespan (Barnett et al., 2009). Emerging evidence demonstrates that children engaging in risky, outdoor play increases their overall time spent in moderate-to-vigorous physical activity (Engelen et al., 2013; Nicaise, Kahan & Sallis, 2011). Though risky play is supported by many health professionals and academics, the most important influence on young children's activity is their parents (Loprinzi & Trost, 2010). The aim of this study is to contribute the understanding of parental attitudes regarding risky play, and to discover how parents may find balance between safety and risk in their child's play.

**Methods:** This project has a qualitative approach, conducting between nine and 15, open-ended, semi-structured interviews of Nova Scotian parents whose children are involved in the Physical Literacy in the Early Years (PLEY) project. NVivo will be used to analyze these data and formulate common themes emergent in the interviews.

**Anticipated Results:** It is anticipated that the interviews will result in an appropriate definition of risky play for children aged three- to five-years old, as well as recommendations for other parents on how to manage risk and safety in their own children's play.

**Significance:** The potential impact of these results will help future parents afford appropriate risk-taking behaviours for their children, contributing to overall health and development.

health promotion  
risky play  
children  
outdoor play  
parent perspectives

## **An online intervention to reduce binge-drinking amongst university students**

Chantal Houser, St. Francis Xavier University; Dr. Erin Austen, St. Francis Xavier University

Presented by: Houser, Chantal

**Background:** Binge-drinking is a dangerous yet popular practice amongst university students. Online interventions are often used as methods of reducing binge-drinking behaviours.

**Purpose:** The purpose of this study is to assess whether the strategies to reduce one's drinking, provided by the eCHECK UP TO GO online intervention program, would be more effective if students generated ideas on how to implement these strategies into their lives.

**Methods:** All phases of this study will be completed online. Participants will be asked to complete a series of surveys assessing drinking habits, protective behaviours, and consequences associated with binge-drinking. Participants will be given a list of strategies to avoid binge-drinking and asked to select those they would be willing to use and either generate a scenario describing how they would implement the strategies (Self-Generation condition) or simply identify the strategies (Strategy-Only condition). A control condition will ask participants to complete the survey measures without an intervention task. Approximately four weeks later, participants will complete the same series of surveys and a strategy recall questionnaire. Changes in drinking behaviours will be assessed and attributed to the effectiveness of the intervention in each phase.

**Expected Results:** In this two-part study, it is predicted that participants in the Self-Generation condition will show greater reductions in drinking behaviours and intentions to drink from pre-test to post-test and will recall more strategies from the eCHECKUP TO GO in the follow up condition.

**Significance:** Results may be used to improve the effectiveness of online interventions and test the use of self-generation as a method of reducing binge-drinking behaviours.

Binge-Drinking  
University Students  
Online Intervention  
Strategies  
Self-Generation

## **Is age just a number? Exploring school-aged children's physical literacy development**

Natalie Houser, Dalhousie University

Presented by: Houser, Natalie

**Introduction:** Physical literacy (PL) is described as the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life. An individual's PL is indicative of their current and future participation in physical activity. Although PL has become a popular area of research, how PL develops over time is often overlooked. With a range of physically active experiences, children's movement skills are expected to improve with age while previous research suggests physical activity declines with age. Given both physical skills and physical activity levels are part of the overall PL score, there is an uncertainty as to how PL is impacted year after year in children's development.

**Methods:** Children's PL levels were determined from the Canadian Assessment of Physical Literacy (CAPL) protocol. The CAPL determines PL of children aged 8-12 years based on four domains: physical competence, motivation and confidence, knowledge and understanding, and daily behaviours. Of the overall CAPL project, only participants with multiple time points of physical competence and overall physical literacy measures were included in this research. As such, longitudinal data were collected on 190 children in the CAPL project and analyzed to determine if participant's PL increased, decreased, or remained the same from year 1 to year 2.

**Anticipated Results:** It is anticipated that children's physical competence and PL will improve from year 1 to year 2 as a result of age, but not more than the values projected in the age-based standards outlined in the CAPL protocol.

**Conclusion/Significance:** Determining the PL development in children will help inform future physical activity promotion initiatives and PL assessments.

physical literacy  
physical activity  
growth and development  
fundamental movement skills  
children

## **Post-secondary school supports for Indigenous students in Canada: A scoping review**

Bridget Irwin, Dalhousie University

Presented by: Irwin, Bridget

**Background:** As part of the reconciliation process and in response to the Truth and Reconciliation Commission's Calls to Action, there is a need to understand how Indigenous students are supported at post-secondary institutions through either programs, policies, or other interventions (PPI). This is important because education and educational systems are key social determinants of Indigenous health.

**Methods:** A scoping review using the Arksey and O'Malley (2005) framework was conducted of the academic literature on existing or recommended supports for Indigenous post-secondary students in Canada. 30 peer-reviewed articles were collected using inclusion/exclusion criteria. Search strategies included database searching and hand searching. Data from the articles were extracted into a table. Data collection and analysis was an iterative thematic process.

**Results:** The scoping review found four types of PPI: those that targeted the individual, interpersonal, and group/program level addressed either academic issues, non-academic issues, or a mix of academic and non-academic issues, and those that targeted the institutional level. The PPIs also targeted different populations: Indigenous students, non-Indigenous students, faculty and staff, and community members.

**Conclusions:** Supporting post-secondary Indigenous students is a collaborative process involving numerous groups. PPIs must continue to address both academic and non-academic issues and improve integration of Indigenous ways of knowing in institutions. This scoping review is a preliminary scan; it can inform an environmental scan. It can also provide evidence for developing affirmative action policies and improving supports for post-secondary Indigenous students in Canada.

Students Education  
Universities  
Young Adult  
Indians, North American  
Inuits

## A Literature Review for Exclusive Breastfeeding in Tanzania

Keisha Jefferies, Dalhousie University

Presented by: Jefferies, Keisha

**Introduction:** Tanzania is a low income country in East Africa, which has challenges related to maternal, newborn and child health (MNCH) as evident by mortality from preventable diseases and illness. Exclusive breastfeeding (EBF) involves feeding newborns no food or drink other than breast milk for the first six months of life. EBF is beneficial for mothers and newborn as it promotes growth and development, provides protection and reduces the risk of postpartum hemorrhage for women.

**Methods:** A scoping review in an online database was performed to gather evidence related to EBF in Tanzania. This method was selected for its usefulness in rapidly mapping key concepts underpinning EBF in Tanzania as well as identifying the main sources and types of evidence available. A combination of qualitative and quantitative research conducted in Tanzania was found.

**Conclusion:** Tanzania has a high breastfeeding initiation rate however, the practice of EBF is sub-optimal at 59%. These rates are concerning because the early introduction of complementary foods are often nutrient deficient, harmful and detrimental to MNCH. Research shows that social, historical, and political factors influence EBF in Tanzania. Furthermore, evidence suggests the need to focus on community education.

**Significance:** The Tanzanian government has committed to improving MNCH. This review reveals the urgency to address breastfeeding in Tanzania as a means to reduce MNC mortality. This review provides insight into gaps in existing knowledge, areas requiring further investigation and opportunities for program development. Implications for key stakeholders including policy makers, researchers and health care professionals are identified.

Tanzania  
Exclusive breastfeeding  
Infant feeding  
Mortality  
Nutrition

## **Dignity Versus Diagnosis: Differences in Greatest Concern About Receiving A Sexual Health Exam**

Rhea Ashley Hoskin, Queens University; Karen L. Blair, St. Francis Xavier University; Kay Jenson, Acadia University

Presented by: Jenson, Kay

**Introduction:** Timely sexual health exams are important healthcare behaviours that contribute to the early detection of cancer and health promotion. Sexual and gender minorities have been shown in past research to be significantly less likely to access healthcare services. Consequently, the current study included participants of diverse sexual and gender identities in order to gain greater insight into their concerns and potential reasons for avoiding healthcare services.

**Method:** The current study asked participants to describe their greatest concerns about visiting the doctor for a sexual health exam.

**Results:** Sexual and gender minorities were more likely to mention their identities as being central to their concerns about visiting the doctor. In contrast, the primary concerns mentioned by non-minority participants were related to their actual health, such as the potential diagnosis of cancer or STIs. The current study presents the self-reported reasons that individuals avoid visiting their doctors for sexual health exams as a function of sexual and gender identity.

**Conclusions/Significant:** Through understanding how sexual and gender identity are related to the prevalence of specific concerns related to sexual health exams, it becomes possible to determine areas of improvement for increasing healthcare utilization among marginalized populations. Implications for minority health and recommendations on improving healthcare support for sexual and gender minorities are discussed.

LGBTQ Health  
Sexual Health  
Health Equality  
Health Promotion  
Health Access

## **The Effect of Self Myofascial Release on Acute Hip Mobility in Amateur Hockey Players: A Pilot Study**

Jarrett A Johns, Dalhousie University; Janice M Moreside, Dalhousie University

Presented by: Johns, Jarrett

**Introduction:** Self Myofascial Release (SMR) has become increasingly popular as a pre-exercise warm up. Previous studies have shown increased range of motion (ROM) in young healthy athletes but have yet to target a population with chronic hip tightness. The purpose of this study was to determine if foam rolling improves acute hip mobility in amateur hockey players at 0, 10, 30 and 60 minutes post SMR.

**Methods:** 10 amateur hockey players were recruited to the biomechanics laboratory at Dalhousie University. Passive hip flexion was tested pre and post-treatment with the participant laying supine. Measurement was executed both manually by a goniometer and digitally by the Coach's Eye application. Participants performed 2 sets of 1-minute bouts of foam rolling on both anterior and posterior aspects of the dominant thigh with 30 seconds of rest in between sets.

**Anticipated Results:** Increased passive hip flexion at all post-treatment time phases with the largest improvement immediately and 10 minutes after SMR.

**Significance:** Athletes often use this treatment prior to exercise and competition, athletes' warm up can take place up to an hour prior to an event. If an SMR intervention can have significant increases in ROM 60 minutes post-treatment, this could be of benefit to athletes.

Self Myofascial Release  
Foam Rolling  
Hip Mobility  
Hip Tightness  
Range of Motion  
Hockey

## **Alcohol policy in Nova Scotian universities: a scoping review**

Amelia Johnston, Dalhousie University

Presented by: Johnston, Amelia

**Introduction:** There are risks associated with the consumption of alcohol and risk is related to patterns of consumption (Province of Nova Scotia, 2011). Canadian undergraduate students frequently engage in heavy episodic drinking, defined as the consumption of five or more standard alcoholic beverages in one sitting. This pattern of consumption places individuals at high risk of experiencing alcohol related harms, the most serious of which can be fatal. Risk of injury or death increases exponentially with amount of alcohol consumed. Nova Scotia has the highest rates of heavy drinking in the country and Nova Scotian students are a population of high risk drinkers. Many universities have adopted alcohol policies which aim to alter patterns of drinking and reduce alcohol related harms (Rehm & Greenfield, 2008). Though alcohol policies have been demonstrated to be effective, there is no requirement for universities in Nova Scotia to have an alcohol policy or standards which policies must adhere to. There is limited evidence for what must be included in an effective alcohol policy, but it is agreed that multi-strategic approaches are most effective (Toomey et al., 2007).

**Methods:** A scoping review using Arksey and O'Malley's (2005) framework will be conducted of all university policies in Nova Scotia which pertain to alcohol. Through an iterative process, charting guidelines will be developed to analyze these policies and to allow for policies to be compared.

**Anticipated Results:** It is expected that alcohol policies will vary between universities due to the lack of requirements and guidelines.

**Significance:** The potential impact of this study is to identify a standard of practice for university alcohol policy in Nova Scotia and to inform policymakers and other stakeholders.

Alcohol Drinking  
Alcohol Drinking in College  
Binge Drinking  
Policy  
Organizational Policy

## **The maximum reach envelope as a component of a multidimensional assessment of rotator cuff tears**

Heather Johnston, Dalhousie; Colleen Dewis, Dalhousie; Ivan Wong, Nova Scotia Health Authority; John Kozey, Dalhousie

Presented by: Johnston, Heather

**Background:** Rotator cuff tears are a multifaceted condition caused by acute, traumatic, degenerative or repetitive injuries. With new techniques in treatment, methods of measurement and quantification of shoulder function are necessary to investigate treatment efficacy. The maximum reach envelope (MRE) is a 3-D volumetric measure of reach primarily involving movement produced about the glenohumeral joint (Farley 1955). It is hypothesized that the MRE will be an improved multidimensional measurement of shoulder assessment.

**Methods:** 3-D reach position is obtained from a wall-mounted electromechanical device on persons with and without rotator cuff tears. Free motions (no load) and motion with small loads of up to 1 Kg are randomized in data collection producing 3-D cloud files of 5400 points.

**Results:** Our past work on young asymptomatic participants has shown that load reduces the length of the reach vectors but does not reduce the reach area of the MRE (Johnston et al. 2016). Our preliminary work on symptomatic participants has demonstrated that symptomatic individuals have a much smaller reach envelope (area and lengths) compared to controls. Once additional participants have been collected a multivariate analysis to determine characteristic patterns within and among reach envelopes of differing populations will be obtained.

**Conclusion:** There is a need for functional assessments that consider range of motion, strength and other clinical assessments as a combined metric of shoulder function. This is the first phase of a multi-dimensional assessment method, focused on the MRE. Measurement of the full reach ability of the individual and the factors that affect reach are a necessary component of clinical decision making.

Maximum Reach Envelope  
Rotator Cuff  
Shoulder  
Three-dimensional Kinematics  
Hand-held load  
Movement

## **Do Motives for Drug Use Predict Frequency and Craving in Clients with Opiate Addiction Receiving OST**

Leah Jones, Dalhousie University; Ioan Tiberiu Mahu, Dalhousie University; Jennifer Swansburg, Dalhousie University; Craig MacDonald, Dalhousie University; Kristen Chafe, Dalhousie University; Aissata Saiko, University of Montreal; Jean-Francois Morin, University of Montreal; Flavie Laroque, University of Montreal; Patricia J Conrod, University of Montreal; Simon Sherry, Dalhousie University; Sherry H Stewart, Dalhousie University

Presented by: Jones, Leah

**Introduction:** While opiate substitution therapy (OST) is an effective treatment for opiate addiction, OST clients commonly continue to use other drugs. In the general population, one useful predictor of heavy/problematic drug use is “motives” (reasons for use). We examined whether drug-specific motives for use could predict frequency of recent use of and craving for various drugs in OST clients. **Methods:** Participants were 138 clients receiving OST at 1 of 4 clinics. They reported on their frequency of use of alcohol, cannabis, tobacco, and crack, and their craving for each, over the past 30 days. For each drug used, clients reported on their motives for use of that drug, on a visual analogue scale. Questions were based on a model of drug use motivation (Grant et al., 2007) with items tapping: social (to affiliate), conformity (to fit in), enhancement (to increase positive internal states), coping-anxiety, and coping-depression motives. For each drug, multiple regressions predicted frequency of use and craving, among users, with the 5 motives and sex as predictors. **Results:** Recent alcohol use was predicted by greater coping-anxiety drinking motives; recent crack craving by greater coping-depression and lesser social motives for crack use; recent cannabis craving by male sex and coping-depression motives for cannabis use; and recent tobacco craving by greater coping-anxiety and lesser social motives for smoking. **Conclusions:** Findings on the protective effects of social motives for crack and tobacco craving are consistent with Cooper’s (1994) theory that social motives are more normative and less risky reasons for use. Findings for coping motives highlight the importance of training OST clients in negative emotion management skills as a way to minimize ongoing drug use.

Motivation  
Craving  
Anxiety  
Depression  
Opioid-Related disorders

## **Knee osteoarthritis joint mechanics: An investigation of co-activation in the contra-lateral knee**

Michelle Jones, School of Physiotherapy, Dalhousie University; Derek Rutherford, School of Physiotherapy, Dalhousie University; Cheryl Hubley-Kozey, School of Physiotherapy, Dalhousie University; Ivan Wong, Department of Surgery, Division of Orthopaedics, Dalhousie University; William Stanish, Department of Surgery, Division of Orthopaedics, Dalhousie University

Presented by: Jones, Michelle

**Background:** Osteoarthritis (OA) is projected to burden 1 in 4 Canadians within the next 30-years. Knee joint function is impaired and muscle activation has been implicated in disease progression. At least 80% of individuals with unilateral OA progress to bilateral OA over time, and literature providing information on the loading environment of the contra-lateral knee during gait is limited.

**Purpose:** To identify differences in knee muscle co-activation between the symptomatic (SYMP) and contra-lateral (CONTRA) legs during walking in adults with moderate unilateral symptomatic knee OA.

**Methods:** 20 individuals with unilateral medial compartment knee OA were recruited. Using standardized procedures, bilateral lower limb muscle activation was recorded using surface electromyography while patients walked at a self-selected speed on a treadmill. Muscles of interest included the vastus lateralis (VL) and medialis (VM), the medial (MH) and lateral (LH) hamstrings and the medial (MG) and lateral (LG) gastrocnemii. Co-contraction indexes (CCIs) were calculated during loading response (LR; 1-20% gait cycle), mid-stance (MS; 21-40%), and terminal stance (TS; 41-60%). Two-way repeated measures ANOVAs were used for statistical hypothesis testing ( $\alpha = 0.05$ ).

**Results:** SYMP showed greater CCIs compared to CONTRA with a main limb effect ( $p < 0.05$ ) in VM-MG and VL-LG. A limb-phase interaction effect showed SYMP with greater VL-LH CCIs compared to CONTRA during LR and MS.

**Conclusion:** Individuals with OA adopted different muscle activation strategies between limbs during loading. A lateral knee stabilization strategy (VL-LH, VL-LG) in the SYMP knee was found when the demands are greatest during LR and MS.

Osteoarthritis, Knee  
Electromyography  
Co-activation  
Gait  
Progression

## **A Post-Structural Examination of Eating Behaviors, Body Image, and Health in Gay Men**

Phillip Joy, Dalhousie University

Presented by: Joy, Phillip

**Introduction:** Health promotion and interventions for gay men typically focus on sexual and mental health but as obesity rates in Canada rise the need for nutritional health preventative strategies has also increased, especially in vulnerable populations. The purpose of this study is to explore nutritional behavior, body image, obesity and the impacts to the health of gay men.

**Methods:** Post-structuralism will be used as a theoretical underpinning to guide this qualitative study. Five to six gay men will be recruited to participate in Photovoice in which they will photograph their experiences with eating, body image, and their health. Semi-structured interviews will be conducted and a process of coding will be used to identify main themes.

