

PROJECT 1

Project Title: Understanding the clinical needs of patients requiring prolonged mechanical ventilation at Saint Vincent Hospital

Supervisors at Saint Vincent Hospital: Dr. Jonah Marek

Supervisors at Carleton Supervisors: Dr. Edana Cassol

Background: Complex Continuing Care at Saint Vincent Hospital provides hospital-based care for up to thirty patients needing prolonged mechanical ventilation (PMV), the second largest PMV population in Ontario's Complex Continuing Care (CCC) facilities. Patients requiring PMV can be safely cared for in CCCs, however many will experience acute escalating care needs requiring transfer to acute care, which is both burdensome and disruptive for patients, and drives potentially avoidable healthcare utilization.

Goals: Using electronic patient records, we will characterize baseline clinical and demographic characteristics of SVH's PMV population. It will describe their transfers to acute care, burden of transfer, triage score on arrival and outcomes in acute care. We will also look at the rate and frequency of transfers and average length of stay in acute care hospitals. This project will also involve interviews and surveys with nursing, physicians including in acute care, patients, families, and allied health providers on our CCC floor. We will look to characterize any inappropriate transfers if possible and examine any unexpected deaths in our ventilated population. All data will be examined through a health equity lens.

Proposed Team: The student team will include 2-3 students from the MSc HSTP program. Ideally students will have some statistical training. Experience with clinical research and working with electronic patient records is an asset.

Logistics: Students will be largely based at Saint Vincent Hospital.

Duration: The project will take 18-20 months to complete.

PROJECT 2

Project Title

Effect of Increasing Sleep Duration on Health Outcomes in Short-Sleeping Adolescents

Supervisor / Organization

Dr. Jean-Philippe Chaput, Children's Hospital of Eastern Ontario (CHEO) Research Institute

Project Objective

To determine if extending sleep duration improves health-related outcomes (e.g., mental health, mood, cognition, appetite) in adolescents with short sleep duration.

Proposed Team

Data collection is completed for this research project and only 1 student from the MSc HTSP program is needed. Tasks will include processing data, analyzing data, writing a manuscript, and presenting findings orally. The student will be part of a research team assigned to this project that includes one Principal Investigator, 1 postdoctoral fellow, and 1 PhD student.

Duration

The project will require 18-20 months to complete.

Background

Insufficient sleep has been shown to be associated with a wide range of adverse health outcomes. However, the influence of sleep extension on health outcomes in adolescents is largely unknown. This issue is of high relevance given the high prevalence of sleep deprivation in this population and the accumulating body of evidence indicating that having a good night's sleep is important for the prevention of chronic diseases. We hypothesize that compared with decreasing sleep duration, increasing sleep duration by 1.5 hours over 1 week will improve health outcomes. Using a randomized, counterbalanced, 2-condition crossover design, over 40 adolescents with obesity between 13 and 18 years of age completed the study. Participants slept their typical amount at home for 1 week and were randomized to either increase or decrease time in bed by 1.5 hours per night for 1 week, completing the alternate schedule on the fourth week. This procedure resulted in a targeted 3-hour time in bed difference between conditions. Sleep was objectively measured using actigraphy (Actiwatch) and sleep schedule adherence was promoted by providing fixed bedtimes and wake times during the experimental weeks, and was monitored through SMS with the participants. We will compare outcome measures between both sleep conditions (on day 8 of each study week). The primary outcome measure is insulin sensitivity, as measured by the homeostasis model assessment of insulin resistance (HOMA-IR; hepatic insulin sensitivity) and the Matsuda index (total body insulin sensitivity). Secondary

outcomes include mood, mental health, reaction time, cognition, and energy balance (food intake and energy expenditure).

Research Project Components:

1. Review the literature on the topic
2. Analyze data
3. Write a manuscript in collaboration with a postdoctoral fellow
4. Present research findings orally

Logistics

Most of the work will be conducted from home (remotely). The student may also be exposed to other studies. Experience in academic writing and statistical analysis is needed. Independence is also required because the Principal Investigator (Dr. JP Chaput) works from home full time.

Master of Science in Health: Science, Technology and Policy

Carleton University, Ottawa, Canada

Proposed Project: Developing and Fostering Health Promoting Environments in Clinical and Healthcare Education Settings.

