

UNBC Research Week

Tuesday, March 2nd, 2021: Health Research Feature Day

9:00am–10:00am

Welcome to the Health Research Institute

Leana Garraway, Interim Manager, Health Research Institute

Zoom link: <https://ca01web.zoom.us/j/66699013929>

Passcode: 812521

Learn about the Health Research Institute and its place in facilitating and supporting collaboration in health research in the north. Hear about HRI activities and services, and the benefits of becoming a member.

10:00am–10:15am Break

Session 1: 10:15am–11:15am

Tips and Tricks for Doing Research During COVID-19

Steinunn Jónatansdóttir, PhD Candidate

Zoom link: <https://ca01web.zoom.us/j/63942628882>

Passcode: 122721

The global pandemic has changed all of our lives and that includes the way we conduct research. Learn about how research at UNBC continues while adhering to safe practices, tips for adjusting your own research and tricks for getting the most out of the research experience. Feel free to share your own tips and tricks!

Session 2: 10:15am–11:15am

Zoom link: <https://ca01web.zoom.us/j/67120620453>

Passcode: 063011

Copyright & Author's Rights

David Layton, LTA-Copyright

Copyright provides protection to both users and creators. As use and publication of copyrighted materials is integral to academics, it is important for researchers to understand their rights as pertains to Copyright. This session will review general copyright principles for use in the classroom and will also cover copyright in publishing, including author's addenda and author processing charges.

David Layton has served as the LTA-Copyright at UNBC since Decemeber, 2017. He holds Masters degrees in Library Science (2007) from the University of North Texas and International Relations (2012) from the University of Leeds. His research interests include copyright, transnational information exchange methods, and cultural exchange with a focus on Latin America and Ibero-Europe.

Institutional Repository

Adam Cohen, Metadata Librarian

With changes to the Tri-Agency funding model and the Tri-Agency Open Access Policy on Publications, researchers are more and more being asked to make their research openly available on the web. The UNBC Institutional Repository is one venue in which researchers can deposit their work and ensure compliance with these guidelines. This presentation will present a brief overview of what the Institutional Repository is, what the policies surround it are, and what you can do if you would like to deposit your work there. Attendees will also have an opportunity for their questions relating to the Institutional Repository to be answered.

Adam Cohen is the Metadata Librarian at the UNBC Library. Adam has previously worked at the University of Alberta focusing on Linked Data implementation in libraries. He has his Masters degree in Library and Information Studies from the University of Alberta, as well as a background in archaeology from the University of Calgary.

11:15am–11:30am Break

11:30am–12:45pm

Zoom link: <https://ca01web.zoom.us/j/65693366338>

Passcode: 847604

Research Outreach during the Pandemic

UNBC Research Ambassadors: Zach Fleck, Ann Duong, Jenna Burke, Alexandra Winkel

The COVID-19 pandemic has created challenges for everyone. Learn about the Research Ambassadors program at UNBC and hear the RAs discuss the challenges and successes of research outreach during the pandemic. Learn more about upcoming events and how you can get involved!

Presentations – Health economics, Dakleh midwifery, rural nursing, and inclusion through physical activity

You talk, we listen: advancing health economics methods for rural and remote health research by gathering local communities' knowledge and experiences in health care decision making

Dr. Theresa Healy, Adjunct Professor School of Environmental Planning & Gender Studies

David Greenberg, community member

Glory Oreoluwa, researcher

Mark Harrison, co-lead

John Grogan, community member

Health economics is the study of resource allocation in health care. Health resources are scarce and policy makers are faced with complex decisions on how to allocate resources to improve the health and wellbeing of the populations they serve. The goal is for the allocation to be efficient, i.e., for the available resources to be used where they can produce the best possible outcomes. In British Columbia (BC), contrasting settings for resource allocation co-exist. The provision of healthcare to rural and remote regions present unique challenges that may be unaddressed by conventional methods of resource allocation that are applied in urban areas. The very low population density, harsh climates and long distances from main treatment centers pose significant problems. For researchers based in urban areas, how strongly these problems affect health care and how they might be overcome is far from obvious. Efficient resource allocation in BC needs more input from rural and remote communities and aims to establish a connection between health economists, predominantly based in the Lower Mainland, and communities in rural and remote BC. We will use qualitative methods to critically inquire how contextual factors in rural and remote settings might challenge common assumptions of efficiency, imply different priorities and what this means for health economics methods. We will combine traditional qualitative methods of data collection – focus groups – with novel, arts-informed research to fully represent diverse ways of knowing and experiencing the world, and build a relationship with rural communities that goes beyond academic inquiry.

