

Centre for Global Child Health Catalyst Grant Awardees
(awardees for each year are presented alphabetically by last name)

2023



Principal Applicant: Sam Brophy-Williams

Project Title: Mobile App Gamification in Clinical Teaching (MAGiC)

Project Description: The Mobile App Gamification in Clinical Teaching (MAGiC) project aims to augment capacity building activities through innovative instructional design to promote learner engagement and retention. The team will implement an app-based interactive community learning platform to strengthen faculty development instruction at the Ghana College of Nurses and Midwives (GCNM). The app, called “Kaizen”, already developed by clinician educators at the University of Alabama at Birmingham – a new collaboration partner for the Centre - uses concepts of “gamification” and spaced repetition, with published success in North America. The team will evaluate both the implementation of this project for feasibility and scalability in the LMIC context, and its efficacy in promoting learner engagement and content retention.



Principal Co-Applicants: Jo-Anna Baxter, Alison Mildon
Co-Investigators: Deborah O’Connor, Daniel Sellen, Bronwyn Underhill

Project Title: Understanding creative programming to deliver lactation and food supports through the Canada Prenatal Nutrition Program in Ontario: A qualitative study

Project Description: Maternal and infant health, nutrition, and well-being from pregnancy to early childhood are undeniably critical. The Canada Prenatal Nutrition Program (CPNP) is a federal initiative that supports socially and economically vulnerable pregnant women and their infants by offering community-based perinatal health and nutrition services. The CPNP employs a flexible programming model, enabling projects to adapt activities to their local context. At this time, there is no regular process or outcome evaluation of CPNP services, such as documentation of how the flexible CPNP programming model is applied in practice. The overall goal of the study is to engage with community-based implementers of the CPNP across Ontario to understand their experiences and recommendations for delivering lactation and food supports to marginalized mothers and infants. The team will use focus group

discussions, and a modified-Delphi exercise to establish priorities for CPNP outcome monitoring and future implementation research. As participants in the CPNP include newcomers to Canada, diverse ethno-racial and low-income groups, and Indigenous communities, findings will support strengthening the health and nutrition of marginalized groups within the Canadian population.

2022



Primary Applicant: Helen Dimaras

Co-Investigators: Myrna Lichter, Judith Mintz, Natalie Spence, Justin Kirtzinger

Project Title: Eye Health of Indigenous Children in Toronto

Project Description: Eye health in Indigenous Canadian populations is a growing concern. Previous studies in Ontario have identified significant deficits in vision screening practices, and high rates of uncorrected refractive error among Indigenous children compared to the general population. Still, despite a rapidly growing Indigenous population, this gap is not currently being addressed. This project presents a novel approach to identify and address inequities in vision care by utilizing an integrated stakeholder approach and learning health system design. It will aim to answer the question “what are the eye health needs of Indigenous children living in Toronto?”. The team will conduct a pilot vision screening project together with the Native Women’s Resource Centre of Toronto and the Native Child and Family Services of Toronto to identify (1) the prevalence of vision and eye disorders among Indigenous school-age children; (2) the economic, social, and cultural barriers Indigenous children face to accessing care; and (3) methods to provide culturally safe, comprehensive eye examinations and follow-up care.



Primary Applicant: Megan Parry

Co-Investigator: Francoise Nwabufo

Project Title: Scaling up community care for children with sickle cell disease in rural Cameroon

Project Description: This project aims to improve child health through an innovative capacity building project on the topic of sickle cell disease (SCD) in a low-resource setting in rural Yaounde, Cameroon. SCD is one of the most life-threatening genetic diseases in the world, however with good access to continued care the disease can be managed and promote good health and social outcomes. The project will take a collaborative approach consisting of three core activities: training health care workers in the community and hospital setting; supporting

families and children with SCD in rural settings through home visits; and visiting schools to sensitize children at a young age and decrease stigmas. It will also address the link between nutrition and outcomes for SCD.

2021

Primary Applicant: Maryse Bouchard
Co-Investigators: Mark Myerson, Shuyuan Li

Project Title: Improving access to pediatric clubfoot treatment in remote, resource-poor areas using smart glasses technology for telementoring of surgeons on casting techniques and surgical procedures

Project Description: This pilot study evaluates the use of smart glasses technology for telementoring of surgeons in remote, resource-poor areas in the treatment of pediatric clubfoot deformities. This is a collaboration between The Hospital for Sick Children, and two non-profit organizations, Steps2Walk and Ohana One. As the opportunities for surgical training in resource-poor areas are limited, telementoring is an ideal solution as it can build sustainably from whatever state of clubfoot care programming a country or region has attained. During this 6-month training curriculum, knowledge and surgical skill acquisition of mentee surgeons will be assessed by the mentor using Objective Structured Assessment of Technical Skill (OSATS) and Global Rating Score (GRS) evaluations after each procedure. Impacts of the training on the mentee surgeon's practice and patient population will be measured with objective surveys regarding case volume, case complexity, and confidence before and after the program. Mentor and mentee experiences using the smart glasses, including technical challenges, will be recorded after each live procedure.