**Anticipated Results:** This project will provide insight into the beliefs, values, and practices of gay men while providing understanding of the personal realities of these men and the cultural and social factors that shape. **Significance:** This project will provide foundational understanding in an often-neglected area of gay men's health and will provide knowledge into how best to tailor nutritional interventions for these men.

nutrition  
gay men"s health  
obesity  
Photovoice  
Qualitative

## **DNA damage-induced PARP1 activity is enhanced by HMGA2 protein**

Forouh Kalantari<sup>1</sup>, Manoj Reddy Medapati<sup>1</sup>, Idunnu Adejo<sup>1</sup>, Farhana Begum<sup>1</sup>, Marek Los<sup>4</sup>, Thomas Klonisch<sup>1,2,3</sup> Sabine Hombach-Klonisch<sup>1</sup>, Depts. of <sup>1</sup>Human Anatomy and Cell Science, <sup>2</sup>Medical Microbiology & Infectious Diseases, <sup>3</sup>Surgery, University of Manitoba, Winnipeg, MB, Canada, <sup>4</sup>Dept. of Clinical and Experimental Medicine, Division of Otorhinolaryngology, Linköping University, Sweden.

Presented by: Kalantari, Forouh

**Introduction:** The non-histone chromatin binding protein HMGA2 is expressed in embryonic stem cells and cancer cells, including triple-negative breast cancer cells (TNBC). HMGA2 enhances resistance to chemotherapeutics by enhancing base excision repair (BER) capability and decreases apoptosis by modulating the ATM and ATR DNA damage signaling pathways. Here we investigated the role of HMGA2 in DNA damage-induced PARP1 activity and determined its influence on cell survival and apoptosis.

**Methods:** Expression of HMGA2 and PARP-1 was determined by Western blot. Co-immunoprecipitation from nuclear protein extracts was used to study the interaction between HMGA2 and PARP-1. DNA damage was induced using the alkylating agent methyl methanesulfonate (MMS), was quantified by detection of  $\gamma$ H2AX, and PARylation activity of PARP1 was detected by Western blot. HMGA2 AT hook mutant constructs were transiently transfected to assess PARP activity. We used WST assays to quantify cell survival and caspase3/7 assays to determine apoptosis.

**Results:** HMGA2 reduced MMS-induced DNA damage, increased cell survival and reduced apoptosis in triple-negative cancer cells. We identified PARP1, an ADP-ribosylating enzyme recruited to DNA damage sites, as a novel HMGA2-interaction partner and showed that PARP1 activity was increased in the presence of HMGA2. This required functional AT hook domains of HMGA2. HMGA2 reduced the sensitivity of triple-negative breast cancer cells towards PARP1 inhibitors. Silencing of HMGA2 resulted in decreased cell survival and increased apoptosis following treatment with MMS and Olaparib.

In conclusion, we identified HMGA2 as a novel regulator of PARP1 activity in cancer cells causing a reduced sensitivity towards PARP1 inhibitors.

HMGA2  
DNA damage  
TNBC  
PARP1  
BER

## **Wanting to Care: South Korea's Global Quest for Universal Health Coverage**

Hyeyoung Kang, Dalhousie University

Presented by: Kang, Hyeyoung

**Introduction:** South Korea, once one of the world's poorest countries with only \$64 per capita income, achieved Universal Health Coverage (UHC) in 1989 in a record 12 years. Based on this success, the country now offers its expertise to stakeholders in low and middle-income countries (LMICs) to provide them with training on health systems, policy development, and consultation. The purpose of this study is to explore the effectiveness of South Korea's knowledge-sharing initiatives by looking at the applicability and transferability of their programs.

**Methods:** Using an adapted Applicability and Transferability of Evidence Tool (A&T Tool) and the SECI Model of knowledge conversion, the study identifies loopholes in the knowledge-sharing initiatives and analyzes how they affect the stakeholders' ability to build UHC capacity within their countries.

**Anticipated Results:** The findings will suggest that the areas of challenge are less about the value of South Korea's knowledge per se, then they are about understanding the economic and cultural context of the knowledge recipients, employing appropriate knowledge-sharing methods, and facilitating mutual learning among the knowledge recipients.

**Significance:** The study will give an important lesson for knowledge providers in global health cooperative. It is how the knowledge is transferred that determines the transferability and applicability of knowledge for capacity building rather than what knowledge is transferred. The effectiveness of knowledge-sharing initiatives for UHC has not yet been adequately investigated, and this study hopes to help bridge this gap in the global health literature.

Universal Health Coverage (UHC)

Knowledge-sharing

Low and Middle-Income Countries (LMICs)

South Korea

Global Health

## **Postpartum Depression and Access to Maternal Mental Healthcare: Voices of Migrant South Asian Women**

Samar Khan, McMaster University

Presented by: Khan, Samar

**Introduction:** This is a qualitative study that aims to explore the contextual factors that interact with race, class, and gender that influence the ways in which migrant South Asian women seek help and manage postpartum depression (PPD). The goal of the study is to provide insight into the mental health promotion context of settlement issues for migrant South Asian women living in the Peel region, whose voices are often unheard and for whom English is not their first language. The psychological health of migrant women is compromised not only due to the reason of having to cope with motherhood, but also due to feelings of loneliness derived from isolation and lack of social support.

However, it is important to mention that the talk will only focus on the first part of the study -- the literature review, as the second part of the study is yet to be conducted and will thus focus on findings from the primary research that will be carried out in April 2017.

**Methods:** The methodology will include key informant interviews, focus groups, and surveys.

**Anticipated Results:** It is anticipated that the findings of this research will have important clinical implications for healthcare providers with regards to screening migrant women for psychological and physical health symptoms.

**Significance:** Despite the increase in research on PPD among migrant women in Canada, there is particularly limited attention given to migrant South Asian women. This is a significant considering the rapidly changing demographics in Canada. Migrant South Asian women face a plethora of unique challenges, which affects their mental health and further prevents them from receiving adequate and equitable mental healthcare services.

Depression

Postpartum

Mothers

Mental health

Maternal health services

## Attitudes towards Prescription Drug Use for Non-Medical Reasons in University Students

Ellie King, Memorial University of Newfoundland

Presented by: King, Ellie

**Introduction:** There is a high prevalence of non-medical use of prescription medications (NMUPs) in university students. Understanding which students are more likely to endorse NMUPs could help target prevention and intervention programs more effectively towards these groups.

**Methods:** Memorial University (MUN) students aged 19-35 years were recruited using posters, social media and leaflets. Students provided information on sociodemographic details (sex, ethnicity, living situation, faculty, academic status) and alcohol/drug use, as well as completing the Prescription Drug Attitudes Questionnaire (PDAQ), via an online survey. The PDAQ is a 26-item standardized scale that measures attitudes towards the non-medical use of prescription drugs. Higher scores indicate a more positive attitude to NMUPs. The data analysis involved descriptive statistics (means [M], standard deviations [SD] and ranges) and independent t-tests.

**Results:** To date, 1,662 participants (27.9% male; mean age = 22.72, SD = 3.66) have taken the survey. The mean PDAQ score was 46.80 (SD = 17.30, range = 14-124). Male students (M = 51.88) had a more positive attitude towards NMUPs than female students (M = 44.80;  $p < .001$ ). In addition, graduate students (M = 49.25) reported a more positive attitude towards NMUPs than undergraduates (M = 46.22;  $p = .006$ ). Finally, international students (M = 53.39) reported a more positive attitude towards NMUPs than Canadian students (M = 45.86;  $p < .001$ ).

**Conclusions/Significance:** There are significant differences in attitudes towards NMUPS within the student population at MUN, suggesting that any prevention and intervention programs should focus on males, graduates and international students, as these students seem to have a more positive attitude towards such use.

students  
surveys and questionnaires  
attitude  
prescription drug misuse  
universities

## **Filling a critical gap in reproductive health support for incarcerated women**

Hanna Garson, Dal law student, Womens Wellness Within member; Martha Paynter, Dal Nursing Student, Women's Wellness Within and LEAF NS director

Presented by: Ling, Hazel; Paynter, Martha

**Introduction:** In response to the Julie Bilotta's traumatic, unassisted birth experience in 2012 at the Ottawa Carleton Detention Centre, a group of student nurses, midwives, lawyers, social workers, doulas, policy researchers and professionals in these fields launched an interdisciplinary health services movement in Nova Scotia called Women's Wellness Within (WWW) to serve criminalized women facing poverty, addiction, isolation and mental illness in pregnancy and parenting. We serve women at the Central Nova Correctional Facility in Dartmouth (provincial jail), the Nova Institute for Women in Truro (federal prison) and in community-based transitional housing.

**Methods:** WWW services include support for pregnant inmates for abortion, miscarriage, labour and delivery, postpartum and breastfeeding, and NICU. We provide referrals to public health and parenting education. WWW members facilitate monthly women's health workshops on topics determined by the women: contraception, STIs, fertility, stress, parenting and self-care. We advocate for women to live with and breastfeed their infants and children while incarcerated.

**Results:** In 2015 we served five women in pregnancy and several women seeking parenting counseling; in 2016 we served four. Approximately 100 incarcerated women have participated in WWW workshops. In consultation with women inside and with the assistance of Pro Bono Students Canada, in spring 2016 we published a community resource guide. In fall 2016 our advocacy work contributed to the unshackling and release of Fliss Cramman.

**Conclusion:** WWW fills a critical gap in services. Lack of data collection regarding reproductive health and services for women in corrections perpetuates inadequate and erratic support and care.

prenatal education  
postpartum period  
doulas  
prison  
reproductive health

## **Research Proposal: Women's Experiences of Prenatal Education and Support in Nova Scotia**

Victoria Little, Dalhousie University

Presented by: Little, Victoria

**Introduction:** Historically, Public Health Services in Nova Scotia provided in-person education and support classes to pregnant women. In 2014, the province introduced a free prenatal education website to replace the universal in-person prenatal classes. Other prenatal support available in NS includes family, friends, blogs, family resource centers, doctors, midwives and nurse practitioners. As there is little research that addresses how various online and offline prenatal education is received or affects women's perinatal experiences and health outcomes, it is important to further explore women's experiences regarding accessibility and their choices for face to face or online prenatal education.

**Methods:** Feminist poststructuralism will be used to examine how women's prenatal experiences are socially and institutionally constructed using the concepts of beliefs, values, practices, and relations of power. Face-to-face semi-structured interviews will be conducted with women in the postpartum period who will be asked to reflect on their prenatal experience, focusing on the support and education they did or did not receive.

**Anticipated Results:** The purpose of the proposed research will be to understand how women's experiences are socially and institutionally constructed through relations of power. It is anticipated that the new insights provided by the mothers on the current realities of prenatal education and support in NS will assist healthcare providers in planning prenatal programs.

**Significance:** The small-scale qualitative nature of the study will provide rich descriptions of women's experiences, which is exactly what is missing from the literature and our healthcare system. The findings will help guide the way our healthcare system and communities support mothers.

Public Health  
Pregnancy  
Health Promotion  
Gender  
Social Networks  
Technology  
Social Determinants of Health

## **Age and Sex Influences on Health Care Utilization through the Ontario Telemedicine Network**

Jessica Lowey, Lakehead University, Thesis Student; Dr. Vicki L. Kristman, Lake head University, Supervisor

Presented by: Lowey, Jessica

**Introduction:** The Ontario Telemedicine Network (OTN) provides virtual health care services to the Ontario population, specifically to those patients in under serviced regions. This research proposal seeks to determine the associations between age and sex and health care utilization rates through the OTN and to determine if geographical location modifies these associations.

**Methods:** A historical, population-based, retrospective cohort study, utilizing administrative billing data and census data will be employed. Utilization will be determined by Ontario Health Insurance Plan (OHIP) medical billing data that has OTN listed as the service location. Associations between the exposures, outcome, and effect modifier will be analyzed using multivariate Poisson regression.

**Anticipated Results:** Age and sex differences within rural and urban regions are anticipated, based on previous analyses of aggregate data. While only 22% of OTN sessions involved rural Northern patients, 72% of gynecology and obstetrics sessions, areas of care predominantly used by women, involved patients in rural north. Additionally, 42% of geriatrics appointments involved patients in rural northern regions.

**Significance:** The use of telemedicine services in Ontario is not well understood. This project will provide a detailed description of telemedicine use in Ontario by sex, age, rurality, and region. The results will help determine if telemedicine in Ontario is targeting particular demographic groups and health care services. This will positively impact OTN and allow for the organization to prioritize their focus on developing the best services in the areas of care patients most frequently use.

Telemedicine  
Epidemiology  
Delivery of Health Care  
Health Services  
Ontario

## **Athlete Monitoring: The Relationship Between Well Being and Performance**

Rachel Lung, School of Health and Human Performance at Dalhousie University

Presented by: Lung, Rachel

**Introduction:** Over the past several years, there has been an increased level of interest in using athlete monitoring as a method to track athletic progress and athlete preparation. However, there is yet to be a definitive marker that determines the effect of training load on an athlete. The purpose of this study is to determine if there are any existing relationships between factors of internal athletic load and an objective measure of performance.

**Methods:** The aim of this study will be to complete a secondary analysis of data from a sport specific population. The data to be analyzed will be accessed from a daily survey of several measures of subjective well being using an athlete self-report measure. These scores will then be correlated with an objective performance measure in the form of a height measurement to determine potential impacts of subjective well being on athletic ability. The height measurement will be taken using a force plate. These height scores will also be correlated with a height score taken from an inertial measurement unit (IMU) to determine the validity of using microsenors in sport.

**Anticipated Results:** The anticipated results would include a significant relationship between one or more of the subjective factors of well being and the height measurement taken from the force plate. Additionally, it is expected that the height taken from the IMU will be comparable to the height measurement taken from the force plate.

**Significance:** The objective of regular monitoring is to observe the internal and external loads being experienced by athletes, ultimately to assess athlete preparation and improve performance outcomes. Determining which factors have an effect on performance also has implications when assessing risk of injury.

Athletes  
Self Report  
Well Being  
Athlete Monitoring  
Athletic Performance

## **Recovery for the "Unrecoverable": A Qualitative Metasynthesis of the Recovery of Consumer/Survivors**

Sarah MacCallum, Dalhousie University; Caitlyn Ayn, Dalhousie University; Lynne Robinson, Dalhousie University

Presented by: MacCallum, Sarah; Ayn, Caitlyn

**Introduction:** Consumer/survivors are those who feel that they have been traumatized by treatments forced upon them in the mental health system, usually during an inpatient stay. Due to this traumatization, consumer/survivors have sought liberation from the system and founded their own movement that often is dichotomous to the traditional mental health system.

**Method:** The current metasynthesis of fourteen articles utilized thematic analysis to inductively explore how consumer/survivors achieved a state of recovery, despite being part of a group traditionally thought to be unable to recover due to the severity of their mental health concerns.

**Results:** Three themes regarding recovery in consumer/survivors were found. They are: recovery through moving beyond the traditional medical model to the consumer/survivor movement, recovery through inclusion in a chosen group or space, and recovery through the personal process of identity (re)solidification.

**Conclusions:** These themes regarding recovery, while not operationalizing the process, have important implications for the mental health system as a whole, as consumer/survivor literature can be used to guide the system towards more human and individualistic treatment, as well as more successful recovery for all.

Mental Health

Recovery

Consumer Advocacy

Survivors

Psychiatric Incarceration

## **Labral Gracilis Tendon Allograft Reconstruction & BST-CarGel for an Acetabular Cartilage Hip Defect**

Ivan Ho-bun Wong, M.D., F.R.C.S (C), Dip. Sports Med., MACM, Dalhousie University;  
Laurel E MacInnis, BScK, BScPA, CCPA, University of Toronto; Ahmed AlHussain, M.D.,  
Dalhousie University; Catherine M Coady, M.D., F.R.C.S (C), Dalhousie University

Presented by: MacInnis, Laurel

**Introduction:** Hip cartilage injuries are very common and have been reported to be as high as 50%. In some series, an abnormal femoral acetabular contact can result in a full thickness cartilage defect or labral lesions prevalence as high as 55%. This case study demonstrates an arthroscopic technique to reconstruct an uncontained, full thickness, focal cartilage defect of the acetabulum, by reconstructing missing labrum using a gracilis allograft and biological liquid scaffold for reconstructing the cartilage. Capsulotomy, acetabuloplasty and microfracture with marrow bleeding should be performed simultaneous to the gracilis allograft preparation. The graft is inserted and anchored to reconstruct the missing labrum and to recreate a contained defect. Suction and drying of the joint surfaces is performed while the BST-CarGel® - (Piramal Healthcare (Canada) Ltd. Bio-Orthopaedics Division) and blood mixture is prepared. A drop by drop technique is then used to reconstruct the cartilage defect.

**Method:** Case Study

**Results:** Early clinical outcome studies of labral reconstructions yield good results including decreased pain and increased function of the hip, as do early clinical outcome studies of cartilage reconstruction procedures. However, no clinical outcome studies have examined treatment using both techniques.

**Conclusion:** This technique illustrates the possibility of treating an uncontained cartilage defect of the acetabulum by combining currently accepted techniques that show promising early results. While there are no clinical outcomes reported yet, this technique does not burn any bridges for future management. If successful can help to decrease pain, increase function, and perhaps delay the development of osteoarthritis

Labral Allograft Reconstruction  
Acetabular Cartilage Defect  
Hip Arthroscopy  
Gracilis Tendon Allograft  
Arthroscopic Technique

## **Academic writing abilities of students with a history of reading difficulties**

Elizabeth MacKay, Dalhousie University; Annie Laroche, Dalhousie University; Rauno Parrila, University of Alberta; Helene Deacon, Dalhousie University

Presented by: MacKay, Elizabeth

**Introduction:** Writing is an important component of academic success. We report on a study specifically of academic writing skills in a group of university students. We focus on students with a history of reading difficulties, given accumulating evidence that they are at risk for academic difficulties. Evaluating the Simple View of Writing, we also investigated whether differences in academic writing skills of students with and without a history of reading difficulties emerged after controlling for lower level transcription skills.

**Methods:** Participants included 46 university students with a history of reading difficulties (as reported on the Adult Reading History Questionnaire – Revised). These students were matched on age, gender, and non-verbal intelligence with 46 students without a history of reading difficulties. In the current study, we measured academic writing with timed summary and proofreading measures, and transcription with measures of spelling and handwriting.