Dakelh Midwifery: Past and Present

Marion Erickson, manager at the Health Arts Research Centre

In the past, Dakelh women giving birth were assisted with the help of skilled Dakelh Midwives (Hall, 1992; Jenness, D., 1943; Kelm, M., & Canadian Electronic Library (Firm), 1998; Owen, M., 1990). Today there are no Dakelh midwives practicing in Dakelh Territory. Dakelh people have experienced the progressive exclusion of Dakelh women from birth work which has led to both; less knowledge transmission surrounding birth knowledge, and decreased safety in the mostly rural residing Dakelh communities. There is a lasting impact on unborn babies as a result of this loss of knowledge; various studies demonstrate that there are significant inequalities between Aboriginal and non-Aboriginal peoples' perinatal health. The ethical development of a Dakelh birth worker training program can empower Dakelh women to seek further training in midwifery therefore revitalizing Dakelh midwifery and bring practicing midwives back to the Dakelh community.

Social intimacy in Rural Nursing Practice

Steinunn Jónatansdóttir, PhD candidate, Health Sciences

The provision of nursing care is based on relationships, and the quality of those relationships is considered vital for successful healthcare delivery. Practicing nurses are expected to have interpersonal skills to develop and maintain nursing relationships, and set appropriate professional boundaries. It can be challenging for nurses to navigate these relational aspects of nursing practice, particularly in situations when nurses are providing care to people they know socially.

In this presentation I will provide some insights to the realities of being a nurse working in a small Icelandic community, where people are socially connected and know one another, and then I will talk about my PhD research on social intimacy in rural nursing practice.

Understanding the lived experiences of social and community inclusion as facilitators of physical activity for people with physical disabilities

Kayla Korolek, BHSc-H student, Health Sciences- Biomedical Studies

Little is known about the relationship between social and community inclusion as facilitators of physical activity for people with physical disabilities in northern British Columbia (BC). Feelings of inclusion through physical activity have overall positive effects on health in able-bodied individuals, so it is important to understand the experiences of inclusion related to physical activity in northern communities to help learn more about how we can help improve the health of people with physical disabilities. Thus, this project will seek to identify and understand the lived experiences of how feelings of social and community inclusion facilitate physical activity for people with disabilities in northern BC. An inductive thematic analytical approach will be used to analyze ~10 semi-structured qualitative interviews from individuals with physical disabilities living in northern BC. The individuals interviewed are required to be aged 18-65 and live with a chronic physical disability. Additionally, the participants are required to use a mobility aid for assistance, live in northern BC for one year or longer, and be able to communicate in English. Since this is the first project of its kind occurring in northern BC in this population, one of the proposed implications of this work is to help formulate future research questions and projects to improve inclusion through physical activity in the north. Further implications of our findings could help in the development of future initiatives in the north to foster inclusion through engagement in physical activity.

12:45pm–1:00pm Break

1:00pm–2:00pm

Presentations- Mushrooms for anti-cancer activity, rural and urban physiotherapists, innovations in health care, 'miracle tree' Moringa oleifera

Zoom link: <https://ca01web.zoom.us/j/63367122862>

Passcode: 281344

Evaluation of wild mushrooms for anti-cancer activity in HeLa cells

Nicole Watt, BSc Honours student, Biochemistry and Molecular Biology

Wild mushrooms have been used for their nutritional benefits and in the treatment of disease for thousands of years, however there are many species of fungi worldwide that have not been explored for their biological activity. North America has an incredibly diverse ecosystem and contains many unidentified fungi that may possess anticancer activity. Current cancer treatments pose limitations in targeting cancer stem cells, off-target effects, drug resistance, and decreasing host strength. Due to the challenges and harsh side effects of current cancer treatment, there has been significant interest in natural compounds with anti-cancer properties. In this study, nine mushroom species from north-central British Columbia and Ontario were tested for antiproliferative activity of cancer cells. Mushrooms species were identified by morphology and sequentially extracted using the following three solvents: dichloromethane (DCM), 80% ethanol, and water. The DCM extracts were resuspended in dimethyl sulfoxide or methanol, ethanol extracts were resuspended in methanol or water, and water

extracts were resuspended in water. The crude extracts were assessed against HeLa human cervical cancer cells and antiproliferative activity was determined using the cytotoxic MTT [(3-(4,5-Dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide] assay. The most up-dated results will be presented and discussed. Future research will include isolation of bioactive compound(s) from extracts that showed antiproliferative activity.

Urban ideals and rural realities: physiotherapists navigating paradox in overlapping relationships

Dr. Andrea Gingerich, Assistant Professor, Division of Medical Sciences

Background

Rural practitioners who develop a sense of belonging in their community tend to stay; however, belonging means neighbours become patients and non-clinical encounters with patients become unavoidable. Rural clinical experiences expose students to overlapping personal and professional relationships but students cannot be duly prepared to navigate them because ethical practice standards primarily reflect urban, and not rural, contexts. To inform such educational activities, this study examines rural physiotherapists' strategies for navigating overlapping relationships.