Research Question: How do we build and sustain health promoting environments in the health system? How do we evaluate and undertake continuous quality improvement measures when assessing the health promoting nature of academic and clinical settings? Where can health education focus to improve the clinical and academic environment for learners, academic leaders, and practitioners within the health sector?

Supervisors: Dr. Jerry Maniate (Equity in Health Systems (EqHS) Lab, Bruyère Research Institute (BRI)), Dr. Victor Do (University of Toronto), Dr. Renate Ysseldyk (Department of Health Sciences, Carleton University).

Collaborators: Wendy Chong (EqHS Lab, BRI), Jade Alcantara (EqHS Lab, BRI) and Kelly Bute-Seaton (EqHS Lab, BRI).

Background: Research and teaching conditions have, particularly for those who are junior or from disadvantaged backgrounds, deteriorated considerably over the years in the higher education sector (Albayrak-Aydemir & Gleibs, 2022). Specific to the health care sector, wellbeing is a problem. Dyrbye, Satele and West (2021) conducted a study of 14,126 medical students from 140 medical schools. This study highlighted that medical students who experienced mistreatment and perceived the learning environment as less favourable were more likely to develop higher levels of exhaustion and disengagement, lower levels of empathy and career regret compared with medical students with more positive experiences. To date, wellbeing interventions have predominantly been individual-focused as strategic, systems-level efforts are more challenging to initiate and sustain (Do et al., 2023).

The learning/working environment is a significant contributor to the deterioration of wellbeing within the healthcare system. For example, medical students matriculate with the same or even better wellbeing than their peers in other programs, but their wellbeing deteriorates more. This ultimately negatively impacts practitioners' ability to care for patients and the wellbeing and productivity of the institutions they support and the communities they serve. Interventions must focus on the environment though this is no easy task as the root cause of this issue exists in the learning and working environment.

The Okanagan Charter (2015) provides a framework to focus on the learning environment that also takes into account social justice, EDI (equity, diversity, inclusivity), Indigenous reconciliation, and planetary health. Other initiatives are focusing on this, making it the right time to build momentum in this study area. Our ability to evaluate a learning environment and then create a strategic plan to address challenges is limited as we lack a tool to do so. Hence, this project will be focused on developing this tool. Therefore, we hope that the learners, academic leaders and practitioners will contribute to improving the working and learning environment and, thus patient care and health system outcomes.

The research will be conducted by the MSc Students of the Health: Science, Technology, and Policy (HSTP) Department in collaboration with the Equity in Health Systems (EqHS) Lab. It will examine the lived experiences of learners, academic leaders, and practitioners. The project will allow the HSTP MSc students to conduct quality collaborative interdisciplinary research projects, allowing them to delve into complex problems in the health sector, as well as the opportunity to meet and work with experts in the sector.

Objective: This project will utilize a number of strategies, including but not limited to, an extensive online survey, focus groups, and qualitative semi-structured interviews with learners, leaders, and professionals within the academic health science and health care sectors. By taking a multi-method approach, we will engage with both aggregate and personal levels of analysis, disseminating our findings to academic outlets and stakeholders within the health care sector. It is the intention that our outputs will impact and encourage positive transformational change for both academia and practice, which will benefit our patients, stakeholders, and communities we serve and elevate the delivery of service along the continuum from academia to practice within the health care sector.

The overall objectives for the study are:

1. Identify how learners, leaders, and practitioners characterize a health-promoting environment.
2. Distinguish critical factors for creating and sustaining health-promoting work and learning environments.
3. Develop a health-promoting environment evaluation and implementation framework that can be adopted and/ or contextualized within the health sciences institutions for both academia and practice.

Research Project Components entails:

1. Literature Review
 1. Examination of the Okanagan Charter.
 2. Examination of other frameworks that can be contextualized to assess the health and well-being of the Health Sciences and Health Sector.
2. Assess principles and evaluate the implementation of the Okanagan Charter.
 1. Through surveys, interviews, and focus groups at several Health Sciences and Health Sector institutions.
 2. Environmental scanning, gap assessments, unearthing an understanding of counterproductive culture and barriers to positive change, and influencers/ champions for positive change.
3. In this context, reviewing specific models for well-being, usage of the Okanagan charter, and embedding the three-pronged approach to sustainability to design workable frameworks.
4. Manuscript preparation and other knowledge mobilization outputs.
 1. Develop evaluation/ implementation tool.
 2. Develop content based on Okanagan Charter principles for the Digital Learning and Education program led by the EqHS Lab.