Primary Applicant: Isabel Potani
Co-Investigators: Robert Bandsma, Allison Daniel, Chisomo Eneya, Sylvester Kathumba, Wieger Voskuil

Project Title: Optimization of ready-to-use therapeutic food: Increasing protein quality and quantity to improve growth in children with severe acute malnutrition

Project Description: Ready-to-use therapeutic food (RUTF) is currently the standard nutritional treatment for children with severe malnutrition. Protein requirements are high in these children, but RUTF does not meet these needs based on protein quality scores. We therefore partnered with Nutriset, the largest global manufacturer of RUTF, to create a new version of RUTF with higher protein quality and quantity. We hypothesize that this optimized RUTF will lead to greater weight gain in severely malnourished children, which we will assess within a proof-of-concept randomized controlled trial in Blantyre, Malawi.

2020

Primary Applicant: Jo-Anna Baxter

Co-Investigators: Allison Daniel, Deborah O'Connor, Yaqub Wasan, Asad Ali, Robert Bandsma, Céline Bourdon, Zulfiqar Bhutta

Project Title: Investigating pathways between maternal nutritional status, breastmilk composition, and infant linear growth in rural Pakistan

Project Description: Based on an established hypothesized pathway model, reflecting pathways between maternal nutritional status, breastmilk composition, infant linear growth, and from a complete breast expression collected at 3-months postpartum, this study aims to examine these simultaneous pathways using structural equation modelling. Participants will include a subset of mother-infant pairs enrolled in an ongoing trial in rural Pakistan ([MaPPS Trial](#); ClinicalTrials.gov identifier: NCT03287882). Additionally, this study will aim to determine whether breastmilk micronutrient composition differs between those participants receiving daily multiple micronutrient supplements compared to those receiving the standard of care (no supplementation).

Primary Applicant: Mariella Munyuzangabo

Co-Investigators: Jean-Luc Kortenaar, Chantal Shaib, Delvin So, Lauren Erdman, Huma Qamar, Diego Bassani

Project Title: Using Machine Learning to improve the efficiency and sensitivity of literature reviews

Project Description: Abstract screening phases during literature reviews can be long and error-laden processes, requiring multiple reviewers to ensure the inclusion criteria are met. Recent advances in Natural Language Processing (NLP) can be used to automatically rank abstracts according to their relevance for subsequent human screening. In addition to speeding up the review process, such models can identify potential human errors in screening, improving the overall quality and comprehensiveness of literature reviews. We leverage a transformer-based language model ROBERTA to accurately embed and classify abstracts for inclusion in literature reviews. The goal of this project is to develop an open source, highly efficient and high-performing algorithm with a user-friendly interface, which would allow researchers to conduct literature reviews or update their past literature reviews efficiently.

2019

Primary Applicant: Nancy Dale

Project Title: Improving the Outcomes of Community-based Management of Acute Malnutrition

Primary Applicant: Sumit Gupta

Project Title: Economics of Childhood Cancer in Africa

2018

Primary Applicant: Avi Denburg

Project Title: Childhood Cancer Drug Access in Low- and Middle-Income Countries: A Pilot Study

Primary Applicant: Laura Vresk

Project Title: Paediatric Nutrition Support in a Low-Resource Hospital Setting

2017

Primary Applicant: Céline Bourdon

Project Title: Malnutrition-induced Gut Dysfunction Treated by Milk-derived Exosomes: Proof of Concept

Primary Applicant: Heather Christine Millar

Project Title: Starting at the Roots: Using Human-centred Design to Create an Adolescent Pregnancy Program in Eldoret, Kenya

Primary Applicant: Nandita Perumal

Project Title: The Effect of Nutrition-specific National Policies on Micronutrient Malnutrition among Young Children in Low- and Middle-income Countries

2016

Primary Applicant: Michael Leung

Project Title: Maternal-child Exposures to Persistent Organic Pollutants in Dhaka, Bangladesh

2015

Primary Applicant: John Parkinson

Project Title: Investigating the Role of Eukaryotic Microbiota in Malnutrition

Primary Applicant: Lillian Sung

Project Title: Quality of Life, Fatigue and Family Functioning for Children with Relapsed Acute Leukemia in El Salvador