Methods

Constructivist grounded theory guided iterative recruitment of 22 physiotherapists (PTs) living and practising in rural, northern and/or remote (RNR) communities in British Columbia, Canada and analysis of their experiences navigating overlapping relationships.

Results

While off-duty, PTs balance opposing expectations and manage various responsibilities to achieve contradictory goals such as being a professional who protects patient confidentiality while being an active and cordial community member. While on-duty, they face ethical dilemmas where deciding not to treat acquaintances potentially denies access to care but allows for clearer personal-professional boundaries and deciding to treat contravenes (urban) practice standards but could allow for customized patient care based on knowledge gained through both clinical and social interactions.

Conclusion

Overlapping relationships are a rural norm. Urban ethical practice standards imposed on rural contexts puts RNR practitioners in a paradoxical situation where clinical and social interactions must be but cannot be partitioned. Examining the identified strategies through the lens of paradox theory shows sophisticated cognitive framing of the conflicting and interrelated aims inherent to living and practising in RNR communities.

Sustainability Failures: The Challenge of Sustaining the NP Role and Other Innovations in Primary Health Care

Dr. Raelene Marceau, Assistant Professor, School of Nursing

Background: Sustaining innovations in health systems is a topic of increasing importance in creating sustainable primary health care (PHC) reform. The Nurse Practitioner (NP) role, a PHC innovation, was initially introduced in Canada in the 1970's and re-implemented with PHC restructuring in the 1990's. Despite extensive evidence that NPs are a cost-effective means to providing comprehensive, high quality care, the role is not optimized and sustainability of the role remains an issue in Canada.

Approach: Understanding the contextual, policy and decision-making factors that influence sustainability of the NP role and other PHC innovations is an important addition to the current literature. A single, exploratory case study examines the closure of a NP clinic in western Canada and seeks to understand the contextual factors influencing the decision to close the clinic. Case study analysis was guided by a theoretical framework informed through an in-depth review of the literature examining the sustainability of innovations and by a policy framework which systematically considers the factors that may impact the policy environment, and is suitable for policy analysis.

Results/Conclusion: Sustainability failures in our health system are due to deficiencies in provincial and national policies in flawed policy environments. New sustainability knowledge; an updated understanding of the sustainability of innovations in PHC and a newly visioned conceptual framework for stakeholders to use when assessing sustainability of PHC innovations, have emerged from this work.

Moringin and moringine in *Moringa*: The quantification of anti-cancer and toxic compounds in the 'miracle tree' *Moringa oleifera*

Holly McVea, BSc Honours student, Biology

Moringa spp. (otherwise known as miracle trees) are tropical deciduous dicotyledonous perennial trees that are natively distributed throughout Africa and Asia (Saini et al, 2016; Padayachee and Baijnath, 2012). Some uses of *Moringa* spp. include biofuel production, water purification, lubrication, leather tanning, and food preparation (Saini et al, 2016; Aliyu et al, 2016). The trees are robust and can tolerate a wide variety of environmental challenges, including: alkaline or acidic environments, a variety of altitudes, and even winter frost (Saini et al, 2016). In the bark of one particular species, *Moringa oleifera*, a study using trees grown in Saudi Arabia has found the presence of moringin: an isothiocyanate that has been used to treat colorectal and breast cancer tumors in rats (Al-Asmari et al, 2015). In addition to the anti-cancer compound, other articles discussing trees grown in Pakistan and India have claimed the presence of moringine (benzylamine) in the tree's bark; moringine is a toxin allied to ephedrine (Aliyu et al, 2016). Knowing that variation exists in the phytochemical make-up of the bark with growing conditions, I am attempting to determine if an extract produced from the bark would be of sufficient medicinal quality if grown in Canada. Given that the trees have the potential to grow in a variety of environments inexpensively, my attempts to detect and quantify both of these compounds in *Moringa* spp. grown under laboratory conditions could lead to new, cheaper, and safer treatments for patients suffering from colorectal and/or breast cancer.

2:00pm–3:00pm Research Assistant Opportunities in Health Research

Leana Garraway, Interim Manager, Health Research Institute

Dr. Martha MacLeod, Professor, Nursing and Health Sciences and Co-Leader, Health Research Institute

Zoom link: <https://ca01web.zoom.us/j/69182070626>

Passcode: 558952

Have you ever thought about working as a research assistant while you complete your undergraduate or graduate work? Are you currently looking for an RA position or would like to hear more about the type of RA opportunities that become available? Join us for this interactive session where we can answer your questions as well as try to connect with available RA opportunities. There will be several potential employers in attendance to answer questions.