Proposed Team: The student team for this research project will include 3 MSc HSTP students. Ideally, students will have experience with quantitative and/or qualitative data collection and analysis. Experience and interest in sustainable development, psychology, and the social determinants of health is an asset.

Duration: This is a 2-year project (September 2024 to April 2026).

Logistics: Data collection will be conducted both online and in-person.

References:

Albayrak-Aydemir, N., & Gleibs, I. H. (2022). A social-psychological examination of academic precarity as an organizational practice and subjective experience.

Br J Soc Psychol. 2023;62(Suppl. 1):95–110.

Do, V., Lewis, M., Goldstein, C. & Sonnenberg L. K. (2023). Fostering a Health-Promoting Learning Environment in Medical Education: Adapting the Okanagan Charter for Administrators and Medical Educators.

Acad Med. 98(6):p 672-679.

Dyrbye L, Satele D, West C. (2021). A longitudinal national study exploring impact of the learning environment on medical student burnout, empathy, and career regret.

Acad Med. 2021;96(11S):S204-S205.

Okanagan Charter: An International Charter for Health Promoting Universities and Colleges (2015). <https://bp-net.ca/wp-content/uploads/2019/03/Okanagan-Charter.pdf>

Supervisors: Drs. Kristin Connor, Department of Health Sciences, Carleton University, Daniel Goldowitz, Department of Medical Genetics, University of British Columbia
Collaborators: Drs. Sandra T. Davidge (U Edmonton, Edmonton), Claudio Delrieux (Universidad Nacional del Sur Argentina), Pablo Nepomnaschy (Simon Fraser U, Vancouver), Ashley Wazana (McGill U, Montreal)

Library of Patient Experience as an evidence base for a health promotion and knowledge mobilisation tool grounded in the Developmental Origins of Health and Disease (DOHaD)

PROJECT SUMMARY

The Developmental Origins of Health and Disease (DOHaD)¹⁻³ is a framework to understand how environmental exposures in early life can shape the development and occurrence of chronic diseases throughout the lifecourse⁴. Yet, our ability to prevent poor health outcomes and enrich for resiliency remains severely limited for a few reasons: 1. we rarely integrate social, environmental, and biomedical determinants of health; 2. we often fail to recognise the influence of our environments before conception, during pregnancy and postpartum to health across the lifecycle, 3. we do not consider how these multiple health determinants and critical developmental windows collectively inform about health risks *and* factors that provide resiliency⁵, and 4. we have limited dissemination of health information to the people who can use this information.

Our group is developing a health promotion tool to identify health trajectories early and improve health literacy and knowledge mobilisation related to lifecycle health. Such a tool aims to support health decision-making, which could aid in the development and adoption of personalised and early interventions and supports to enable all children to reach their full potential. Our efforts involve a systems-approach to health predictions and promotion. These methods span machine learning and biostatistical approaches to determine major factors in early life that predict adult-onset disease pathways and influence resilience, through to community based participatory methods and consultations with multiple stakeholders to redraw the boundaries of health systems and decision-making, ensuring the knowledge, values, and needs of experts-by-experience and users inform tool development and execution.

The current project builds on our engagement work to help develop a Library of Patient Experience, which is foundational to recognising the voice of experts-by-experience. Patient and family experiences are needed to improve health care practices both in terms of efficiency and optimal outcomes. Ultimately, the library will be a collection of patient-oriented research studies, documents/recordings that incorporate the patient/family voice, and knowledge from various communities with an emphasis on those that are under-served.

APPROACH

The initial specific aims of the HSTP project are to:

1. Conduct an evidence review and analysis on ‘libraries of patient experience’, identifying the efforts occurring in Canada and globally to capture the patient/family voice in health care practices/health outcomes and patient/family-oriented research studies, and determine how these stories are captured and used in the system to support health literacy, care, and access. Identify challenges, gaps and opportunities with gathering and using patient/family voices to equitably inform health literacy, care, and policy for pregnant people, infants and children, and make recommendations for researchers to better understand and incorporate the voices of the people and groups their work aims to serve.
2. Conduct an evidence review of current approaches to improve health literacy, and engage with academic experts and experts-by-experience to evaluate the utility of these approaches. Identify

challenges, gaps and opportunities with developing and implementing a DOHaD health literacy tool based on current evidence and knowledge gained from stakeholder engagement.