**Results:** Performance on both academic writing and transcription was worse for students with than without a history of reading difficulties. These difficulties with academic writing remained even after controlling for differences in transcription and word reading skills.

**Conclusions:** These findings suggest that students with a history of reading difficulties experience challenges with academic writing that are beyond what one would expect from their difficulties with lower level transcription and word reading skills. These deficits are likely to be a source of challenges in an academic setting. The results from this study can serve as preliminary evidence to aid in informing academic writing interventions for university students who have a history of reading difficulties.

students with a self-reported history of reading difficulties  
academic writing  
proofreading  
spelling  
Simple View of Writing

## **Investigating cognitive-motor interdependence during standing in persons with Multiple Sclerosis.**

Mathieu Mallet, Faculty of Medicine and Health Sciences, Université de Sherbrooke; Grant Handrigan, École de kinésiologie et de loisir, Université de Moncton; Mathieu Bélanger, Centre de formation médicale du Nouveau-Brunswick

Presented by: Mallet, Mathieu

**Introduction:** Multiple Sclerosis (MS) is an incapacitating neurodegenerative disease that affects more than 2.3 million people in the world. In Canada, it is the most prevalent neurodegenerative disease among young adults with seven times the global prevalence. Also, the highest rates in Canada are found in the Atlantic Provinces. This disease is associated with general fatigue, muscle weakness and diminished sensory capacities. Specifically, cognitive and balance deficits are the most common symptoms in persons with MS, which are highly correlated with fall risks in this population. Therefore, this project proposes to investigate the cognitive-motor interdependence during standing in persons with MS.

**Methodology:** To explore the cognitive-motor interdependence this project uses a dual-task experimental paradigm, consisting of varying the standing balance control position on a force plate (9286B, Kistler™) while simultaneously performing an auditory choice reaction time task. Persons with MS are age matched with seemingly healthy people and both groups are followed over a six month period. During this study, participants take part in three sessions with each session consisting of questionnaires and clinical tests assessing balance, cognition, fear of falling and general fatigue and also the dual-task experimental protocol. Additionally, participants prospectively complete a falls calendar tracking their falls over a six month period.

**Results:** Participant recruitment and data collection is ongoing. Preliminary results will be presented.

**Conclusion:** This project aims to clarify the cognitive-motor control mechanisms and improve falls risk identification in persons with MS.

Multiple Sclerosis

Postural Balance

Dual Task

Cognitive-Motor Interference

Dual Task Cost

## **Testing associations between coping and psycho-physiological stress: A multi-method study**

Lauren Matheson, Dalhousie University; Logan Nealis, Dalhousie University; Dr. Simon Sherry, Dalhousie University; Dr. Dayna Lee-Baggley, Nova Scotia Health Authority (Central Zone) and Department of Family Medicine, Dalhousie University

Presented by: Matheson, Lauren

**Introduction:** Coping is a commonly described protective factor in stress research. These relationships are almost exclusively examined using self-report measures, which are useful but fail to account for stress as a psycho-physiological phenomenon. This study tested differential associations between coping styles and stress as captured by 1) self-report questionnaires, which reflects a subjective perception of distress, and 2) heart rate variability (HRV), which reflects parasympathetic functioning.

**Method:** A community sample (N = 100) attended a lab-based session to complete self-report questionnaires of stress (recent stressful events, perceived stress) and coping style. Participants then completed a 15-minute recording of heart rate variability (HRV) using an ambulatory cardiac monitor while lying supine.

**Results:** Multiple regression showed that, after controlling for recent stressful events, emotional processing (self-help), avoidance, and self-punishment predicted increased perceived stress, while positive re-framing (accommodation) predicted decreased perceived stress. Conversely, only self-help predicted increased HRV, which indicates higher parasympathetic function. HRV and perceived stress were unrelated.

**Conclusion/Significance:** Contrary to hypotheses, psychological and physiological indices of stress did not overlap and showed divergent associations with coping styles. Results suggest perceived stress and parasympathetic function may represent distinct stress processes, with the former representing a cognitive evaluation of distress, and the latter representing a physiological index of emotion regulation. These results may indicate emotionally-focused coping contributes to subjective distress but may be advantageous for physiological regulation.

Stress

Coping

Heart Rate Variability

Multi-method

Community sample

## **The Experiences and Perceptions of Rural NS Youth When Accessing Mental Health Services and Supports**

Holly Mathias, Dalhousie University

Presented by: Mathias, Holly

**Introduction:** Youth mental health is a Canadian public health issue. Approximately 15 percent of Canadians under the age of 18 live with a diagnosed mental illness, while many others live with undiagnosed mental health issues (CMHA, 2016). Access to mental health services and supports is important for managing mental health issues; however, only 1 in 6 youth has access to appropriate services and supports (Cloutier et al., 2008). Mental health concerns are problematic in rural Canada, especially in Nova Scotia (NS). NS is predominantly rural and there is a higher prevalence of youth mental illness than in the rest of Atlantic Canada (Latham, 2012). There is little research on how youth experience access to rural mental health supports and services, and virtually no literature on youth mental health in rural NS. This study addresses how youth in rural NS experience and perceive access to mental health services and supports.

**Methods:** This interpretive phenomenological study will use focus groups and semi-structured interviews to collect the experiences of grade 10-12 high school students in rural Nova Scotia. Data will be interpreted using the Levesque et al. (2013) patient-centered access framework.

**Anticipated Results:** It is expected that the majority of youth in the study community will have poor experiences and perceptions of access to formal mental health services. However, many youth may also be relying on informal supports (e.g. peer support, internet) that are not well known.

**Conclusions/Significance:** Potential findings will fill the gap in literature on access to mental health services for youth in rural Canada. This study will help to inform youth-centered policy creation, community-based interventions and service delivery within rural NS.

Mental Health

Rural Health

Adolescent Health

Health Promotion

Health Services Accessibility

## **The Impact of Financial and Geographic Barriers to Fertility Service in Newfoundland and Labrador**

Erika Maxwell, Memorial University; Dr. Maria Mathews, Memorial University; Dr. Shree Mulay, Memorial University

Presented by: Maxwell, Erika

**Introduction:** In Newfoundland and Labrador (NL) accessing fertility services is challenging for many residents, as a result of lack of service availability within the province, geographical distance from location of services, and out-of-pocket expenses for both treatment and travel. The purpose of this study was to explore the challenges experienced by fertility patients in Newfoundland and Labrador and how these challenges affect the treatment.

**Methods:** Semi-structured, in-depth interviews were conducted with 11 patients across Newfoundland and 8 service providers from NL Fertility Services to gather the perspectives of both patients and providers. The interview transcripts were analyzed thematically.

**Results:** We developed a conceptual framework that considers patient group, therapeutic goal, and barriers when determining treatment impacts. We found that for heterosexual couples looking to become pregnant, the most commonly cited barriers were costs, including financial, opportunity, and emotional, geographical isolation, lack of IVF service availability in province, the nature of services (as the treatment is not portable, cannot use alternative providers, and must be carefully timed), partner separation, and social stigma. We also found that these factors created patient and provider-driven impacts on treatment, including delaying IVF, choosing cheaper drugs, and minimizing clinic visits.

**Conclusions:** Accessing fertility services in NL presents unique challenges for patients. By providing better patient education and travel subsidies these services could be made more accessible to NL residents.

Newfoundland and Labrador  
Health Expenditures  
Fertility  
Pregnancy  
Geography

## **Systematic Review of Depression as a Prognostic Factor for Mild Traumatic Brain Injury (MTBI)**

Charlotte C. McEwen, Lakehead University; Dr. Vicki L. Kristman, Lakehead University; Jessica Lowey, Lakehead University; Jennifer Asselstine, Lakehead University; Jennifer Plata, Thunder Bay Regional Research Institute; Catherine Chambers-Bedard, Lakehead University; Dr. Joshua J. Armstrong, Lakehead University

Presented by: McEwen, Charlotte

**Introduction/Objectives:** Mild Traumatic Brain Injury (MTBI), otherwise known as concussion, is an injury frequently sustained during sports activities, traffic collisions and falls. In 2012, ICoMP systematically reviewed literature on MTBI prognosis, but at that time depression was not included in analysis. This paper will extend the MTBI prognosis review initiated by ICoMP, analyzing depression as an outcome of MTBI.

**Methods:** MEDLINE, PsychINFO, Embase, CINAHL and SPORTDiscus were searched from 2001 to 2016 using ICoMP search protocols with an additional search screen for depression. Inclusion criteria focused the results to controlled trials, case-controls or cohort studies with a minimum of 30 MTBI cases that assessed depression as an outcome. Each eligible study was then assessed by two independent reviewers for scientific admissibility using Scottish Intercollegiate Guidelines Network criteria. A third reviewer resolved cases of impasse. Evidence from relevant, methodologically sound studies was collectively analyzed.

**Results:** In total, 10,155 records were detected, and after screening, 96 were full text reviewed. Twelve of these studies met inclusion criteria and of those relevant studies, reviewers concluded that six were scientifically admissible. Three of these studies detected no association, two detected some association, and one study had inconclusive findings.

**Conclusion:** The limited literature available on this topic suggests there may be no association between MTBI and the development of depression. However, this evidence is insufficient and more methodologically sound research is necessary. Researchers specifically call for studies with larger sample sizes, stronger measures of depression as an outcome, and more consistent definition of MTBI.

Concussion, Mild  
Mild Traumatic Brain Injury  
Prognosis  
Systematic Review  
Depression

## **Food Security among Nova Scotia's Older Women using Food Banks: Policies and Practices**

Madeleine McKay, Dalhousie University

Presented by: McKay, Madeleine

**Introduction:** The project proposed here will use the lifecourse perspective to understand the food-related experiences of older, single, Nova Scotian women using foodbanks. While we know that unmarried, female-led households in Canada experience higher levels of food security than do their male counterparts, there is limited literature explicitly discussing the relationship between older adulthood, womanhood, and food insecurity. Older adults may also experience very specific barriers to food security, including mobility. Food banks may offer a temporary solution to food insecurity.

**Methods:** Research and recruitment will be conducted with the help of Feed Nova Scotia. Qualitative, semi-structured interviews will be analyzed using narrative coding, a process which will highlight the intricacies of food security across the lifecourse of older adults through their personal stories and experiences.

**Anticipated Results:** Results will provide a detailed perspective on the issue of food security among older women in Canada, contributing to the limited health-related research on the topic. Significance: Nova Scotia's rate of food insecurity is currently the highest provincial rate in the country at 11.9%. Nova Scotia also has a population that is rapidly aging, and the food bank use of this demographic is increasing. Food security is crucial to the health an aging population, as nutritional status is compromised when food cannot be purchased, and results in health issues such as cardiovascular disease and osteoporosis.

food security  
women  
older adults  
Canada  
food banks

## **Identification of BChE as a novel mediator of radioresistance and aggression in prostate cancer**

Michelle Meringer, Sunnybrook Research Institute, Sunnybrook Health Sciences Centre, Toronto, Canada

Presented by: Meringer, Michelle

**Introduction:** Prostate cancer (PCa) is the most prevalent form of cancer among men in Canada, with 1 in 8 men expected to be diagnosed in their lifetime. Advanced PCa has a 31% 5-year relative survival rate, along with a 5-year recurrence rate of 40% following treatment. As Ionizing Radiation (IR) Therapy is the primary treatment of PCa, local recurrences following IR is a pattern of treatment failure attributable to the radioresistance of cancer cells.

As RNAs play an important role in a wide array of biological processes – including in cancer – screens were performed to identify and characterize the phenotype of RNAs dysregulated in radioresistant (IRR) prostate cancer. mRNA arrays performed in radioresistant cell lines identified several RNAs as candidates that may function to promote tumour survival after IR: butyrylcholinesterase (BChE) and sciellin (SCEL) were mRNAs whose expression decreased by 96% in IRR PCa.

**Methods:** After identification, the dysregulated expression levels of the RNAs found in IRR PCa were induced in radiation sensitive PCa cells via transfection to test if these cells would now confer a radioresistant phenotype. Assays were then performed to assess the effects of each RNA on cell proliferation, invasion and migration through extracellular matrices, clonogenic survival, and cell cycle distribution, with and without radiation.

**Results and Conclusion:** Knockdown of BChE mRNA in DU145 and PC3 PCa cell lines increases clonogenic survival and cell proliferation following radiation treatment, and increases the invasive capacity of PCa. The results suggest that downregulation of BChE in IRR cells is a major contributor of radiation resistance and of the aggressive phenotype.

Prostate  
Cancer  
RNA  
Screening  
Radiation  
Aggression

## **Approach and avoidance goals for disclosing sexual problems are associated with women's well-being**

Kathleen E. Merwin, Dalhousie University; Lucia F. O'Sullivan, University of New Brunswick; Natalie O. Rosen, Dalhousie University

Presented by: Merwin, Kathleen

**Introduction:** Approximately 43% of women experience sexual problems (difficulties with desire, arousal, lubrication, orgasm, and pain during sexual activity). Women with sexual problems experience more psychological, sexual and relational consequences compared to unaffected women. Past literature highlights the importance of sexual communication for couples' wellbeing. Merwin et al. (in press) found that women who disclosed sexual problems to a partner reported fewer depressive symptoms, and greater relationship satisfaction and sexual functioning, compared to non-disclosers. However, little is known about why women disclose sexual problems and the implications these goals may have for their wellbeing. Research suggests that relationship disclosures motivated by approach goals (seeking desirable outcomes – e.g., intimacy) may be beneficial, whereas avoidance goals (escaping undesirable outcomes – e.g., partner conflict) may be detrimental. We examined whether approach and avoidance goals for disclosing sexual problems were associated with women's psychological, sexual, and relationship wellbeing. **Methods:** Women (N=192) who reported disclosing a distressing sexual problem to a partner completed online standardized measures assessing relationship satisfaction, sexual functioning, depressive symptoms, and goals for disclosure. **Results:** Holding stronger approach goals for disclosure was associated with higher sexual functioning and relationship satisfaction, and fewer depressive symptoms, whereas having stronger avoidance goals was associated with poorer sexual functioning and relationship satisfaction, and more depressive symptoms. **Conclusions:** For women with distressing sexual problems, disclosure, particularly when motivated by approach goals, may benefit their wellbeing.

sexual health  
sexual functioning  
relationship satisfaction  
depressive symptoms  
sexual problems

## **The Association Between Physical Activity, Outdoor Play and Sleep Among Preschool Children**

Laura Miller, Dalhousie University

Presented by: Miller, Laura

**Introduction:** Sleep is important for overall health throughout childhood. Unfortunately, poor sleep among children is common in today's society. It is therefore important to develop ways to promote healthy sleep in children. Among adults, physical activity is supported as beneficial for sleep. It could be that physical activity is beneficial for sleep among children, however, studies examining this topic are sparse and inconsistent. This is therefore a gap in the literature that needs to be addressed. Outdoor play allows for increased physical activity and therefore could also be beneficial for sleep among children. However, studies examining outdoor play and sleep among children are sparse. More research is needed to determine the relationship between outdoor play and sleep among this population. The purpose of this study is to examine the association between physical activity and sleep, and outdoor play and sleep among preschool children.

**Methods:** Children will wear accelerometers to measure physical activity sleep for nine days. Parents and teachers will fill out an outdoor play diary and parents will complete a questionnaire at the end of the nine-day measurement period regarding their children's sleep.

**Anticipated Results:** It is anticipated that children who are more physically active and who engage in more outdoor play will have better sleep than children who are less physically active and who engage in less outdoor play.

**Conclusions:** The current study is significant as it will be contributing to the limited knowledge base surrounding this topic in children. Should results of the current study support the hypotheses, this study will provide evidence supporting increasing physical activity and outdoor play among children.

Child  
Preschool  
Physical activity  
Outdoor play  
Sleep

## **NeoLiNC: A pilot study assessing remote neonatal intensive care using telemedicine**

Souvik, Mitra; Emina, Topcagic; Kelly, Min; Sara, Di Gregorio; Ashneet, Singh

Presented by: Min, Kelly; Di Gregorio, Sara

**Introduction:** In Ontario, infants are born at hospitals with different levels of available care. Neonates requiring specialized care pose a challenge since only four tertiary neonatal care centers can dispatch inter-facility transportation services to remote facilities. In order to improve resource utilization of transport teams, neonatologists need to perform a proper assessment and have good communication with remote facilities. Current systems use telephone consults and lack visual capabilities, real-time monitoring, and reliable diagnostic image transmission. The aim of this pilot study was to develop and evaluate the NeoLINC system as a technological support for remote neonatal assessment and care.

**Methods:** The NeoLINC telemedicine system is a communication platform which includes a specialist node and a patient node. The platform is to be evaluated in a pilot study in the Level 3 NICU at McMaster Children's Hospital and associated rural hospitals in the HNHB LHIN. All infants born in rural hospitals where a tertiary care neonatal consult is initiated would be eligible for the study. Outcomes include feasibility, usability, time to transport, mortality, and resource utilization.

**Anticipated Results:** Our hypothesis is that NeoLINC will reduce mortality in neonates requiring transport from a rural facility, improve other clinical outcomes, and reduce resource use related to unnecessary transport.

**Limitations:** NeoLINC has not yet been implemented and no funding has been secured.

**Conclusions:** The NeoLINC telemedicine system pilot study is designed to address the assessment and communication challenges faced in remote neonatal care. The goal of the pilot study is to assess the feasibility of implementing the program and to secure funding for further evaluations.

Infant, Extremely Low Birth Weight

Infant, Extremely Premature

Infant, Premature

Telemedicine

Telecommunications

## **The role of pain behaviors in the link between patients' pain catastrophizing and partners' burden**

Somayyeh Mohammadi, Centre for Pediatric Pain Research, IWK Health Centre; Christine Chambers, Departments of Pediatrics and Psychology & Neuroscience, Dalhousie University and IWK Health Centre; Natalie Rosen, Departments of Psychology and Neuroscience, Obstetrics & Gynaecology, Dalhousie University

Presented by: Mohammadi, Somayyeh

**Introduction:** Pain catastrophizing in individuals with chronic pain (ICPs) is related to lower levels of well-being (e.g., burden and stress) in their family members, especially their partners. Yet, the role of behavioral factors in the link between pain catastrophizing and partners' well-being has remained largely unexplored. This study hypothesized that ICPs with higher levels of pain catastrophizing would express more pain behaviors. In turn, a high level of pain behaviors would be positively related to partner burden. Using a multiple mediation analysis, the current study investigated the mediating role of different types of pain behaviors including distorted ambulation (e.g., stooping), affective distress (e.g., being angry), facial/audible expressions (e.g., grimacing), and seeking help (e.g., asking for help) on the link between pain catastrophizing and perception of partner burden.