STUDENT REQUIREMENTS AND OUTPUTS

Interest in maternal-child/early life health and health prediction and promotion are assets to the project. Students interested in this project *must* show evidence of a strong background in evidence synthesis (e.g. developing evidence review protocols according to guidelines, critical review of scientific and grey literature, quantitative and qualitative analysis of literature), experience with focus groups, interviews and/or stakeholder engagement, and *must* have excellent writing and communications skills. Desirable skills include the ability to visualise data/information in exciting and understandable ways for diverse audiences.

To assess your evidence synthesis experience, in your application indicate the research papers and projects you have worked on and methods you have used. To assess your stakeholder engagement experience, indicate with which groups you have engaged, the methods you have used for this engagement, and the outcome(s) of these engagement activities. To assess your writing and communications skills, you may be asked to provide samples of your writing (e.g. papers, projects you have led). Students lacking these skills/experiences should make a case for their suitability for the project despite these gaps, which may include current or planned courses during the HSTP programme (please be specific about which courses you have taken or are planning to take that could demonstrate suitability). Work ethic, topic interest, ability to solve problems and creativity to leverage the project beyond the primary aims are also desired. The number of students selected to work on the project (1-3) will be at the discretion of the supervisor based on the skills/experiences of interested applicants and project needs.

Over the course of the project (2023-2025) it is anticipated that the minimum outputs will be the production of two manuscripts for publication and other related knowledge mobilisation outputs (e.g. infographics, brief reports) for dissemination to patients/families, the public, researchers, policymakers, and health care workers.

References

1. Barker, D.J. Developmental origins of adult health and disease. *J Epidemiol Community Health* **58**, 114-115 (2004).
2. Wadhwa, P.D., Buss, C., Entringer, S. & Swanson, J.M. Developmental origins of health and disease: brief history of the approach and current focus on epigenetic mechanisms. *Semin Reprod Med* **27**, 358-368 (2009).
3. Heindel, J.J., *et al.* Developmental Origins of Health and Disease: Integrating Environmental Influences. *Endocrinology* **156**, 3416-3421 (2015).
4. Jacob, C.M., Baird, J., Barker, M., Cooper, C. & Hanson, M.A. The importance of a life-course approach to health: Chronic disease risk from preconception through adolescence and adulthood. White Paper. (ed. WHO) 1-41 (World Health Organisation, 2017).
5. Abdul-Hussein, A., *et al.* Early life risk and resiliency factors and their influences on developmental outcomes and disease pathways: a rapid evidence review of systematic reviews and meta-analyses. *J Dev Orig Health Dis*, 1-16 (2020).

Supervisors: Drs. Kristin Connor, Department of Health Sciences, Carleton University and Kelsey McLaughlin, University of Toronto, Mount Sinai Hospital

Gaps in maternal health services for Indigenous people in rural and remote communities in Canada: an exploration of culture, barriers, and health

PROJECT SUMMARY

Colonial policies, including separation from families through residential schooling and marginalisation of languages, assaults on dignity and autonomy through the introduction of assimilation policies, and racial discrimination, have had significant negative impacts on the health of Indigenous people in Canada¹. Pregnant Indigenous people receive inadequate prenatal care relative to the general Canadian population, resulting in significant disparities in maternal and pregnancy health outcomes². Indigenous people in Canada are twice as likely to die during pregnancy, relative to non-Indigenous people¹⁻³. There is a critical need to develop and disseminate culturally sensitive pregnancy and postpartum health information for pregnant Indigenous people in Canada, with a specific focus on rural and remote communities with poor access to healthcare services.

The current project builds on our meaningful engagement with Indigenous leadership, healthcare providers, and community members from First Nations, Métis, and Inuit communities across Canada. This foundational work will provide critical evidence needed to improve culturally-sensitive healthcare services for pregnant Indigenous people in Canada.

APPROACH

The initial specific aims of the HSTP project are to:

1. Conduct an evidence review to identify maternal health services available to Indigenous people across Canada, including within and outside provincial health care systems. Identify and evaluate the challenges, gaps and opportunities in existing services to inform culturally-sensitive perinatal and postpartum health information for the improvement of maternal/pregnancy health care.
2. Interview relevant stakeholders across Canada, including Indigenous healthcare providers, community leadership, those with lived/living experience, and local public health providers, to identify current gaps in maternal healthcare services, and capture opinions, experiences, and traditional teachings about maternal health care. One area of focus includes identifying barriers to the delivery of health care services to pregnant Indigenous people.

Together, the findings of this research will provide foundational evidence on which to develop culturally-sensitive pregnancy and postpartum health information to pregnant Indigenous people in Canada, and make recommendations to develop best practices for the mobilisation of this knowledge to suit the needs of stakeholders.

STUDENT REQUIREMENTS AND OUTPUTS

Interest in maternal-child/early life and Indigenous health, and/or health services are assets to the project. Students interested in this project *must* show evidence of a strong background in evidence synthesis (e.g. developing evidence review protocols according to guidelines, critical review of scientific and grey literature, quantitative and qualitative analysis of literature), experience with focus groups, interviews and/or stakeholder engagement, and *must* have excellent writing and communications skills. Desirable skills include the ability to visualise data/information in exciting and understandable ways for diverse audiences.

To assess your evidence synthesis experience, in your application indicate the research papers and projects you have worked on and methods you have used. To assess your stakeholder engagement experience, indicate with which groups you have engaged, the methods you have used for this engagement, and the outcome(s) of these engagement activities. To assess your writing and communications skills, you may be asked to provide samples of your writing (e.g. papers, projects you have led). Students lacking these skills/experiences should make a case for their suitability for the project despite these gaps, which may include current or planned courses during the HSTP programme (please be specific about which courses you have taken or are planning to take that could demonstrate suitability). Work ethic, topic interest, ability to solve problems and creativity to leverage the project beyond the primary aims are also desired. The number of students selected to work on the project (1-3) will be at the discretion of the supervisor based on the skills/experiences of interested applicants and project needs.

Over the course of the project (2024-2026) it is anticipated that the minimum outputs will be the production of two manuscripts for publication and other related knowledge mobilisation outputs (e.g. infographics, brief reports, slides) developed in consultation with stakeholders and partners.

References

1. Kolahdooz, F., *et al.* Canadian Indigenous Womens Perspectives of Maternal Health and Health Care Services: A Systematic Review. *Diversity & Equality in Health and Care* **13**(2016).
2. Auger, N., Park, A.L., Zoungrana, H., McHugh, N.G. & Luo, Z.C. Rates of stillbirth by gestational age and cause in Inuit and First Nations populations in Quebec. *Cmaj* **185**, E256-262 (2013).
3. Sheppard, A., *et al.* Birth outcomes among First Nations, Inuit and Métis populations. (2017).

Student Project Proposal 2024
Master of Science in Health: Science, Technology and Policy
Carleton University

Proposed Project Title: Promoting the use of the Newborn Screening Ontario (NSO) Data Warehouse for program monitoring, evaluation and research

Supervisor/Organization: Dr. Pranesh Chakraborty (Children's Hospital of Eastern Ontario Research Institute)

Project background/description:

The Newborn Screening Ontario (NSO) Data Warehouse is a virtual repository of newborn screening and screen positive follow-up data and was built by NSO staff. It allows NSO to combine data from multiple sources and acts as a one-stop shop for querying data for the purposes of quality assurance, program monitoring and evaluation, and research. Data in the warehouse is kept up-to-date via automated nightly processes and the warehouse continues to be developed, incorporating new and legacy data sources. Along with being a database to store and combine data from multiple sources, the data warehouse also includes a reporting layer that can be accessed via Power BI; this is one of the main ways NSO users will interact with the data in the data warehouse.

As the data warehouse is a new tool, and as it is designed to be accessible to users with different data needs and skills, we need to design and execute an educational campaign to promote its use and educate NSO users on how to access and benefit from this valuable new resource.

To learn more about NSO, visit the website at <https://www.newbornscreening.on.ca/>

Project Objectives: Educate on and promote the use of the NSO Data Warehouse

Project components:

1. Learn how to interact with a Data Warehouse
2. Environmental scan of other health information data warehouses and the educational resources used to support and promote these
3. NSO Data Warehouse education – requirements gathering
4. Detailed review of solutions for intended purpose
5. Develop communication/education plan
6. Create education and communication tools, roll out education and communication to NSO users
7. Presentation of project at a seminar

Proposed Team: 1-2 MSc HTSP students. Ideally, students will have knowledge/experience working with big data and in a laboratory environment and/or healthcare setting.