**Methods:** The sample consisted of 119 ICPs. ICPs completed questionnaires on pain catastrophizing (i.e., Pain Catastrophizing Scale-13), pain behaviors (i.e., Pain Behavior Checklist), and perceptions of their partner's burden (i.e., Zarit Burden Inventory) in an online survey.

**Results:** The findings showed that pain catastrophizing was significantly related to higher perception of partner burden ( $p = <.001$ ). Furthermore, the results of the multiple mediation analysis showed that the link between pain catastrophizing and perception of partner burden was only mediated by an increase in behaviors related to affective distress (95% CI: .01-.4).

**Conclusions:** These findings indicate that ICPs' pain behaviors related to affective distress such as being angry or upset, may be accountable for the positive association between greater catastrophizing and greater perception of partner burden.

pain catastrophizing  
pain behaviors  
caregivers  
mediation  
burden

## **Evaluating Campus Interventions: Contribution analysis to examine mental health initiatives**

Craig Moore, Dalhousie University; Kara Thompson, St. Francis Xavier; Amanda Hudson, Dalhousie University; Michael Teehan, Dalhousie University; Sherry Stewart, Dalhousie University

Presented by: Moore, Craig

**Introduction:** The Caring Campus Project was a Movember-funded, student-led intervention focused on mental health promotion and alcohol harm reduction that took place at three Canadian universities. Prior research has shown that alcohol misuse is common among undergraduates, higher among males, and commonly co-occurs with mental health problems (Health Canada, 2008; Keyes et al., 2012).

To evaluate the effectiveness of the interventions at each campus, a contribution analysis framework was used. This framework allowed for the context of each campus to be taken into account in determining the project's effectiveness by examining the unique contributions of the intervention relative to other mental health/substance abuse initiatives on campus.

**Methods:** The evaluation used key stakeholder interviews and written responses, which were analyzed for common themes.

**Results:** University 1 (Atlantic Canada) reported that through sharing research findings from campus surveys with student services, and by educating campus partners on harm reduction principles, their project became more central to other university initiatives. The unique contribution to the campus community for University 2 (Central Canada) involved engaging male students in mental health promotion. For University 3 (Western Canada), the development of a mental health peer support program was the main project contribution.

**Conclusions/Significance:** This was the first case study using contribution analysis as a way to assess the effectiveness of a health promotion initiative. Using this framework allowed for an in-depth understanding of how each university's context impacted the ability of the intervention to bring about its intended outcomes. Results may inform future health promotion projects across Canada.

Mental Health  
Alcohol Harm Reduction  
Campus Health Promotion  
Contribution Analysis  
Evaluation Studies

## **Examination of Prevalence of Eating Disorders in Professional and Semi-Professional Aerialists**

Yasmine Mucher, Dalhousie University

Presented by: Mucher, Yasmine

**Introduction:** Research has shown that there is an increased prevalence of eating disorders (EDs) in athletes of aesthetic sports. Aerial circus arts (ACAs) share several commonalities with aesthetic sports, including in the importance of appearance/ presentation, and in movement technique. Due to these commonalities, this study aims to examine the prevalence of EDs in professional and semi-professional aerial circus performers in North America and compare it to that of athletes of aesthetic sports; the study will also examine differences in prevalence of EDs between aerialists of different apparatus specialties and sport backgrounds. **Methods:** A 40 element Eating Attitudes Test and a sports background/apparatus specialization survey will be distributed to professional and semi-professional aerialists throughout North America through direct contact to circus schools and companies, and via social media pages. Surveys will be completed anonymously through an online survey program. **Anticipated Results:** It is hypothesized that there will be a similar prevalence of EDs among professional and semi-professional aerialists as there is among athletes of aesthetic sports as seen in the literature. **Significance:** ACAs have recently seen tremendous growth in North America both at elite and recreational levels, and as a fitness trend. Future research can look into prevalence of EDs in non-aerial circus performers.

eating disorders  
aesthetic sports  
aerialists  
prevalence  
circus

**“We are the little person”: The experiences of refugees with primary care in a smaller urban centre**

Elizabeth Munn, Dalhousie University Faculty of Medicine; Matthew To, Dalhousie University Faculty of Medicine; Mandi Irwin, Dalhousie University Department of Family Medicine; Emily Gard Marshall, Dalhousie University Department of Family Medicine

Presented by: Munn, Elizabeth; To, Matthew

**Introduction:** Research has identified a number of barriers that refugees face at different levels of the healthcare system, but qualitative data on their experiences with primary care is lacking. This project contributes to this area by exploring the experiences of refugees in general practices, walk-in clinics, and a refugee-specific health clinic. There is a particular focus on quality of care and barriers to access.

**Methods:** Focus groups were conducted with refugees living in Halifax, Nova Scotia. Focus groups followed a semi-structured interview guide and were organized by gender and language (i.e. Arabic, Bhutanese). Transcripts were coded independently by two research team members and analysed using a thematic analysis approach.

**Results:** Preliminary analysis indicates that refugees experienced significant challenges in navigating the healthcare system. Major sources of difficulty fell into four categories: personal, financial, service coordination, and the structure of the medical system. Challenges were exacerbated for individuals with higher health needs and urgent health issues. Refugees expressed different concerns based on the location of primary care. Perspectives were influenced by pre-migration experiences in refugee camps and in their home countries.

**Conclusions / Significance:** This study highlights a gap between knowledge and action: research has identified major healthcare barriers for refugees, but they persist for the newcomers in this study. The study suggests several strategies to respond to the challenges refugees face in accessing timely, high quality primary care.

Primary health care  
Refugees  
Family physicians  
Immigration  
Health services

## **Younger Adults' Perceptions of Aging: A Quasi-Experiment**

Joy Munroe, Dalhousie University

Presented by: Munroe, Joy

**Introduction:** Aging is a continuous process experienced by every individual, yet older age is often negatively stereotyped. Negative stereotypes lead to ageism in daily life, literature and policy, which further can impact older individuals' health and self-perceptions. With Canada's average age steadily rising, younger adults' will be working with and for older adults increasingly, and therefore understanding age stereotypes as held by younger individuals is of great importance.

**Purpose:** To explore the age stereotype traits elicited by the target words: older, old, elderly and senior, and to understand the connotations of the target words, and further, the sociocultural norms of age stereotypes. This will determine which word most realistically describes an aging population while reducing the perpetuation of negative stereotypes.

**Methods:** This quasi-experiment collected data through an online survey using methods replicated from Levy (1996), asking participants to generate five traits describing one of the four target words. The traits were coded by participants, as they assigned a positive, negative, mixed, or neutral rating for each trait. A non-parametric Kruskal-Wallis test was used to determine significant differences in age stereotypes across the target words.

**Results:** The priming word "senior" was the least likely to generate a negative stereotype from participants, and was the most likely to generate mixed and neutral stereotypes as well.

**Conclusions:** Evidence from this study may impact how older adults are described or referred to in daily life, policy or when teaching students in health professions. The target word "senior" generated the most complex stereotypes, which implies that it may generate the most realistic images of aging to younger adults.

aging  
stereotyping  
social stigma  
health promotion  
surveys and questionnaires

## Using integrative methods to project assemblages of vertebrate tick hosts of Lyme disease

Julia Nordlund, McGill University

Presented by: Nordlund, Julia

**Introduction:** Lyme disease has become the most common vector-borne zoonosis in the temperate zone and is rapidly spreading across North America. The bacteria that causes Lyme disease (*Borrelia burgdoferi*) resides in tick vectors (*Ixodes scapularis*) that feed on and are carried by vertebrate hosts. Part of my thesis is to project the distributions of these vertebrate host species to predict how they will shift their ranges and community assemblages across time. These predictive maps will then be used to assess levels of human exposure to Lyme disease within modeled regions.

**Methods:** I modeled the distribution of 11 North American vertebrate tick host species using the ensemble modeling R statistical package BIOMOD. These ensemble models were built using abiotic variables from BIOCLIM as predictors to project current and future species' distributions. Model performance was evaluated using the Area Under the ROC (Receiver Operating Characteristic) Curve (AUC), and the True Skill Statistic (TSS). Individual species' ensemble models were then stacked to create community models containing the probabilities of species occurrence.

**Results:** Correlative SDM models performed well (high AUC and TSS values). However, the final ensemble models over-predicted the distributions of certain species. Hence, in certain regions the stacked community models predicted erroneous species co-occurrence.

**Conclusions:** The overpredictive performance of these models is likely due to the omission of biotic variables that would otherwise constrain these species' distributions. I will be applying a trait-based approach to develop proxies for species' interactions. These proxies will act as competition indices and will be used to constrain the community models.

Lyme disease

*Borrelia burgdoferi*

Vertebrate hosts

Species distribution modeling

Ensemble modeling

## Embodiment of Reiki as Experienced by Adults with Attention-Deficit Hyperactivity Disorder

Heather Oerlemans, York University

Presented by: Oerlemans, Heather; DeSouza, Joseph

**Introduction:** I will explore how adults with Attention-Deficit Hyperactivity Disorder (ADHD) embody Reiki. In this study I will use a unique research design that employs a mixed methods approach to blend qualitative and quantitative results.

**Methods:** Quantitative methods include EEG readings before and after Reiki sessions to assess changes in alpha waves Reiki. fMRI will be performed along with an attention task pre and post study to assess changes in attention levels.

Qualitative methods include interviews pre and post study to ascertain whether the participant's perception of ADHD is positive or negative, and perceptions on the experience and efficacy of the Reiki sessions. PANAS-X surveys will be completed pre and post Reiki sessions to include patterns in mood. The Adult ADHD Quality of Life survey will be completed pre and post study to determine if any changes in quality of life occur.

**Anticipated Results:** The embodied experience of Reiki will be reflected neurologically through changes in alpha waves, greater focus, quality of life, and emotionally through interviews and PANAS-X.

**Significance:** Based on statistical analysis illustrating the embodied experience of Reiki is positively received by subjects with ADHD, I can develop a statistical model that will allow for better identification of who may benefit from Reiki.

Tracking the process of embodied experience from the initial social interaction to the internal neurological experience will further research and understanding in this field.

Contributions to the scientific understanding of Reiki using mixed methods never before used in a Reiki study.

Reiki

Attention Deficit Hyperactivity Disorder

fMRI

EEG

AAQoL

## **Underreporting of procedural pain assessment and management: still an issue for preterm neonates**

Adele Orovec, Dalhousie University; Timothy Disher, Dalhousie University, IWK Health Centre  
Dr. Marsha Campbell-Yeo, Dalhousie University, IWK Health Centre

Presented by: Orovec, Adele

**Introduction:** Pain is considered the fifth vital sign, following body temperature, heart rate, respiratory rate, and blood pressure. While all other vital signs are continually monitored in the neonatal intensive care unit (NICU), assessment of pain in non-verbal children continues to be an issue. This is especially concerning in the preterm infant population as in addition to having immature pain processing, they undergo an average of twelve painful procedures per day. The aim of the current study is to understand the state of practice regarding pain assessment and management in a cohort of hospitalized Canadian preterm neonates.

**Methods:** A secondary analysis of study data collected from preterm neonates enrolled in a clinical trial (Campbell-Yeo et al., 2013) and supplemental chart review.

**Results:** The 242 neonates included in the study underwent a total of 10468 painful procedures (4801 tissue breaking and 5667 non tissue breaking with only 56.6% and 12.2% having a documented pain score using the Premature Infant Pain Profile (PIPP) respectively). The most likely procedures to receive a pain score were heel sticks (60.8 %), venipunctures (58.4 %) and peripherally inserted central catheters (56.8%). The average PIPP score was 4.71 (range 0-21). Procedures least likely to receive a pain score were suctioning (0.2%), tape removals (6.8%), and endotracheal tube insertions (7.4%). A pharmacological pain relieving intervention was provided 40.6%, a nonpharmacological intervention 30.2%, and in combination 28.9% of the time.

**Conclusions:** Despite clinical guidelines on pain control in the NICU, pain continues to be underreported and undertreated. Focus on practice uptake, especially in non-needle related painful procedures is needed.

pain  
preterm infants  
neonates  
pain assessment  
treatment  
policy  
neonatal intensive care

## **Small Area Rate Variation in Cardiovascular Disease Prevalence in Nova Scotia, Canada**

Bartosz Orzel, MSc Candidate, Department of Community Health and Epidemiology, Dalhousie University; Dr. George Kephart, Professor, Department of Community Health and Epidemiology, Dalhousie University; Dr. Mikiko Terashima, Assistant Professor, School of Planning, Department of Community Health and Epidemiology, Dalhousie University; Dr. Iqbal Bata, Professor, Division of Cardiology, Department of Medicine, Dalhousie University

Presented by: Orzel, Bartosz

**Introduction:** Cardiovascular disease (CVD) is a leading cause of illness in Nova Scotia, estimated to account for 27% of all deaths each year and costing the provincial economy \$387 million per annum. Traditional efforts at reducing CVD burden have focused on risk factor reduction through modifications in individual behaviours. Conversely, less attention has been given to a broader population health perspective that considers the impact of residential environments and frames CVD occurrence in the context of place. The objective of this study will be to examine small area rate variation (SARV) in CVD prevalence in Nova Scotia, also describing how estimates vary according to both demographics and characteristics of the areas.

**Methods:** CVD cases will be retrospectively identified in administrative databases between the fiscal years 2010-11 to 2012-13, and will be linked to small, geographic areas using established methods in geocoding. Multilevel regression will be used to estimate crude and adjusted CVD prevalence, with the results visualized and conveyed using geographic information systems (GIS).

**Results/Anticipated Results:** It is anticipated that this study will identify areas that have higher and lower prevalence of each CVD than the provincial average. This study will also identify how much of the SARV in CVD prevalence is due to demographics and how much is due to characteristics of the areas.

**Conclusions/Significance:** By taking an upstream approach congruent with population health promotion, this study can serve as the basis for the development of healthy public policy and public health interventions aimed at addressing inequalities in CVD.

Cardiovascular disease  
Small area rate variation  
Prevalence  
Spatial epidemiology  
Disease mapping  
Geographic information systems

## **Awakening undergraduate nursing students' critical awareness about men's health and health literacy**

Dr. Margareth Zanchetta, Ryerson University; Mary Lam-Kin-Teng, Ryerson University; Marie Dumitriu, Ryerson University; Sasha Pais, Ryerson University; Farha Patel, Ryerson University; Celine Yu, Ryerson University

Presented by: Pais, Sasha

**Introduction:** Replication of an evaluative study including a workshop inspired by Paulo Freire's critical pedagogy, never used with undergraduate students. This will allow students to recall experiences and gain knowledge about the way men deal with information about health, self-care, and seeking medical help. A joint initiative composed by six students and a professor. Workshop-study sponsored by the Daphne Cockwell School of Nursing & Canadian Nursing Student Association.

**Objectives:** Awaken students' awareness and understanding of the importance of men's health and their health knowledge and behaviours in Canada by 1) improving students' skills to solve problems using analysis of situations relating to men's health, 2) broadening students' vision of nurse as health educator for men, 3) influencing nursing students' professional practice to target current issues surrounding men's health.

**Methods:** Immediate impact evaluation study having audio-recorded data sets (participants' narratives in group activities, created plans of action and evaluation forms). Use of Paulo Freire's critical awareness teaching philosophy and methods. Transcribed verbatim coded using Atlas ti and subjected to thematic analysis.

**Anticipated Results:** Innovative approach offering an opportunity to increase students' knowledge about men's health including current healthcare challenges, as well as the overall need to address health literacy to nursing students, so they can be better prepared to enter the job market and spark change in their community.

**Significance:** As a social determinant of health, health literacy can be strategic to disclose disparities in health care. Providing education to nursing students regarding men's health and health literacy aspects not covered in nursing curriculum.

Men's health  
health literacy  
nursing students  
health educator  
critical awareness

## **The Same, But Different: A Feminist Synthesis Review of Six Prevalence Studies of IPV in Aging Women**

Jyl Panjer, University of Windsor; Garry Atkinson, University of Western Ontario

Presented by: Panjer, Jyl

**Introduction:** Canadian seniors, age sixty-five and older are quickly increasing and it is hypothesized that women who experience Intimate Partner Violence (IPV) will not age out of this problem. Abuse will age with them and remain a part of their lives. If a distinction is not made, Intimate Partner Violence is may be confused for Elder Abuse during interventions, especially if workers in the health and social service fields do recognize it, rendering violence against aging women a seemingly ungendered problem. Women's issues have the potential to become invisible once again, even as the generation who fought against domestic violence in the feminist movement of the 1960s begins to age.

**Methods:** Three digital databases, PsychINFO, PubMed and Social Work Abstracts were searched using relevant terms. A chronological sample of six studies from a total of thirty was selected for review and represents a sample touchstone of published research that studied prevalence of IPV in older women.

**Results:** Nearly half of older women had experienced some form of IPV in later life, typically lasting for 14.5 years. Women 55 years and older, were typically eleven times more likely to experience psychological IPV than physical IPV.

**Significance:** Research on the prevalence of IPV among older women spans over two decades yet remains relatively sparse. This is of practical significance because there will be an increased population of seniors in the approaching years; therefore, the importance of programs, services and resources properly equipped to address the problems within an aging context are notable.

violence against women  
intimate partner violence  
elder abuse  
gerontology  
health and social services

### **Appraising horizontal violence with undergraduate senior nursing students**

Farha Patel, Daphne Cockwell School of Nursing; Calvin Chow, Daphne Cockwell School of Nursing; Shuk Choy, Daphne Cockwell School of Nursing; Marie Elisabeth Dumitriu, Daphne Cockwell School of Nursing; Aalia Jahurali, Daphne Cockwell School of Nursing; Mary Rachel Lam-Kin-Teng, Daphne Cockwell School of Nursing; Janice Lin, Daphne Cockwell School of Nursing; Sabaa Samuel, Daphne Cockwell School of Nursing; Rebecca Zavalunov, Daphne Cockwell School of Nursing; Tenzin Choekyi, Daphne Cockwell School of Nursing

Presented by: Patel, Farha

**Introduction:** An exploratory appraisal in the classroom with a sample of 51 year 4 undergraduate nursing students uncovered dimensions of the understudied lived experiences of horizontal violence (HV) among students. A team of 9 students facilitated a 3-hour debate-learning modality to stimulate peers' reflections about psychological capital and HV.

**Methods:** A thematic analysis with predefined themes related to HV in student relationships with: clinical preceptors, the nursing team, faculty advisors, and other students. A short lecture clarified concepts of HV and incivility/bullying, encouraging class discussion about them in work/study relationships. HV experiences expressed by 42 anonymous anecdotal written reports instigated the collective dialogue including uncouncted spontaneous oral narratives during the discussion. A new team of 11 students wrote testimonies as additional raw data regarding their assessment of achieved learning objectives along with their impressions. Verbatim are under coding with the help of Atlas ti.

**Results:** Key areas of HV included nursing team-to-students (n=20) and preceptors-to-students (n=11). Hospitals are the common setting. Lower incidences of HV were faculty advisors-to-students (n=7) and between students (n=4). Education, coping skills, work/learning environment, and social support were identified as affected social determinants of health. These determinants affect students' ability to promote the required psychological capital to safeguard their physical/mental health.

**Conclusion:** A manuscript including recommendations to decision-makers, adding to the Canadian knowledge about HV among nursing students will result. Future study with the school of nursing at large should follow to translate knowledge to stakeholders.

horizontal violence  
undergraduate nursing students  
interpersonal relationships  
incivility  
bullying  
exploratory appraisal  
work/learning environment

## **Got Human Milk? Ethical, Legal and Economic arguments for Milk Banking in Atlantic Canada**

Martha Paynter, Dalhousie University; Kathryn Hayward, Dalhousie University

Presented by: Paynter, Martha

**Introduction:** Donor human milk has been found to reduce the risk of necrotizing enterocolitis and other complications in medically fragile neonates, when a mother's own milk is unavailable. Milk banking was commonplace in Canada until the 1980's HIV crisis, and it has made a recent resurgence, with four non-profit human milk banks currently in operation. Only the Calgary-based private Northern Star Mother's Milk Bank distributes milk and accepts donations from outside its home province.

**Methods:** At the request of the Milk Bank Working Group of the Breastfeeding Community of Practice, an environmental scan and literature review was conducted in 2016 to examine options for advancing access to human donor milk in Atlantic Canada.

**Results:** Since 2013, the IWK Health Centre has purchased pasteurized human milk from Northern Star. There is no milk bank or milk depot in Atlantic Canada. Northern Star triages distribution, which may lead to a prioritization of recipients in Alberta. This arrangement threatens the sustainability of donor milk utilization in Atlantic Canada, undermines local participation in donation, and limits recipient eligibility. Human milk collection, processing and distribution has become a big business in North America. The regulatory environment has created a context in which breast milk banking is a matter of proprietary information, competition and profit, rather than a matter of altruism and health benefits.

**Conclusions/Significance:** This presentation examines the possibilities for local donor milk distribution in Atlantic Canada given legal, ethical and economics tensions in contemporary milk banking.

Breast Feeding  
milk, human  
milk banks  
ethics  
economics

## **Never Alone with Crohn's: A peer support system for young patients with Crohn's disease**

Irina Perlitch, McGill University; Sabrina Bartolucci, McGill University; Vincent Palmieri, McGill University; Samantha Pereira, McGill University

Presented by: Irina Perlitch; Sabrina Bartolucci

**Introduction:** Canada ranks among the countries with the highest incidence rates of Crohn's disease (CD) in the world, consequently, Never Alone with Crohn's was developed as a potential support system program for young CD patients. The psychosocial component of the condition is essential to consider due to its impact on patient health-related quality of life (HRQoL). In fact, the relationship between inflammatory bowel diseases and psychological stress has long been an area of extensive research.

**Methods:** Prospective mentees are matched with a "big brother/sister," an individual with more experience living with the condition, according to questionnaires completed by both parties. The mentor-mentee partnership is designed to last one year, after which the participants will be asked to complete the questionnaires again to collect early post-diagnosis HRQoL data.

By collaborating with clinics and hospitals, our introductory pamphlets would be given to newly diagnosed patients. These will include a link to our official website offering the questionnaires, which assess the patients from biological, psychological and social perspectives, allowing for a compatible match between mentor and mentee.

**Expected results:** We predict that peer mentorship will serve as a beneficial supplement to traditional treatment, and that this type of social interaction will have a positive impact on patients' HRQoL.

**Conclusions/Significance:** There are multiple examples of peer support systems for chronic conditions that have a positive impact on the psychosocial aspect of patient health, a valuable adjunct to traditional care; we expect similar results can be obtained in CD.

Canada  
Crohn disease  
Quality of life  
Mentors  
Stress, psychological  
Surveys and questionnaires

## **An Examination of the Impact of Socio-Economic Status on the Benefits of Coming Out**

Lana Phemister, St. Francis Xavier University; Dr. Karen Blair, St. Francis Xavier University

Presented by: Phemister, Lana

**Introduction:** For sexual minorities, the concept of being ‘out’ about one’s sexual identity is associated with many mental and physical health benefits. Although ‘out’ sexual minorities still experience minority stress, they also experience freedom from constantly having to conceal one’s sexual identity. However, the coming out process is still noted to be very stressful for sexual minorities and many still face repercussions from coming out, including familial rejection. Despite this, the overwhelming majority of the literature seems to suggest that coming out will be a positive force in a sexual minority’s life. The current study sought to examine how socio-economic status may moderate the relationship between outness and health in a sample of LGBTQ men and women.

**Methods:** Participants from a larger study on relationships, social support and health completed questionnaires concerning their demographics, level of outness, socioeconomic status, physical health experiences, depression, perceived support and anxiety. In total, 552 LGBTQ-identified men and women from Canada and the United States completed the online questionnaires.

**Results:** The results indicate that for gay men, SES is a significant moderator of the association between outness and health, such that being out is only beneficial at higher levels of SES and may even be detrimental at lower levels. SES was not found to be a significant moderator of the association between outness and health for women.

**Conclusions/Significance:** It is important to understand when and for whom ‘being out’ as a sexual minority is beneficial for health outcomes, as universal advice to ‘come out’ may be misplaced if this association does not hold true across different levels of SES.

Sexual Minorities  
Socioeconomic Status  
Health  
Canada  
United States

## **Game-based e-learning in intercultural medical education**

Juan Pimentel, PhD Student. Family Medicine. McGill University; Neil Andersson, Professor of Family Medicine. Director, Participatory Research at McGill (PRAM). McGill University.

Presented by: Pimentel, Juan

**Introduction:** Health care disparities in multicultural societies are of increasing concern. The medical curriculum in Colombia and Canada continues to neglect cultural safety as a central tenet to address and overcome this issue. The arrival of the millennials also represents a challenge to medical education in terms of teaching methodologies. The goal of this work is to develop, test, and evaluate game-based e-learning that fosters cultural safety in medical education.

**Methods:** The work will consist of four phases comprising of- firstly, engaging medical students, family medicine residents, intercultural workers and experts, and indigenous communities from Colombia and Canada in co-designing of the game. Then, we will perform a systematic review on Game-based e-learning in medical education and test leading educational games. In the third phase, we will develop and field-test the game. Lastly, we will perform a randomized controlled trial to evaluate the game.

### **Anticipated Results:**

- Reduced health disparities in communities from Colombia and Canada
- Enhanced quality in delivery of healthcare services: higher patient satisfaction, improved doctor-patient relationship, increased patient adherence
- Medical students equipped with cultural safety competencies for delivery of services, including a wider array of tools in the provision of primary health care based on traditional health practices
- Leveraging of epistemological diversity in culturally-varied countries

**Conclusions/Significance:** There is a need to promote cultural safety content in modern medical education as a medium to contend with persistent health care disparities. Game-based e-learning represents a unique platform to face current pedagogical challenges in medical education.

Healthcare Disparities  
Education, Medical  
Cultural Competency  
Video Games  
Community Participation

## Access to primary care physicians and Nurse Practitioners in Prince Edward Island

Jessica Pinkham, Dalhousie Medical School

Presented by: Pinkham, Jessica

**Introduction:** The PEI Government consistently works toward improving the quality and accessibility of primary care services to islanders and to date little empirical evidence exists on the accessibility to and structure of primary care services. The objective of this research project was to determine the latter and identify areas requiring improvement.

**Methods:** Primary care providers including physicians and nurse practitioners (n=116) were surveyed after-hours and during working-hours using survey tools from the Models and Access Atlas of Primary Care in Nova Scotia (MAAP-NS) study.

**Results:** After-hours services including 811, 911 and the ER were mentioned by 16.4%, 37.3% and 59.1% respectively. The working-hours survey had a response rate of 72.41%. Structure of practice was 36.9% solo providers and 63.1% practices with 2 or more providers. Only 9.5% of practitioners were accepting new patients unconditionally, 78.6% were not accepting patients and 11.9% were accepting patients under certain conditions. Next available routine appointment was same or next day for 27.2%, and more than 10 days for 33.3%. Next available urgent appointment was same day for 48.9%, and over 5 days for 15.6%. In cases where a patient could be seen by either their physician or a nurse practitioner, wait time for non-urgent appointments decreased by an average of 3.3 days. Wait times for urgent appointments increased by 0.5 days.

**Conclusions:** Access for new patients is challenging and wait times for current patients are long for many. Future analysis will examine these trends by provider characteristics and geographical location to assist policy makers in targeting interventions to improve access to care.

Access  
primary care  
nurse practitioner  
PEI  
wait-times

## **Effect of phosphorylation in the regulatory domain binding to Split-CFTR channels**

Diogo Poroca, Dalhousie University, Faculty of medicine, Physiology and Biophysics; Valerie Chappe, Dalhousie University, Faculty of medicine, Physiology and Biophysics

Presented by: Poroca, Diogo

**Introduction:** Cystic fibrosis, a fatal genetic disease affecting one in every 3,600 children born in Canada, is caused by defects in the CFTR chloride channel. One part of this protein, called regulatory domain (RD), is responsible for activating chloride transport. The RD contains amino acids that works like “on/off switches” called phosphorylation sites. Phosphorylation of these sites is critical for CFTR function. However, the changes involved in this regulation are still unknown. Understanding the mechanism underlying the CFTR channel activation is a helpful tool for future strategies to rescue deficient CFTR function in patients. **Methods:** We are using engineered CFTR proteins broken up in three parts (front half-FH; back half-BH and RD) which enable us to investigate RD interactions with the rest of the protein. To examine that, we use the proximity ligation assay technique that creates fluorescent red dots each time the RD interacts (close proximity) to one of the halves. We study how phosphorylation by two kinases (PKA, PKC, or PKA+PKC), which activate the channel function to different levels, affect RD interactions. **Results.** The unphosphorylated RD interacts with both halves equally. PKA stimulation, which activates the channel, enhances RD binding to the FH. This binding is further enhanced by PKA+PKC stimulation, which creates maximal activity. Interaction with the BH is only enhanced by PKA stimulation. **Conclusions:** Our model suggests that RD binding to FH is critical for CFTR activation and correlates to the level of activation. Interaction with the BH is also necessary for activation but not at the highest levels. Our data provide new fundamental knowledge that could be used to develop new drugs to treat patients by targeting the molecular root of the disease.

Cystic Fibrosis  
CFTR protein  
Phosphorylation  
RD interactions  
Protein kinases

## **Addressing Health Inequalities In The Urban Aboriginal Population**

Alicia Powell, McMaster University

Presented by: Powell, Alicia

**Introduction:** Despite the Aboriginal Healing and Wellness Strategy (AHWS), which implemented Aboriginal Health Access Centres (AHACs) to provide integrated healthcare services, health inequalities persist among the urban Aboriginal population in Ontario. There are multiple social determinants of health (SDOH) that affect Aboriginal health. The objectives of this study were to describe policy strategies used to address Aboriginal health in Ontario, and to investigate the ways that service providers perceive health inequalities, demonstrating whether the SDOH are considered in service provision to urban Aboriginal clients.

**Methods:** In addition to a policy document review, interviews were held with representatives from three provincial ministries involved with the AHWS. Through a community-engaged research strategy, nine semi-structured interviews were conducted with service providers from an urban AHAC.

**Results:** Policy strategies to address Aboriginal health inequalities included collaboration with communities and improving access to holistic care. Service provision strategies within the AHAC acknowledged the determinants of health inequalities and utilized the SDOH framework to guide practice. Findings suggest that service providers effectively utilize the SDOH to understand the causes of inequalities but are limited in their ability to address structural inequalities.

**Conclusions:** The SDOH cannot be fully addressed at the service provision level due to constraints of policy and practice requirements. The SDOH framework must be utilized at the policy level, in order to effectively address the structural determinants of health through intersectoral collaboration between provincial ministries and Aboriginal communities.

Aboriginal health  
Social determinants of health  
Health inequalities  
Health service provision  
Ontario

## **An Exploratory Thematic Analysis of the Breastfeeding Experience of University Students**

Jenna West, Mount Saint Vincent University; Jessica Power, Mount Saint Vincent University

Presented by: Power, Jessica; West, Jenna

**Introduction:** The demographic of today's university student includes breastfeeding mothers. Few studies have examined the breastfeeding experience that women face upon their return to school. The purpose of this research was to explore the breastfeeding experience of students on a university campus.

**Methods:** This qualitative study used semi-structured interviews. Responses were audiotaped, transcribed and coded according to common themes using MAXQDA software.

**Results:** A total of eight women were interviewed for the study. All women reported 'feelings of isolation' and expressed concern over 'what will others think.' In addition, 'nowhere to breastfeed' and 'challenges of pumping' emerged as common barriers to breastfeeding. Regrettably, 'forced decisions' emerged as a major theme with four out of eight women reporting having to supplement with formula because they returned to school.

**Conclusion:** Student breastfeeding mothers are faced with emotional and physical challenges upon their return to school. Lack of space to breastfeed or pump as well as lack of support on campus are the main reasons why students stop breastfeeding prematurely. A daycare on campus that accepts young infants, a baby friendly space and enhanced education are required to support student mothers in their choice to breastfeed.

Breastfeeding barriers  
breastfeeding  
breastfeeding support  
breastfeeding duration  
breastfeeding cessation

## **Exercise and Cognitive Function in people living with HIV: A Scoping Review**

Adria Quigley, Dalhousie University; Marilyn MacKay-Lyons, Dalhousie University; Kelly O'Brien, University of Toronto; Robin Parker, Dalhousie University

Presented by: Quigley, Adria

**Introduction:** Since the advent of combination antiretroviral therapy, people with HIV have an increased life expectancy and quality of life. Despite these improvements, 30-60% of people with HIV (PHAs) have some form of cognitive impairment. These cognitive concerns can have significant real-world consequences for employment, medication adherence, and social support. Fortunately, exercise has emerged as a management strategy for cognitive impairment. We conducted a scoping review to determine what is known about exercise and cognitive function in PHAs. **Methods:** We used the Arksey and O'Malley Framework involving the following steps: We searched databases using terms related to 'exercise' and 'HIV'; Two authors independently reviewed titles and abstracts for studies that addressed exercise and cognitive outcomes in PHAs; One author reviewed full texts to identify articles that met our inclusion criteria of studies conducted in the past 20 years, HIV+ participants, reference to some form of physical activity and cognitive function outcomes; One author extracted data from included studies onto a standard data extraction form. **Results:** 13 studies met our inclusion criteria. Four were randomized controlled trials, seven were cross-sectional studies, and two were pre-post single group observational studies. Two of the six interventional studies found exercise to benefit self-reported cognitive function in PHAs. Of the seven cross-sectional studies that assessed the relationship between physical activity and cognitive function, all showed a positive relationship between physical activity and cognitive function in PHAs. **Conclusion:** Results of this scoping review suggest that physical activity is safe and is recommended to improve cognitive function for PHAs.

HIV  
Cognitive Function  
Exercise  
Aging  
Physical Activity

## **Can sport increase self-esteem in adolescents with Marfan syndrome? A mixed methods study**

Stephanie Quirke, Dalhousie University

Presented by: Quirke, Stephanie

**Introduction:** Participation in sport during adolescence is reliably associated with improvements in self-esteem (Dolenc, 2015; Ekeland, Heian & Hagan, 2005; Slutzky & Skimpkins, 2009). Previous research shows that adolescents with Marfan syndrome experienced lowered self-esteem because of the physical characteristics of their condition (Schneider et al., 1990; Van Tongerloo & De Paepe, 1998). Using qualitative methods, this study aims to explore how the physical features of Marfan syndrome affect the self-esteem of adolescents with the condition. Using quantitative methods, this study also aims to determine whether low-intensity sport can improve the self-esteem of adolescents living with Marfan syndrome.

**Methods:** Participants will be randomly assigned to an eight-week, low-intensity physical activity intervention or a control group. Semi-structured interviews will be conducted pre- and post-intervention. The Rosenberg Self-Esteem scale will be used to assess self-esteem levels pre- and post-intervention. IBM SPSS Statistics 20 will be used to analyze these data and to discern or determine any differences in self-esteem between groups.

**Anticipated Results:** It is expected that participation in low-intensity sport will improve the self-esteem and confidence of adolescents living with Marfan syndrome.

**Significance:** If the anticipated results of this study are confirmed, adolescent participants living with Marfan syndrome will experience improved self-esteem. Participants may also experience improvements in their physical and emotional well-being.

Marfan syndrome

sport

intervention

self concept

adolescents

## **Assessment of a Parent Targeted eHealth Module to Increase Participation in Neonatal Pain Care**

Brianna Richardson, Dalhousie University, School of Nursing

Presented by: Richardson, Brianna

**Introduction:** The proposed research study will inform development of an eHealth educational module on pain incorporated in the Chez NICU Home technology at the IWK Health Centre. To examine the usability and clinical utility of a parent targeted eHealth pain module to increase active parental participation in neonatal procedural pain care.

**Methods:** To enhance the likelihood of acceptability, implementation of usability testing methods will provide an evaluation of user performance and satisfaction with the eHealth module. Fifteen participants will review the module during a recorded testing session. Participants will be directed to verbalize how they feel or what they are doing through their interaction to ensure user input are integrated into the design of the final product. Prior to usability testing, parents will provide demographic information, experience and comfort with technological devices, and knowledge on their infant's care. In addition, four cycles of focus groups, consisting of 8-10 parents each session, will be conducted to explore how they feel about the module and if their information needs are being met. The following outcomes: User Acceptability; User Preferences; User Problems; and User Feasibility, will be measured using content analysis after each cycle. Participants input will be utilized for continuous improvement of the educational pain module.