Duration: 18-20 months

Logistics: Meet hiring requirements of the CHEO RI



Proposed Research Project
Master of Science in Health: Science, Technology and Policy
Carleton University, Ottawa, ON, Canada

Project Title

Data Visualization of Complex Health Information: Communicating multiple cause mortality and the social determinants of health

Supervisor / Organization

Paul Peters, in collaboration with Statistics Canada & project team

Project Objective

The objective of this project is to develop interactive data visualization portal using data on multiple cause mortality indicators and the social determinants of health. This portal will address the needs of health planners, policy makers, and practitioners, providing essential data evidence.

Background

The study and practice of epidemiology and public health benefits from the use of core demographic statistics such as mortality rates, usually based on a single underlying cause of death. However, the assumption that each death is caused by exactly one disease is debatable. Additionally, research has shown that there is a relationship between the frequency of coexisting multiple causes of death and socio-demographic factors. Our analysis has produced large amounts of complex health data that can be difficult to interpret in simple tabular formats.

While simple data dashboards have been developed for underlying causes of death, there are no resources that capture the full mortality burden as calculated by multiple cause mortality. The development of an interactive data dashboard will allow for project outputs to be made accessible to the public, researchers, and health professionals. The dashboard will allow data to be explored geographically, through interactive tables, and via dynamic charts. These dashboards have become commonplace through the COVID-19 pandemic and their utility for disseminating complex data and trends to the public cannot be understated. The student researcher will gain experience in applied data analytics, communication of complex health data, and in linking data evidence to health policy, planning, and practice.

Proposed Team

A student will develop an interactive dashboard in R or Python in coordination with the supervisor and project team.

Duration

September 2024 - April 2026

Logistics

Dr. Paul Peters will provide direct supervision of students. Programming will be in R or Python with analysis of additional data in the Statistics Canada Research Data Centre at Carleton University.

PROJECT 8

Project Title: Strengthening Strategies for Single Fathers: Masculinities and trauma- and violence- informed physical activity

Supervisor: Dr. Francine Darroch, Carleton University

Collaborators: Ottawa Community Housing Foundation, St. Mary's Home, Men's Health Research Team

Overarching Project Objective:

The role of single-fatherhood in equity-owed communities is not widely recognized, considered, nor well understood in academic literature. Additionally, while the benefits of physical activity are well-documented, there is limited research examining access to physical activity for single fathers who face multiple vectors of oppression such as income instability, racial discrimination, precarious housing, gender discrimination, and trauma. Trauma- and violence-informed physical activity (TVIPA) has been identified as a promising approach to improve access and appropriateness of physical activity for self-identified women who have experience trauma or PTSD; however, there is a dearth of research on the effectiveness of TVIPA approaches with men. Gender, trauma-, violence-, and masculinities-informed approaches to physical activity may be a strategy to promote health and remedy illness among men. The development of TVIPA interventions for single fathers, and their children, who experience multiple marginalizing circumstances is an important step to make gender and equity-focused advancements in health and physical activity research. This work is crucial to understanding the ways in which engaging single fathers in community-based physical activity programs can be a strategy to create social and community connections, and as a suicide prevention strategy. Through community-based participatory action research and a mixed methods approach, we aim to understand the experiences of equity-owed single fathers and co-develop a strategy to create gender-based, TVIPA programming and resources to support single fathers. This will be done in partnership with key community organizations in Ottawa and through the use of questionnaire data, qualitative interviews, and observational data.

Proposed Team: The student team will consist of 1-2 students from the MSc HTSP program. Student(s) will be involved in data collection, analysis, and knowledge mobilization work.

Duration: The project will require 20 months to complete.

Logistics: Dr. Francine Darroch will be the direct supervisor

Animation: Trauma- and Violence-Informed Physical Activity: An Approach to Address Barriers and Enhance Access (2020) Available at:

<https://www.youtube.com/watch?v=tgCIXqDxtZg&t=1s>

Men's Mental Health Inequities: RMS Research Theme 1:

<https://www.youtube.com/watch?v=YSAw-mwrWZ0>

Project Title: Global Matrix 5.0 on Physical Activity for Children and Adolescents.

Supervisor/Organization: Dr. Mark Tremblay, Healthy Active Living and Obesity Research Group, CHEO Research Institute, Active Healthy Kids Global Alliance.

Overarching Project Objective: To help power the global movement *to get kids moving* by advancing the understanding and promotion of the global variation and trends in child and adolescent physical activity.

Project Objective: To assist with the development of the Global Matrix 5.0 on Physical Activity for Children and Adolescents.

Background: Children and adolescents around the world are not moving enough to promote healthy growth and development. To advance the understanding of global variations and trends in child and adolescent physical activity and provoke positive change, the Active Healthy Kids Global Alliance (AHKGA) initiated the international project “Global Matrix”. AHKGA (www.activehealthykids.org) is an international not-for-profit organization of researchers, health professionals, and stakeholders who are collaborating to advance the physical activity of children and adolescents around the world. The Global Matrix initiative is the dominant activity of the AHKGA and involves the production and subsequent comparison of country-specific physical activity Report Cards for children and adolescents, using a harmonized process to assess and assign letter grades to a number of common physical activity indicators. Report Cards are prepared by groups of experts in each participating country using the best available data and information in their respective jurisdictions. The Report Card development process and the compilation and aggregation of global data are overseen and guided by the AHKGA President, Dr. Mark Tremblay, and the Board of Directors, which consists of a panel of leading experts in children’s physical activity from across the world. To date, there have been four iterations of the Global Matrix project. The latest edition, the Global Matrix 4.0 (www.activehealthykids.org/4-0/) was released in October 2022 and involved 57 countries/regions from 6 continents. The development of the fifth iteration, the Global Matrix 5.0, will start in 2024 and will be released in October 2026. The Global Matrix 5.0 is expected to involve the collaboration and cooperation of physical activity researchers, leaders, and advocates from more than 70 countries.

Research Project Components:

1. Contribute to managing the global harmonization process of assessment and assigning grades to physical activity indicators.
2. Assist in communication/coordination with representatives from participating countries.
3. Contribute to the Global Matrix 5.0 material development (e.g., surveys, infographics).
4. Assist with manuscript preparation for peer-review publication.
5. Assist with project evaluation.

Proposed Team: The student team will consist of 1 student from the MSc HTSP program. Ideally, the student will have some knowledge of and appreciation for healthy active living, awareness of knowledge translation and mobilization processes, and a willingness to work hard and get engaged.

Duration: The project will require 18-20 months to complete.

Logistics: Most project tasks will be conducted remotely. Biweekly updates (or as needed) will be conducted via teleconference and/or in-person meetings. The student may be required to attend bi-monthly meetings of the AHKGA Board of Directors held via teleconference and several AHKGA webinars

over the course of study. Possibility for attendance at the Global Matrix 5.0 launch in Mexico City in October 2026.

Project Title: 2025 Position Statement on Active Outdoor Play

Supervisor/Organization: Dr. Mark Tremblay, Healthy Active Living and Obesity Research Group, CHEO Research Institute

Overarching Project Objective: To develop and launch the 2025 Position Statement on Active Outdoor Play, and evaluate its short-term impact.

Specific Project Objectives: The objective of this project is to assist with development, launch, and evaluation of the 2025 Position Statement on Active Outdoor Play.

Background: The 2015 Position Statement on Active Outdoor Play served as a galvanizing force for the outdoor play sector in Canada. It brought together previously disconnected groups from education, community, health, environment, wildlife, ecology, law, and Indigenous rights that collectively shared a passion for outdoor play. The Position Statement provided direction and a common purpose: to promote healthy growth and development among children in harmony with the outdoor, natural environment. It prompted The Lawson Foundation to reorient their strategic priorities towards outdoor play, resulting in a ~\$11 million commitment (to date) to support Canadian communities in increasing children's opportunities for outdoor play. The Position Statement also influenced a British Columbia Supreme Court ruling related to a playground injury lawsuit. Additionally, it spurred a 10-fold increase in academic publications on outdoor play in Canada and inspired the official launch of Outdoor Play Canada (OPC) and the Play, Learn, and Teach Outdoors Network (PLaTO-Net). These developments demonstrate the profound impact of the Position Statement in advancing the cause of outdoor play for Canadian children.