**Anticipated Results:** Based on the feedback provide by parents, developers will modify the eHealth module on pain care with the Chez NICU Home technology.

**Significance:** The proposed research will provide an opportunity to enhance acceptability of an educational pain module and subsequently inform wide scale outcomes assessment that will be implemented in the future.

Pain  
Neonate  
eHealth  
Parental Involvement  
Usability  
Preterm  
Neonatal Intensive Care Unit

## **A KT intervention to promote evidence based management of ankle sprains by CAF Physiotherapists**

Eric Robitaille, Dalhousie University, School of Physiotherapy; Department of National Defence, CAF Physiotherapy; Marsha MacRae, Department of National Defence, CAF Physiotherapy; Peter Rowe, Department of National Defence, CAF Physiotherapy; Alice Aiken, Dalhousie University, Dean of Health Professions

Presented by: Robitaille, Eric

**Introduction:** Lateral Ankle Sprains (LAS) are the 3rd most common injury among the Canadian Armed Forces (CAF), resulting in considerable time loss & a substantial rehabilitation workload. The operational relevance of these consequences to the CAF should be minimized through the use of evidence based practices (EBP). The purpose of this project is to use a comprehensive implementation strategy that applies knowledge translation (KT) interventions tailored to the preferences & implementation facilitators/barriers reported by CAF Physiotherapists in their management of LAS. **Methods:** All CAF Physiotherapists (n=90) will be sent an email invitation to participate in this study. Using the Knowledge-to-Action theoretical framework, a comprehensive, active, multi-component intervention will be delivered using an electronic distance learning platform. The primary outcome will be the mean change reported on a modified self-reported questionnaire investigating their knowledge of and use of rehabilitation interventions & outcome measures in their management of LAS between baseline, 3 & 6 months. **Anticipated results:** This project is currently collecting data from fall 2016 to spring 2017. **Significance:** As current best research evidence recommends the use of tailored KT interventions directed towards known facilitators/barriers, it is hypothesized that this implementation strategy will be an effective means of improving the EBP of CAF Physiotherapists in their management of LAS. Furthermore, as CAF Health Services evolves towards electronic documentation, these rehabilitation interventions & outcome measures may be operationalized to facilitate aggregate data collection and thereby may be used to evaluate patient outcomes, treatment efficacy & cost effectiveness.

knowledge translation  
evidence based practice  
physiotherapy  
military  
ankle

## **Comparison of Bilateral Maximum Reach Envelopes in Asymptomatic Adults**

Heather Rodger, Dalhousie University

Presented by: Rodger, Heather

**Introduction:** The maximum reach envelope is often used as a tool in the field of ergonomics for workstation design. Currently the maximum reach envelope has only ever been measured on participants' right hand sides. Hand dominance, shoulder range of motion, and limb length discrepancies are all factors that may cause the left and right side maximum reach envelope to differ within individuals.

**Methods:** The proposed study aims to compare the right and left side maximum reach envelopes in 10 right handed adults with no previous shoulder injuries. Participant's left and right side maximum reach envelopes will be recorded using a computerized potentiometric system for anthropometric measurements (CPSAM). Participants will undergo three trials of each load condition on both their right and left sides.

**Anticipated Results:** It is hypothesized that the maximum reach envelope will be significantly smaller on participants' left hand sides both in an unweighted condition and when holding a 0.5kg weight.

**Significance:** Understanding the difference in bilateral maximum reach envelope will help to create design guidelines that are more appropriate for users. More appropriate designs could decrease incidence of worker injury and fatigue. Knowledge of bilateral differences in maximum reach envelope may be beneficial in a clinical setting. Maximum reach envelope may be used as a measure of function, in this situation the uninjured side may be used as a comparison to describe the healthy state. It is imperative to understand what difference is attributed to injury compared to bilateral difference.

Maximum Reach Envelope  
Shoulder  
Range of Motion, Articular  
Upper Extremity  
Human Engineering

## **Intergenerational Projects: Exploring Older Adults Experiences with the Through Their Eyes Project**

Tia Rogers-Jarrell, Brock University; Dr. Paula Gardner, Brock University

Presented by: Rogers-Jarrell, Tia

**Introduction:** Canada's population is aging at an alarming rate. For the first time in history older adults will outnumber children under 15. These new and rapidly changing demographics have resulted in increased attention to seniors. As more and more adults enter old age, Canada is looking for effective strategies to support our aging population. One of the key challenges facing many older adults today is social isolation. New research on intergenerational programs is showing great promise in addressing social isolation and supporting good health and quality of life for older adults.

**Methods:** The purpose of this critical qualitative case study was to explore and understand, from an insider's perspective, the lived experiences of six older adults who participated in an intergenerational project. Methods for data collection included two individual interviews, a focus group interview, an arts-based knowledge translation workshop, field notes and observations.

**Anticipated Results:** Early analysis illustrated my presence in conducting the research was a meaningful intergenerational interaction in itself. The study is currently in process; preliminary findings, conclusions and discussion of the impact of this work will be reported as they become available.

**Significance:** Social isolation is known to increase the risk of mortality and negatively affect both mental and physical health among older adults. Intergenerational projects can combat these negative effects by providing opportunity for meaningful interactions. However, older adults opinions and personal experiences with these programs often go unrecognized. This study contributed to the literature by exploring the experiences of a population whose perspectives are often unheard.

Older adults

Intergenerational projects

Social isolation

Well-being

Community health

## **Exploring Perceptions of Active Transportation Among Dalhousie Employees Through Photovoice**

Marisa Rostek, Dalhousie University; Sara Kirk, Dalhousie University

Presented by: Rostek, Marisa

**Background:** Active transportation (AT) is a human powered mode of transit that promotes physical activity and reduces one's carbon footprint. Despite the benefits of AT, there are many perceived modifiable barriers that inhibit AT. For instance, traffic congestion is a common modifiable barrier that if addressed, could encourage use of AT.

**Purpose:** The purpose of this study was to identify the barriers and facilitators of AT that Dalhousie employees perceive when commuting to and from the workplace, and understand how these barriers and facilitators encourage or discourage AT.

**Methods:** To be eligible for this study, participants must be employed by Dalhousie University, reside in the HRM, commute to work by car, and own a phone with a working camera. Data was collected using photovoice and audio recorded interviews. Participants provided three to five photographs of modifiable barriers and facilitators of AT. Interviews helped determine individuals' perceptions of the photographs. Data was imported into NVivo, and coded using thematic analysis and the socioecological model (SEM).

**Results:** All emerging themes fell within the SEM and participants self-reflected on their current AT habits. Driver awareness was the most common barrier and improved bike lanes was the most common facilitator. Other modifiable barriers of AT consisted of: time, storage, and culture. Other AT facilitators: physical and mental health, children, parking, traffic congestion, and culture.

**Conclusion:** Participants self-reflected on their behaviours and determined what discouraged and encouraged their use of AT. Suggestions to inform policies, practices, or interventions that support greater uptake of AT have been provided.

Active Transportation

Barriers

Facilitators

Physical Activity

Photovoice

## **Pilot Study – Association between Knee Effusion and Sagittal Knee Mechanics**

Sara Saleh, Student; Carol Gillis, Ultrasonographer; Cheryl Hubley-Kozey, Academic Professor; Ivan Wong, Orthopaedic Surgeon/Doctor; William Stanish, Orthopaedic Surgeon/Doctor; Derek Rutherford, Academic Supervisor/Professor

Presented by: Saleh, Sara

**Introduction:** Osteoarthritis (OA) has been shown to be associated with biological inflammatory processes. Synovial inflammation and effusion is increasingly associated with knee OA clinical outcomes.

**Purpose:** To determine the association between suprapatellar recess depth (SRD), as a measure of knee effusion and sagittal plane mechanics and muscle activations during gait in individuals with knee OA.

**Methods:** 21 patients (with mean age of 60 years) diagnosed with moderate medial compartment knee OA were recruited. Knee effusion was measured at three locations (mid, medial, lateral) of the supra-patellar recess using ultrasound imaging. Knee joint motion was calculated from skin markers and moments calculated through inverse dynamics during walking on a dual-belt instrumented treadmill at self-selected speed. Electromyography (EMG) from rectus femoris, vastus medialis and lateralis, medial and lateral hamstrings, medial and lateral gastrocnemius was recorded using standardized procedures. Correlation coefficients assessed the relationship between SRD and knee mechanics and muscle activation levels ( $\alpha=0.10$ ).

**Results:** A significant correlation was found between medial SRD and knee range of motion during mid to late stance ( $p=0.07$ ;  $r=-0.40$ ). Medial hamstring amplitudes during early stance ( $p=0.03$ ;  $r=0.47$ ) and medial gastrocnemius amplitudes during mid-stance ( $p=0.09$ ;  $r=0.38$ ) were correlated to mid and maximum SRD respectively.

**Conclusion:** Suprapatellar recess depth as a measure of knee effusion volume was related to a knee OA walking pattern of greater knee flexion during mid to late stance with heightened knee flexor muscle activations. While preliminary, these data suggest a link between biological and biomechanical processes in knee OA gait.

Knee Osteoarthritis

Knee Effusion

Gait

Knee Kinetics

Knee Kinematics

## Vasoactive Intestinal Peptide, a promising corrector for Cystic Fibrosis

Semaniakou Anna, Dalhousie University, Physiology & Biophysics; Zahiremami Mehrsa, Dalhousie University, Physiology & Biophysics; Matheson Breagh, Dalhousie University, Physiology & Biophysics; Li Audrey, Dalhousie University, Physiology & Biophysics; Chappe Frederic, Dalhousie University, Physiology & Biophysics; Chappe Valerie, Dalhousie University, Physiology & Biophysics

Presented by: Semaniakou, Anna

**Introduction:** Cystic Fibrosis (CF), the most common lethal genetic disease in Caucasian populations, results from mutations in the CFTR gene. It is characterized by viscous mucus secretions in all exocrine tissues due to imbalance in ionic composition attributed to reduced or absent CFTR chloride channel function. The most common mutation in CF is  $\Delta F508$ . The CFTR chloride channel activity is regulated by Vasoactive Intestinal Peptide (VIP), a neuropeptide with potent vasodilatory and bronchodilatory functions that regulates exocrine gland secretions, contributing to local innate defense, by stimulating the movement of water and chloride transport across intestinal and tracheobronchial epithelium. Our lab demonstrated the importance of VIP in maintaining functional CFTR proteins at the surface of airways and intestinal epithelium. Interestingly, early studies suggested a reduction in VIP secretion around CF glands. The main goal of my research is to investigate a potential link between a reduction of VIP and CF disease progression. **Methods:** Immunohistochemistry revealed VIP secretion in exocrine tissues from 8- to 17-weeks old CF mice. **Results:** So far, I found that VIP signal was reduced by 30% in the lung, ~40% in the salivary glands, 50% in the duodenum, ~50% in the pancreas and 80% in the sweat glands of CF mice compare to same age wildtype tissues. Strong reduction in VIP was observed in 8-weeks old CF mice with minimal disease as well as in sweat glands that are free of inflammation, similar to what was observed in human CF tissues. **Conclusion:** As strong reduction in VIP secretion was observed in tissues that present minimal sign of disease, we argue that a lack of VIP constitutes an aggravating factor for the disease progression.

Cystic Fibrosis  
Cystic Fibrosis Transmembrane conductance Regulator  
Neuropeptide  
Vasoactive Intestinal Peptide  
Reduction

## **Evaluation of Girls Rock: A Program for Girls in Grades 5 and 6**

Jenna Shaddock, Dalhousie

Presented by: Shaddock, Jenna

**Introduction:** An outcome evaluation will be conducted on a community-based intervention program, in Dartmouth, NS called Girls Rock. The evaluation will assess the success of the program's objectives of increasing fundamental movement skills, body image, self-esteem, and self-efficacy. **Methods:** An estimated 50 girls in Grades 5 and 6 will take part in this 8-week program. Data concerning changes will be collected pre- and post intervention through questionnaires and observational assessment. **Anticipated Results:** It is anticipated that participants will have an increase in fundamental movement skills, body image, self-esteem, and self-efficacy after taking part in the program. **Significance:** Findings will determine whether participation in the Girls Rock program has a positive effect on girls in Grades 5 and 6. Positive results could aid in recruiting and retaining more girls, while negative results would lead to further research pertaining to changing/improving the program.

Body-image  
fundamental movement skills  
self-esteem  
self-efficacy  
intervention

## **Preserving Polyrationality: Wicked Problems and Clumsy Solutions in Self-Managing Fibromyalgia**

Kaitlin Sibbald, Dalhousie University

Presented by: Sibbald, Kaitlin

**Introduction:** Existing on the border of definable disease, fibromyalgia may be considered a biomedical anomaly that has a profound impact on people's lives. Treatment typically involves self-managing diverse symptoms through lifestyle changes, which may be difficult considering the variability of the condition. This paper draws on theory from urban planning, business, sociology, and design to give meaning to the contradictory, and yet purposeful self-management techniques used for fibromyalgia. **Methods:** A systematic search of four online databases for qualitative literature on the lived experience and self-management of fibromyalgia was conducted. The search returned 72 articles, of which 14 were retained for appraisal and analysis. After critically appraising the literature, themes were analyzed using the concepts of "wicked problems", originating in urban planning and design theory, and "clumsy solutions", with roots in business and social theory. **Results:** Fibromyalgia fits the requirements of a "wicked problem" (dynamic and undefinable). It is self-managed using "clumsy solutions" (flexible, fixed, individual and communal) that reflect a polyrational world-view. **Conclusion:** Interdisciplinary theory is useful in understanding the many contradictions present in self-managing fibromyalgia. By acknowledging the "wickedness" of fibromyalgia and helping to facilitate self-management techniques considered "clumsy solutions", health care providers can help clients self-manage fibromyalgia in a way that is polyrational and reflective of their lived experience of the condition. By fulfilling the leadership role necessary to create a clumsy solution, health care providers can incorporate the uncertainty and diversity necessary for enhanced client-centred practice.

Fibromyalgia  
Self Care  
Social Theory  
Interdisciplinary Studies  
Uncertainty

## **A Qualitative Analysis of Current Government Policies on Aging Among Indigenous Peoples in Canada**

Christie Silversides, Dalhousie University; Brad Meisner, Dalhousie University

Presented by: Silversides, Christie

**Introduction:** Older Indigenous peoples face significant health disparities that occur earlier and more often than for non-Indigenous Canadians. This introduces many challenges to supporting health and well-being as Indigenous people age. Federal and provincial policies that support aging are accessible for many Canadian older adults; yet aging-related policies for Indigenous peoples are under developed and unexplored. As increasing numbers of Indigenous people reach older ages, attention to public policy that reduces disparities is essential. To understand the relationships among aging, health, and policy among Indigenous populations, these questions will be explored: a) What are the current policies in place intended to support aging for Indigenous peoples in Canada? and b) How do policymakers integrate and reflect upon Indigenous perspectives in the development, implementation, and evaluation process of these policies?

**Methods:** This 2 phase study uses a qualitative multi-method approach guided by Qualitative Description research methodology. Phase 1 will involve a review of Indigenous content within current aging policies in Canada. Phase 2 will involve 1-on-1 semi-structured interviews with policymakers and related stakeholders. Inductive content analysis will be used on these data.

**Anticipated Results:** This study will add to the understanding of the role policy plays on aging and health among Indigenous peoples in Canada through the appraisal of current aging policies and identification of existing gaps.

**Significance:** Research on aging Indigenous peoples in Canada is sparse. The unique health needs associated with aging are largely ignored. This study aims to bring attention to the need for more comprehensive and culturally competent Indigenous-focused aging policies.

Aging  
Canadian Policy  
Indigenous Peoples  
Qualitative Methods  
Policymakers

## Investigating the need for cardiovascular screening for Atlantic Canadian varsity athletes

Sydney Smith, Dalhousie University

Presented by: Smith, Sydney

**Introduction:** Sudden cardiac death (SCD) is one of the leading causes of mortality in athletes who participate in competitive athletics. Research suggests that the high volumes of exercise associated with endurance training and/or underlying cardiac risk factors/conditions increase the risk of SCD. This results in a higher incidence of death compared to non-athletes. Thus, several countries have implemented pre-participation screening (PPS) programs in an effort to reduce the incidence of SCD in young athletes. However, there is no such program in Canada. Therefore, the purpose of this study is to conduct PPS to determine the incidence of abnormalities in cardiac electrical function in varsity athletes (Dalhousie University). An electrocardiogram (ECG) during rest/exercise will be used to assess electrical cardiac function. **Methods:** This study will include a varsity athlete group and a recreational runner group. Participants will perform a 20 minute running protocol at 60-85% of their age predicted maximal heart rate. ECG will be recorded continuously throughout the entire testing session (rest, warm-up, running phase, cool-down). Incidence of ECG abnormalities will be determined for the whole population and be compared between varsity athletes and recreational runners. **Anticipated Results:** Varsity athletes will present with resting ECG risk factors. Also, the 20 minute running event will cause significant changes in the warm-up and cool-down ECG recordings. **Significance:** The significance of the proposed study is to provide insight into how significant cardiac abnormalities are in young athletes and examine if PPS should be implemented in Canada.

Pre-participation screening  
Running  
Electrocardiography  
Sudden cardiac death  
Sports

## Spousal Support and the Development of Post-traumatic Growth among CAF Veteran Couples

Kimberley Smith-Evans, Mount Saint Vincent University

Presented by: Smith-Evans, Kimberley; ,

INTRODUCTION: Post-traumatic growth (PTG), “positive psychological change experienced as a result of the struggle with highly challenging life circumstances”, is gaining empirical attention in the military context. This complements the well-established work on the deleterious effects of operational stress injuries (OSIs), such as post-traumatic stress disorder (PTSD), on Canadian Armed Forces (CAF) Veterans and their spouse/partner. Three salient limitations exist in PTG research among CAF Veteran couples living with PTSD: (1) PTG research is scarce in the Canadian military context, (2) spousal support processes that may promote PTG are unclear, (3) supportive spouse/partners may experience PTG, yet this has been understudied in a military context. METHOD: Two questions guide this project: (1) How has PTG been experienced within the couple system for CAF Veterans living with PTSD and their spouse/intimate partner? (2) How have social processes within the spousal support system fostered PTG? To address these questions, narratives of 8-10 spouses/intimate partners of CAF Veterans will be collected through semi-structured interviews and analyzed using techniques from grounded theory method (GTM). ANTICIPATED RESULTS: Provision of emotional, informational and instrumental spousal support to injured CAF Veterans enables experiences of growth at both individual and relational levels among couples living with an OSI in the form of PTSD. SIGNIFICANCE: This inquiry is essential as it expands the focus of PTSD research to include positive outcomes for CAF Veterans and their spouse/partner. These perspectives hold significance for the advancement of strength-based programs and services that will foster optimal social health and well-being for CAF Veterans and their families.

Post-traumatic Growth  
Veterans  
Veterans Health  
Spouses  
Social Support  
Interpersonal Relations  
Canada

## An Investigation of Active Spine Flexion Changes in Response to Prolonged Sitting

John Charles Snow, Memorial University of Newfoundland; Matthew Barrett, Memorial University of Newfoundland; Diana De Carvalho, Memorial University

Presented by: Snow, John Charles; ,

**Introduction:** Sitting often involves near end ranges of spinal flexion.<sup>1</sup> Sustaining extreme ranges of flexion for as little as 20 minutes has been shown to alter spine flexibility; however, the effect of near-end ranges has yet to be studied. The purpose of this study is to examine the effect of office chair sitting on changes in maximum spine flexion angle.

**Methods:** 14 participants (average age 25.61 years  $\pm$  8.9 (SD), height 182.5 m  $\pm$  6.0 (SD) and mass 78.7 kg  $\pm$  8.9 (SD) have been recruited from manual therapy clinics and the university community (target population 30, study ongoing). Exclusion criteria include a history of tumor, infection, fracture, inflammatory arthropathy and/or previous surgery of the spine. Two tri-axial accelerometers were fixed to the skin overlying the L1 and S2 spinous processes. Measures of active lumbar spine flexion were collected prior to and immediately after sitting for 1 hour. Custom software was used to calculate the relative lumbar spine angle between each sensor. A one-way repeated measures ANOVA was conducted to compare the maximum spine flexion angle pre and post sitting. Significance was accepted at the  $p=0.05$  level.

### Results/Anticipated Results:

Preliminary results suggest there is an increase in maximum flexion range of the spine of  $2.0^\circ \pm 7.0$  (SD) after 1 hour of sitting; however, this difference has not reached significance ( $p=0.264$ ).

### Conclusions/significance:

Current trends in our ongoing study show increasing spine flexibility following a 1-hour exposure to office chair sitting. Such changes could result in altered spine stability and potential low back injury scenarios.

Spine

Angle

Accelerometer

Flexion

Sitting

## Morpheme use, morphological awareness and reading ability in children who are deaf/hard-of-hearing

Bonita Squires, Dalhousie University

Presented by: Squires, Bonita; ,

Introduction: Students who are deaf or hard-of-hearing (DHH) and educated in inclusive settings have greater variability in reading achievement than hearing peers (see Lederberg, Schick & Spencer, 2013). The ability to break words down into morphemes (e.g., un-like-able) and consciously manipulate those morphemes, called morphological awareness (MA), has been shown to predict reading ability in students who are struggling readers and students who are DHH. However, natural language production using language samples has not been conducted to assess morpheme usage and its relationship with formal testing of MA and reading abilities in children who are DHH.

Methods: The proposed study will describe morpheme usage, MA and reading abilities in a sample of 30 students who are DHH in grades 2 to 4 in inclusive educational settings and 30 hearing controls matched by receptive vocabulary age. Measures will include standardized and researcher-developed tests of MA, vocabulary and reading in addition to 10-minute conversational language samples. Analyses will investigate the relationships between participant characteristics, morpheme usage, MA and reading abilities using descriptive statistics, ANOVAs, linear regression and qualitative description of morphemes produced.

Anticipated Results: We expect to find evidence in testing and language sample transcripts that morphological development is delayed in comparison to hearing controls and that there are significant relationships between diversity of morpheme types produced, MA and a composite score of reading abilities.

Significance: The proposed study seeks to contribute to our understanding of how morphological production relates to formal test scores and reading abilities in students who are DHH in inclusive educational settings.

Child language

Reading

Hearing loss

Mainstreaming (Education)

Linguistics

## Chiropractors' screening and management of psychosocial factors for patients with low back pain

Peter Stilwell, Dalhousie University; Piaf Des Rosiers, Dalhousie University; Jill A Hayden, Dalhousie University; Katherine Harman, Dalhousie University; Simon D French, Queens University; Janet A Curran, Dalhousie University; Warren Hefford, Dalhousie University

Presented by: Stilwell, Peter

**Introduction:** Psychosocial factors are consistently linked to low back pain (LBP) chronicity and poor outcomes. LBP guidelines recommend screening for psychosocial factors and appropriately managing them to improve patient outcomes. This study aimed to assess chiropractors' awareness of LBP clinical practice guidelines and to identify barriers and facilitators to screening and managing psychosocial factors for patients with LBP.

**Methods:** This qualitative study used semi-structured interviews informed by the Theoretical Domains Framework with Nova Scotian chiropractors.

**Results:** None of the 10 participants interviewed could name specific LBP clinical practice guidelines. However, they correctly described what the guidelines generally recommended. We identified six themes related to barriers and facilitators for chiropractors screening and managing psychosocial factors. The themes revolved around the participants' desire to fulfill patients' anatomy-focused treatment expectations and a perceived lack of training on managing psychosocial factors. This was compounded by concerns about going beyond the chiropractic scope of practice and a perceived lack of practical psychosocial screening and management resources. Furthermore, social factors, such as the influence of other healthcare practitioners, were reported to act as barriers or facilitators to screening and managing psychosocial factors.

**Conclusion:** Most chiropractors in our study treated patients with LBP with a biomedical focus and reported that they do not always address psychosocial factors identified in their patients with LBP. Many of the barriers identified appeared to be modifiable with relatively low cost interventions, such as continuing education using evidence-informed behaviour change techniques.

Chiropractic  
Low back pain  
Psychosocial factors  
Qualitative research  
Psychological theory

## Cannabinoid receptor 2 activation reduces pain and inflammation in a mouse model of corneal injury

Dinesh Thapa, Department of pharmacology, Dalhousie University; Anna-Maria Szczesniak, Department of pharmacology, Dalhousie University; J. Thomas Toguri, Department of pharmacology, Dalhousie University; Melanie EM. Kelly, Departments of Pharmacology, Anesthesia, Pain Management & Perioperative Medicine, and Ophthalmology & Visual Sciences

Presented by: Thapa, Dinesh

**Introduction:** Current treatments for ocular pain and inflammation are often ineffective and have serious side-effects. Cannabinoid receptor 2 (CB2R) activation has analgesic and anti-inflammatory effects, without behavioral side-effects. The purpose of this research is to investigate the antinociceptive and anti-inflammatory properties of a non-psychoactive phytocannabinoid, CBD, and its synthetic derivative, HU-308 (CB2R agonist), in a mouse model of corneal hyperalgesia and inflammation.

**Methods:** Experimental corneal hyperalgesia and inflammation were generated using chemical cauterization of the cornea in wildtype (WT) and CB2R knockout (CB2R<sup>-/-</sup>) mice. Cauterized eyes were treated with topical cannabinoids in the presence/absence of the CB1R antagonist AM281 (2.5mg/kg, ip). Increased number of eye blinks, squints and wipes, recorded 6 hours post-injury using capsaicin-stimulation were collectively termed as corneal hyperalgesia. Immunohistochemical staining was used to evaluate the neutrophil infiltration as a measure of inflammatory response in cornea.

**Results:** 5% CBD or 1.5% HU308 reduced corneal hyperalgesia compared to vehicle-treated eyes in WT mice. These effects were reduced in CB2R<sup>-/-</sup> mice but remained unaffected in AM281 pre-treated mice. Neutrophil infiltration into the cauterized cornea was increased 12 hours post-injury in WT mice and further exacerbated in CB2R<sup>-/-</sup> mice. 5% CBD and 1.5% HU308 reduced neutrophil infiltration in WT mice; these effects were reduced in CB2R<sup>-/-</sup> mice. **Conclusion:** CBD and HU308 showed antinociceptive and anti-inflammatory actions in a model of corneal hyperalgesia. These effects were mediated through CB2R activation and were independent of CB1R. CBD and HU308 may offer a novel therapy for ocular pain and inflammation.

Cannabinoids  
Cannabinoid receptor  
cornea  
Inflammation  
hyperalgesia

## Perspectives of service providers regarding SNAs and sexual risk taking behaviours among MSM in Halifax

Ryan, Dalhousie University

Presented by: Thompson, Ryan; ,

**BACKGROUND:** Gay, bisexual and other men who have sex with men (MSM) have experienced discrimination based on their sexuality, behaviour, and/or HIV status (Smit et al., 2012). Despite prevention efforts, MSM continue to account for roughly half of new HIV infections in Canada (Lachowsky et al., 2016).

There are little opportunities to access sexual health resources in Nova Scotia for this population. There is a culture of silence in the gay community surrounding the HIV/AIDS discourse (Lewis, 2015). As of 2011, Public Health of the Nova Scotia Health Authority (Central Zone) in Halifax reported a 3458.3% increase in syphilis infection since 2002 (D'Angelo-Scott, 2014). Social networking applications (SNAs) or mobile "apps" have predominantly been where MSM meet for sexual encounters, with Grindr being the most common (Gudelunas, 2012).

The perspectives of professional stakeholders in HIV/AIDS/STI prevention must be understood to enhance prevention efforts. Areas of prevention that require attention will be identified to inform these efforts in virtual space in NS and elsewhere.

**PURPOSE:** The purpose of this qualitative study is to explore the perspective of service providers regarding HIV/STI risk on SNAs for MSM.

**METHODS:** Using face-to-face individual semi-structured interviews, the proposed study will attempt to provide an understanding of the barriers experienced by service providers by partner finding in virtual space for MSM.

**RESULTS:** It is anticipated that service providers will express that they do not have the resources or experience to address sexual risk taking behaviours resulting from partner finding on SNAs.

**CONCLUSIONS:** The findings will be used to inform future health promotion efforts and research regarding virtual space and HIV/STI prevention for MSM.

HIV/STI

Gay

MSM

Grindr

Social Networking App

Risk

HIV

## The Use of Telemedicine for Remote Care of Neonates

Emina Topcagic, McMaster University; Kelly Min, McMaster University; Sara DiGregorio, McMaster University; Souvik Mitra, McMaster University

Presented by: Topcagic, Emina

**Introduction:** Providing newborn intensive care services is a unique challenge. Only four of eight tertiary neonatal care centers in Ontario are equipped to dispatch inter-facility transportation services to remote facilities. Studies have found that being born outside of a tertiary care NICU was an independent risk factor for mortality. The current system has several barriers including a lack of visual connection, real-time monitoring, and reliable diagnostic image transmission. The aim of this study was to perform literature review on the use of telemedicine in the remote care of neonates with synthesis through the scope of eHealth, education, change management, and privacy.

**Methods:** A literature review was conducted to identify the knowledge gaps and to propose comprehensive solutions. We searched MEDLINE and EMBASE. The search strategy yielded 1232 articles related to neonates, use of eHealth, and transport/remote management. After screening, 89 mixed-method articles were included.

**Results:** There is a lack of evidence in the improvement and utilization of neonatal telemedicine in Canada. It was found that telemedicine, compared with standard care, was associated with lower ICU mortality. Technology, including bi-directional video conferencing, audio and Instant Messaging was recommended. Many studies emphasized multifaceted training and education. Change management practices included stakeholder involvement and user feedback.

**Conclusions:** Advancements in eHealth have improved remote neonatal resuscitation. However, there is a need for further evaluation of eHealth initiatives specifically in remote neonatal care. Future considerations include implementing a neonatal teleconsult system in Ontario to build upon the current evidence.

eHealth  
telemedicine  
neonates  
remote  
telehealth

## A Scoping Review of Sex or Gender Differences in Polypharmacy in Persons with Dementia

Shanna Trenaman, Dalhousie University, Nova Scotia Health Authority; Megan Rideout, Nova Scotia Health Authority; Melissa Andrew, Dalhousie University, Nova Scotia Health Authority

Presented by: Trenaman, Shanna

**Introduction:** One area of research that has received little attention is sex or gender differences in those with dementia. The focus of this scoping review was to identify sex or gender differences regarding medication use in people with dementia.

**Methods:** MEDLINE (PubMed), Embase, CINAHL, Web of Science and Proquest were searched from database inception to January 2016. The search terms included: sex, gender, masculinity, femininity, and polypharmacy, deprescriptions, drug combinations, drug therapy combination, polypragmasy, inappropriate prescribing, over prescribing, mulitmedication, deprescribing, and dementia, cognitive impairment. Inclusion criteria were English language papers, describing those over 65 years of age with dementia and at least one medication related parameter comparing males and females. The abstracts and full text papers were reviewed by two reviewers with disagreement resolved by consensus.

**Results:** The search strategy yielded 260 abstracts and 169 abstracts went on to full text review. This scoping review included 12 articles. Included trials were cohort studies and case control trials, that commented on sex-related differences as an aside of the primary objective. In general, community dwelling women received more inappropriate medications and more psychotropic medications and nursing home dwelling men received more inappropriate medications, cholinesterase inhibitors and antipsychotics.

**Conclusions:** Numerous studies report on numbers of male or female participants but very few studies characterize any differences, especially any medication-related differences. This represents a significant gap in the literature and a need for directed research of sex or gender differences in medication use in people with dementia.

Polypharmacy

Sex

Gender

Dementia

Scoping Review

## Changes in gross mechanical efficiency with changes in arm cranking cadence

Mikayla Tyrrell, BEN Lab, Kinesiology Division, School of Health and Human Performance, Dalhousie University

Derek Kimmerly, PhD, Kinesiology Division, School of Health and Human Performance, Dalhousie University

Michel Ladouceur, PhD, BEN Lab, Kinesiology Division, School of Health and Human Performance, Dalhousie University

Presented by: Tyrrell, Mikayla; ,

Introduction; When performing arm crank ergometry exercise, heart rate (HR) is increased with increased cadences at the same power output. A possible explanation for this effect is a reduced mechanical efficiency resulting in an increased oxygen consumption. HR must increase to properly reach oxygen demands to maintain exercise.

Methods; A sample of 12 young, healthy adults (18-30) will participate in two arm crank ergometry sessions consisting in a multi-staged incremental workload protocol at a cadence of either 45 or 90 RPM. The arm cranking cadence will be maintained as the workload increases by 10 watts/minute until the participant can no longer maintain the target cadence for more than 15s. ECG will be used to monitor HR and the use of a Parvo TrueOne Metabolic Cart will measure VO<sub>2</sub> for the duration of each session. Gross mechanical efficiency (GE) is calculated using the arm cranking power output and VO<sub>2</sub>. The GE calculated will then be correlated to the changes in HR.

Expected Findings; It is expected that GE will be smaller at higher cadences. Furthermore, a relationship between the difference in HR and the changes in GE will be observed.

Significance; Helps to further understand the physiological responses to exercise, specifically the effect of mechanical efficiency.

Arm Crank Ergometry

Heart Rate

Mechanical Efficiency

Gross Efficiency

Energy Expenditure

## The Envelope Following Response as a measure of Hidden Hearing Loss

Patricia Van Roon, Carleton University; Dr. Steven J. Aiken, Dalhousie University; Dr. Hilmi Dajani, University of Ottawa; Dr. Shawn Hayley, Carleton University; Dr. Jian Wang, Dalhousie University

Presented by: Van Roon, Patricia;

**INTRODUCTION:** Some adults have difficulty understanding speech in noisy environments even though hearing appears normal. This may be due to undetected peripheral damage that affects timing-based speech encoding, called hidden hearing loss (HHL). The envelope-following response (EFR) is a non-invasive electroencephalographic measure of neural timing that could be used to diagnose HHL. The goals are to clarify the relationship between the EFR and peripheral (auditory synapse/nerve) versus central (brainstem) timing in adults with suspected HHL.

**METHODS:** We will recruit male and female (18–35 years) English-first-language participants with normal hearing and measure EFR time-locked to modulated tones with acoustic speech properties (resembling American English vowels /I/ as in ‘hid’ and /a/ as in ‘bought’) with special in-the-ear electrodes to record nerve activity. We will compare the EFR to other proposed measures of HHL (e.g., high frequency thresholds and loudness discomfort levels) and speech-in-noise scores.

**ANTICIPATED RESULTS:** We expect participants’ brain wave responses to modulated tones to predict speech-in-noise scores more accurately than other proposed measures of HHL. The use of in-the-ear electrodes to distinguish peripheral from central timing is expected to improve the predictive value of the EFR in diagnosis of HHL.

**SIGNIFICANCE:** Current measures of hearing loss are not sufficiently sensitive to HHL, limiting opportunities for treatment and remediation. The EFR measured from the ear canal is a fast and non-invasive measure that may allow for timely diagnosis of HHL and thereby improve audiological services for individuals with hearing-in-noise problems.

Evoked  
Response  
Audiometry  
Sensorineural  
Hearing  
Loss

## Exploring genderqueer youth's perceptions and experiences of sexual health education in Nova Scotia

Emma Van Rooyen, Dalhousie University

Presented by: Van Rooyen, Emma; ,

Background: Although sexual health education (SHE) is required in school curricula across Nova Scotia (NS), much of the content does not specifically address the unique information needs and lived experiences of genderqueer (non-binary gender identified) youth. To supplement public school curricula genderqueer (GQ) youth access SHE through alternate sources. The proposed study will examine GQ youths' perceptions of SHE taught in NS high schools, investigate how GQ students access relevant SHE both inside and outside the classroom, and explore possible approaches to meeting the SHE needs of GQ youth.

Methods: Semi-structured interviews will be conducted with GQ youth between ages 16 and 20 who attend or previously attended high school in NS, as well as members of the Nova Scotia Teacher's Union. Data will be collected until theoretical saturation is reached. To represent urban and rural perspectives, interviews will be distributed between the city of Halifax, and the Municipality of the County of Kings. Data will be analyzed thematically.

Potential Impact: It is anticipated that the results from this research may help inform the creation of policy and curricular recommendations for educators and policy makers in order to implement improvements to existing SHE.

Sexuality Health

Transgender Health

Gender Identity

Youth

Education

## Investigating Mental Health Literacy in University Students

Mark T. Vickers, Mount Saint Vincent University; Jane Connell, Cape Breton University

Presented by: Vickers, Mark;

### Introduction

Mental health issues are common on university campuses with approximately half of students reporting some level of psychological distress each year (e.g., anxiety, depression; Storrie et al., 2010). However, it has been reported that post-secondary institutions are not doing enough to address these concerns and that there is a discrepancy between what universities believe students know about mental health and what students actually understand (Gray, 2007; Storrie et al., 2010). This study aimed to provide a better understanding of students know about mental health and what they wished to know more about.