In 2025, it will be 10 years since the release of the Position Statement. To mark this milestone, an initial group of researchers from the CHEO Research Institute, Outdoor Play Canada, Queen's University, the Alana Institute, the National Taiwan University of Physical Education and Sport, Kenyatta University, and the Bispebjerg and Frederiksberg Hospital have come together to begin developing an update to the Position Statement, to describe its impact, make it global in reach and relevance and draw on insights gained from the past decade, including the global COVID-19 pandemic.

This update will involve the development of knowledge products including academic and grey literature reviews exploring various topics related to outdoor play, such as trauma recovery, mental and spiritual health, self-care, sustainable eating, climate change and One Health, overall health and well-being, and Indigenous reconciliation at a global level. In addition, the update will feature a chronology of, and reflection on, outdoor play events/initiatives/successes achieved over the last 10 years. It will include a consolidation of the original Position Statement with similar statements made by other groups, offering recommendations for pandemic preparedness in the future based on lessons learned from COVID-19, and the identification of ongoing research gaps. To ensure that our products are shared widely, we will provide digital summaries, slide decks for broad use, infographics, interviews, and curated social media content. We aim to apply an international perspective to our efforts and make sure all outputs are available in multiple languages.

This project aims to rejuvenate, amplify, power, guide and direct the movement to get global citizens outside – to play, learn, teach, grow and develop as healthy, caring and environmentally attentive citizens who act as responsible stewards of each other, the land, water, air, plants and animals.

Research Project Components:

1. Conduct literature reviews on active outdoor play.
2. Assist with manuscript preparation for peer-review publication.
3. Assist with launch planning and related communications and publication planning.
4. Help manage material translations.
5. Assist with post-launch evaluations of short term impact.

Proposed Team: The student team will consist of 2 students from the MSc HTSP program. Ideally, the students will have some experience with conducting literature reviews and have a passion for healthy active outdoor living.

Duration: The project will require 20 months to complete.

Logistics: The students will have many opportunities to gain experience through this large global project. Most project tasks will be conducted remotely or at the Canadian Center for Outdoor Play in Ottawa. Biweekly updates (or as required) will be conducted via online video communication and/or in-person meetings.

PROJECT 11

Project Title: Accessibility and usability of virtual service delivery platforms (including telehealth platforms) for Canadians with sight loss during the COVID-19 pandemic

Supervisor/Organization: Dr Mahadeo Sukhai, CNIB

Project Objectives:

1. Understand the user experience of Canadians with sight loss who are accessing virtual community and health services.
2. Develop recommended best and innovative practices for accessibility and usability of virtual service delivery platforms.

Background

One consequence of the COVID-19 pandemic has been the "pivoting" of many community services and healthcare adjacent services to virtual service delivery models (e.g., telehealth, virtual support groups, virtual health-adjacent activities, etc.). While these approaches have done much to alleviate isolation and concern about accessing services, Canadians with sensory loss (sight loss, hearing loss, dual sensory loss) have a series of unique challenges around accessing visual and audio information through virtual platforms.

In our COVID-19 impact assessment, undertaken earlier in the pandemic (spring 2020), we identified that Canadians with sight loss were concerned about their ability to access information and services in an accessible way. In this project, students will follow up on this observation by undertaking a series of qualitative interviews and focus groups with Canadians with sensory loss, in order to understand their user experiences with virtual service delivery platforms. Specific issues to probe include, but are not limited to, visual accessibility of the platform, ease of access, provision of captioning and ASL, communication of visual information, and, how session leaders, facilitators and healthcare providers are incorporating accessibility solutions. A concurrent series of interviews with community and healthcare service providers will also be undertaken, in order to understand existing practices. These two sets of data will be integrated by the students working on this project in order to identify a common set of best and innovative practice recommendations for accessibility and usability of virtual service delivery platforms.

Proposed Team: The proposed team will include 2 students from the MSc HSTP program to work alongside CNIB's Research team on this project.

Duration: The project will take 18-20 months to complete.

Logistics

The research project will consist of seven components:

1. Environmental scan of virtual service delivery platforms and accessibility tools
(15 hours per student)
2. Development of interview questionnaires
3. Interviews of community members
4. Interviews of service providers
5. Data analysis and integration of findings
6. Development of recommendations
7. Final report

Pending COVID-19 restrictions, the student may have the opportunity to work from the Ottawa CNIB office, in addition to carrying out research remotely.