### Methods

One hundred and twelve students completed a survey that focused on their ability to identify mental health concerns, their perceptions of individuals with mental health concern, and familiarity with, and comfort using, different mental health services. The survey also asked students to list what aspects of mental health they wished to know more about.

### Results

Some of the findings suggested that students were accurate at identifying mental health disorders, but stigma was relatively high. More students felt comfortable using off-campus services than on-campus or online services. The data also suggested that students want to learn practical information about mental health (e.g., coping with stress, talking to someone with a mental illness).

### Conclusion/Significance

This study has the potential to help with the development of programs to better educate students about mental health. It also may help universities to better promote services to students.

mental health  
universities  
social stigma  
mental health services  
health literacy

## Does Perfectionism Confer Risk for Anxiety Symptoms? A Meta-Analysis of Longitudinal Studies

Vanja Vidovic, Dalhousie University

Martin M. Smith, University of Western Ontario

Simon B. Sherry, Dalhousie University

Sherry H. Stewart, Dalhousie University

Donald H. Saklofske, University of Western Ontario

Presented by: Vidovic, Vanja; ,

Introduction: Accumulating research evidence suggests perfectionism is a destructive personality trait that may well serve as a risk factor for various psychological conditions including anxiety (see Egan, Wade, & Shafran, 2011). However, the extent to which perfectionism may predispose and predict longitudinal changes in anxiety remains unclear. Acute and chronic anxiety, varying from mild to debilitating, is one of the most common psychological health issues and comes with great personal, societal, and economic costs. We aimed to address the question of the relationship between perfectionism and anxiety by conducting a rigorous meta-analytic test of whether, and to what extent, perfectionism confers risk for anxiety. Building on related research by Smith et al. (2016), we anticipated that perfectionistic concerns would predict increased anxiety symptoms over time. Methods: We performed a meta-analysis of relevant longitudinal studies conducted to date. Data collection was comprehensive, involving nine databases yielding 17 empirical studies for inclusion, with a pooled sample size of 4083. Results: A meta-analysis using random-effects models is currently underway and full results will be available by February 2017. Significance: This project will identify the trends across studies in the extant research literature and provide insight into areas that may benefit from additional research focus. Clinical implications of the findings for early identification and intervention will be discussed.

Perfectionism

Anxiety

Meta-analysis

Longitudinal Studies

Risk factors

# Play as a Determinant of Social and Emotional Well-being for African Nova Scotian Children

Crystal Watson, Dalhousie University

Presented by: Watson, Crystal; ,

## Introduction

Unstructured play is vital to optimal childhood development. Elkind (2007) stated that play is not a luxury we should ration, but rather a crucial dynamic of physical, intellectual, social, and emotional development for children of all ages. Research shows that in play, children develop the emotional, social, and cognitive skills needed to face challenges later in life (Gray, 2011; Barnett, 1990). Gray (2011) argues that the rise in mental disorders in children over the last 50 years is linked to the decline in free play activities.

## Methods

Constructivist Grounded Theory (CGT) methodology will be used to examine the children's experiences while developing a theoretical understanding of play, social and emotional well-being, and African Nova Scotian children; it will seek to understand how African Nova Scotian children use play as a mediator for positive mental wellbeing. The researcher will engage in play experiences with children and use a visual elicitation method to discuss how play helps them to be socially and emotionally healthy. Additionally, the researcher will discuss with parents how they perceive their children's play experiences.

## Anticipated Results

This research will inform multiple interest groups about how play helps African Nova Scotian children maintain positive mental (social and emotional) well-being from their perspective.

## Conclusions

The results will contribute to the body of research related to unstructured play in the recreation and leisure studies field and contribute to the increased use of play as a key component of child development by professionals in health and social services areas.

play

recreation

mental health

African Nova Scotian

child

## Effects of Active Virtual Games on Motor Performance of Children with Developmental Motor Issues

Amy Werden, Lakehead University

Dr. Eryk Przysucha, Lakehead University

Presented by: Werden, Amy; ,

Introduction: Research has shown that participation in active virtual motion video games may have a positive impact on movement status and willingness to take part in physical activities in typically and atypically functioning children. However, it remains unclear whether this is true for children diagnosed with Developmental Coordination Disorder (DCD). The objective of this study was to examine the effects of playing active virtual motion (Xbox Kinect) on balance control, agility and performance of core movement skills in children with DCD. The secondary objective was to infer whether participation in such games was enjoyable, based on the perception of the child, and if this approach was effective according to the child's parents.

Methods: One male (age 12) and one female (age 8) participated in a six-weeks intervention. The status of aiming and catching, balance, running speed/agility, and strength were examined using standardized tests (MABC & Bruiniks), before, during and at the end of the six-week period.

Results: Both participants improved their balance and ball skills scores, however running speed/agility, and strength scores remained relatively unchanged. From the qualitative data it was inferred that both participants enjoyed the games. Also, parents viewed the experiences as positive and possibly transferable to real-life physical activities. Also, they were willing to implement the games within the home-setting.

Conclusion: The study showed that this approach has the potential to enhance some aspects of psycho-motor status of children with DCD. Future research should involve longer intervention period, larger sample, and more accurate measures of motor performance.

Developmental Coordination Disorder

Active Virtual Games

Motor Proficiency

Perceptuo-motor Integration

Perceptuo-motor Coordination

## Measuring Presynaptic Calcium Transients using a Membrane-targeted Calcium Indicator

Meagan, Wiederman

Presented by: Wiederman, Meagan; ,

### Introduction

Calcium is locally and transiently present around calcium influx sites at the active zone, termed calcium microdomains. Microdomains permit higher concentrations of calcium to be reached than in the bulk cytosol, activating the low-affinity synaptotagmin-I/II for vesicle release. While cellular imaging studies using calcium indicators have identified calcium microdomains at the neuromuscular junction, they have never been directly observed at central nervous system synapses. We hypothesize that action potential-evoked presynaptic calcium influx is confined to microdomains at the active zones of hippocampal axon central synapses due to spatial regulation of calcium.

### Methods

In the present study, calcium transients will be imaged using the genetically encoded calcium indicator, GCaMP, to remove limitations of spatial averaging and diffusion caused by previously employed BAPTA-based small-molecule calcium indicator dyes. GCaMP will be targeted to the plasma membrane and made ratiometric in order to specifically measure absolute calcium concentration in microdomains. Two variants of the GCaMP calcium sensor will be created by site-directed mutagenesis to ensure detection in the concentration range of the presynaptic microdomains.

### Anticipated Results

It is expected that calcium transients are highly localized to active zones, demonstrated by their exponential decay to baseline within micrometers of the center of active zones. It is expected that the calcium microdomains feature calcium amplitudes in the range of several micromolar in order to activate synaptotagmin.

### Conclusions

These results will demonstrate the high-degree of regulation of calcium signalling, implicating its decoupling in cells to neural diseases.

Calcium

Microdomain

GCaMP

Plasma-membrane targetted

Central synapses

Examining programs that address risk for problematic gambling for adults 60 years and older.

Ellen Withers, Dalhousie University

Presented by: Withers, Ellen

**Background:** The Nova Scotian Report on gambling showed that \$1.4 billion was wagered on gambling in various form. It also found that 5,200 Nova Scotians are classified as problem gamblers while 9,600 more are at risk. Literature shows that already existing prevention strategies cater to reducing problem gambling in youth and comprehensive programs based on the social ecological model have been applied to young populations. However, this currently does not exist for older Nova Scotian adults. Literature shows that older adults have unique social risk factors making them even more susceptible to problem gambling than younger age groups. A scoping review showed a lack of targeted prevention strategies that address the complex social factors impacting older adults and problem gambling.

**Purpose:** The purpose is to explore the perceptions of key stakeholders as they relate to gambling harm reduction programs and practices for older adults using a social-ecological approach

**Methods:** Using qualitative interview-based data this study will examine prevention efforts. Four key stakeholders who work in the field of gambling prevention and harm reduction will be recruited. They will be interviewed face-to-face and interviews will be transcribed, analyzed and coded.

**Anticipated Results:** Results may reveal gaps in current provincial programs and practices. They may show where added attention is required.

**Significance:** The potential impact of these results will help emphasize the value of tailored prevention strategies for older adults in terms of problematic gambling. Results may help guide future prevention programs or the creation of a new strategy specifically targeted to older adults.  
problem gambling  
aging  
harm reduction  
prevention  
gambling

## Factors that influence the Mental Health of University Rugby Players following Athletic Injury

Patrick Wright, Dalhousie University

Presented by: Wright, Patrick; ,

**Introduction:** Mental health, defined not as the absence of mental illness but rather as a state of well-being in which individuals are able to cope with stress, work productively and contribute to society, is an important area of focus within health promotion. Although sport participation has many health benefits, including many benefits to mental health, athletes are vulnerable to psychological distress due to athletic injuries. Injuries are common in sport, especially in contact sports such as rugby. It is suggested that psychological distress and poor mental health are preventable in injured student athletes. Taking advantage of protective factors and limiting risk factors of mental health, athletes are expected to be able to maintain good mental health despite experiencing injuries. **Methods:** Factors present at each level of an adapted Socio-Ecological Model have been explored using qualitative interviews with rugby players who have experienced moderate to severe injuries, as well as relevant rugby coaches. Thematic analysis is being used to interpret the data. **Significance:** The intended goal of this research is to improve understanding of the mental health-related experiences of injured athletes so that policies and strategies to help manage injuries can be improved. If injury management/treatment involves a mental health focus it is believed that injuries may be prevented from causing poor mental health in student-athletes. **Anticipated results:** Preliminary results of this study will be presented. These may include themes such as: athletic identity, personal attributes and response to injury, barriers to help-seeking, and social support.

Mental Health

Sport

Injury

Concussion

Rugby

## SMART HOME TECHNOLOGY AND THE NEEDS OF THE AGING POPULATION IN SOUTHERN ONTARIO

Andrea Wurster, McMaster University

Presented by: Wurster, Andrea; ,

Introduction: The care-needs of the aging population of Southern Ontario, in addition to the support-needs of formal and informal caregivers, is ever-changing. Smart Home Technology is defined as any type of technology that assists older adults to live independent, safe lives. Little research has attempted to understand said technology needs of the aging population, and none have focused on the technology needs in long-term care (LTC). This research is essential, as social determinants of health include social support networks, personal care, and social and physical environments—which are all embedded in LTC. Inspired from the interdisciplinary field of eHealth, this study has identified technological-based care needs in a long-term care home in Southern Ontario.

Methods: This qualitative study is based upon the personal opinions of PSWs, nurses, and therapeutic recreationists. Data collection was pursued through open-ended face-to-face interviews (N=10). Once theoretical saturation was reached, data was transcribed, coded, and thematically analyzed in order to understand needs.

Significance: Three major themes were apparent: existing technologies function albeit ideal (e.g. the door alarms to alert of an exit-seeking resident are very disruptive to residents’); innovative support and communication-based technology are desired by care staff (a jurisdiction of Smart Home Technology); and the realities of care workers’ (not enough time to complete meaningful care tasks with a resident).

These findings have added to interdisciplinary eHealth and social determinants of health-based literature and research. This research paper has attempted to connect the two interdisciplinary fields together, as understanding both are essential.

telemedicine

technology

long-term care

social determinants of health

sociology

## Technology-Assisted Toilets: Enhancing Bathroom Independence and Hygiene in Geriatric Rehabilitation

David Yachnin, University of Ottawa

Ami Chin, Bruyère Continuing Care

Jeffrey Jutai, University of Ottawa

Hillel Finestone, Bruyère Research Institute

Presented by: Yachnin, David; ,

**Introduction:** The purpose of this study was to investigate whether Technology-Assisted Toilets (TATs) could be used to improve toileting hygiene and independence for geriatric rehabilitation patients. TATs are commercially available toilet seats that use a stream of warm water to clean the user, have a fan for drying, and are operated by a remote control.

**Methods:** 25 Geriatric rehabilitation in-patients were recruited, 6 completed the study and 7 partially completed the study. Each participant had two trial bowel movements. One trial involved cleaning themselves with toilet paper; the other involved cleaning themselves with the TAT functions. After each trial, participants received a visual inspection for cleanliness and answered the Psychosocial Impact of Assistive Devices Scale (PIADS), a validated scale, to assess their sense of competence, adaptability, and self-esteem in the bathroom. A toileting cleanliness scale, designed for this study, was completed by a nurse after TAT usage.

Participants received a score from 1 (completely clean) to 4 (completely soiled) based on a visual inspection after cleaning.

**Results:** TAT and toileting cleanliness scores were similar. PIADS scores showed a trend towards higher scores when using the TAT, but results were not statistically significant.

**Conclusions/Significance:** TATs cleaned as well as standard hygiene practice in geriatric rehabilitation inpatients. Patients rated the TAT as effective as usual toileting on the PIADS scale. Geriatricians and rehabilitation professionals should consider prescribing TATs in their practice as an assistive device in order to promote patient independence and dignity and reduce the burden of care for patients requiring toileting assistance.

Toileting

Hygiene

Assistive Devices

Rehabilitation

Independence

## Validation of Gray Scale Median Analysis using an Ultrasound Carotid Vulnerable Plaque Phantom

Olivia Yau, Queen's University, Department of Biomedical and Molecular Sciences; Amer M Johri, Queen's University, Department of Biomedical and Molecular Sciences, Department of Medicine, Kingston General Hospital;

Presented by: Yau, Olivia

**Background:** There is great interest in developing non-invasive tools to target plaque vulnerability for earlier identification and treatment. Ultrasound and off-line analytic techniques such as gray scale median (GSM) analysis may help identify vulnerability, but require validation. This study aims to delineate the relationship between density, an intrinsic property of plaque, with plaque echogenicity quantified by GSM, providing insight into plaque composition as a potential marker of vulnerability.

**Methods:** A soft tissue phantom surrounding a lumen denoted as the simulated carotid artery, along with simulated plaques with varying densities created from various polymers, was developed. Two-dimensional B-mode ultrasound images were acquired and plaque echogenicity was characterized using GSM measurements. Correlation between plaque echogenicity and density was determined.

**Results:** A significant positive correlation was found between GSM and density, each material with a slightly different correlation coefficient ( $r$ ) value of 0.99, 0.96 and 0.94 for agarose mixtures ( $P=0.0029$ ), plastisol mixtures ( $P=0.0053$ ), and polyvinyl chloride mixtures ( $P=0.012$ ) respectively. The regression slope differed between different plaque mixtures and was specific to the polymer used.

**Conclusions:** Plaque density has a positive linear correlation with plaque echogenicity. This correlation is independent of the regression slope. The correlation between plaque echogenicity and density can introduce a potential new diagnostic parameter and could provide a systematic, practical approach for assessing the patient risks and plaque vulnerability. A standardized density metrics system can lay a foundation for the development of techniques of quantitative ultrasonic plaque characterization.

Plaque vulnerability  
Atherosclerotic plaque  
Plaque density  
Echogenicity  
Gray Scale Median  
Patient risk

## Cognition and Functional Mobility Outcome in Lower Limb Amputees

Melissa Yelle, BEN Lab, Kinesiology Program, School of Health and Human Performance, Dalhousie University

Kim Parker, MASc, PEng, Department of Orthotics and Prosthetics, Nova Scotia Rehabilitation Centre

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Presented by: Yelle, Melissa; ,

Introduction: The majority of lower limb amputations are a result of diabetes and peripheral arterial disease. Diabetes Mellitus and Peripheral Artery Disease are associated with symptoms of cognitive impairment. It becomes important to understand how cognition can impact the rehabilitation process following amputation and prosthetic prescription with cognitive ability being a limiting factor in learning how to use a prosthesis. This research will further establish the relationship between cognition and functional mobility following lower limb amputation. Our first aim is to establish the correlation between cognitive ability and changes in outcome measures usually administered on patients with a lower limb prosthesis. Our second aim is to establish if cognitive ability has a different correlation between outcome measures with various physical complexity demands. Methods: Participant cognition score will be tested using the Montreal Cognitive Assessment (MoCA) at baseline. Functional mobility will be assessed using the Amputee Mobility Predictor (AMP) and Two Minute Walk Test (2MWT) at discharge and 6-months follow-up. The correlation will then be calculated between the cognitive score and the change in functional mobility. Anticipated Results: It is anticipated that the MoCA scores at baseline will be correlated to the changes in both the AMPPro and 2MWT scores from follow-up to discharge. Because there is a difference in task complexity between the AMPPro and 2MWT, there will be a significant difference between the MoCA/AMPPro correlation coefficient and the MoCA/2MWT correlation coefficient.

Prosthesis

Cognition

Mobility

Learning

Amputee

## Age Stereotypes Depicted in Birthday Cards Across the Adult Life Course

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**Background:** Ageism is prevalent in most modern societies. The aging process is commonly understood as an inevitable biological process of deterioration. While ageist stereotypes are reinforced throughout one's lifespan, the priming effects of age stereotypes often emerge in mid- and later-life. Contextual reminders, such as receiving a birthday card, trigger and reinforce age stereotype effects. To date, there is no systemic examination of how birthday cards targeting ages 19 and greater depict the aging process. **Methods:** Six coders analyzed 213 age-specific paper birthday cards that targeted adult age groups 19 and greater. Cards were collected from 10 retail stores in Halifax. Data recorded were the age of the intended card receiver, age stereotype valence found in the text messages and images, gender of the intended card receiver, race depicted on card, and health themes of each card were recorded and analyzed using mixed methods. **Results:** Negative stereotypes, in both text messages and images, peaked around age 50-55 years ( $n=12$ , 29.3%;  $n=6$ , 14.6%), although negative age stereotypes were found as young as 30 years. The majority of cards did not depict race ( $n=195$ ; 91.55%), remained gender neutral ( $n=171$ , 80.28%), and had no health themes ( $n=145$ ; 68.1%). **Discussion:** This study provides an in-depth understanding of how paper birthday cards depict ageism in different age groups. Given that the priming effects of age stereotypes can be implicit yet detrimental, it is recommended that future researchers and media stakeholders consider and address the issues relating to how aging, race, and health are represented in birthday cards.

Ageism  
Aging  
Prejudice  
Stereotyping  
Mass Media