

2017 AbSPORU Studentship Award Recipients (10)

Shima Afhami – University of Alberta

Project: *Profiling of the Gut Microbiome in Children with Prader-Willi Syndrome (PWS): A Fiber Intervention to Target Hyperphagia*

Biography



Shima is a Masters student in the Nutrition & Metabolism program, under the mentorship of Dr. Andrea Haqq and Dr. Jens Walter. Since the beginning of her post-secondary education, she has had a strong commitment to contributing to science literacy, patient advocacy and research through her community and academic involvements.

Her passion for applied science led her to enroll in the Science 100 program, a full year interdisciplinary course, offered at the University of Alberta for a select number of first-year students. Her interest in obesity research began through the self-directed Capstone research component of this program. She continued to do research throughout her undergraduate years with projects focused on the field of comparative cognition and decision making.

After graduating with her BSc in Psychology & Biology, she was employed as a research coordinator for a neuroscience laboratory in the pediatric department at the University of Alberta where she worked with children with intellectual disabilities. During this time, she had the opportunity to become involved in patient care and gained valuable insight on the importance of patient-oriented research.

With obesity and related maladies on the rise, research linking nutrition and disease has become increasingly important. Shima's current novel program of study examines the role of the microbiome in the development of hyperphagia and disordered metabolism associated with Prader- Willi Syndrome (PWS) and childhood obesity. She hopes that this research can lead to improved healthcare outcomes and improved quality of life for patients with PWS and obesity.

Project Summary

In Canada, over 30% of children are overweight or obese; insight into the pathogenesis and treatment of childhood obesity is urgently needed. Prader-Willi Syndrome (PWS) is the most common syndromic form of obesity. Children with this genetic condition exhibit insatiable appetite, progressive weight gain and are at a greater risk to develop obesity at a young age. Children with obesity have been shown to have drastically lower quality of life scores compared with the general population, and these scores are even lower in children with PWS. Attempts to control weight and prevent metabolic decompensation through dietary interventions have had limited success in PWS.

Human gut bacteria plays an important role in food digestion. Changes in the gut microbiome have been identified as a major contributor to the development of obesity and related complications. Currently, the specific role of the gut microbiome in control of appetite and metabolism in PWS and childhood obesity needs more research.

Shima's research will compare the gut microbial composition of infants/children with PWS to matched controls. She will also assess their food seeking behavior and appetite. This research also aims to determine if 3 weeks of a high fiber treatment in children with PWS alters their gut microbiome composition. She will assess if these changes result in a reduced level of hunger, food intake, rate of weight-gain or improve metabolism. Shima hopes her research will provide vital information on how to improve health outcomes and quality of life in children with PWS and obesity.

Natalia Albinati – University of Calgary

Project: *The Feasibility of a Physical Activity Program for Advanced Cancer Patients*

Biography



Tali graduated with a Bachelor of Health Science Honours degree, majoring in Biomedical Science, from the University of Calgary in 2016. Throughout her undergraduate degree, Tali was trained in an interactive learning environment which introduced her to the fundamentals of research from a multi-disciplinary perspective. During this time, she developed an interest in health-oriented research.

Currently, Tali is excited to have the opportunity to expand upon both her academic and personal interests, while also exploring new research avenues, through a MSc with a focus in exercise and health Psychology. She began her graduate studies in 2017 and is fortunate to work with a dedicated team of researchers and certified exercise physiologists.

During her MSc, Tali will be researching the role of physical activity in the advanced cancer population. Through this work, she hopes to start building the evidence that will one day lead to the development of a feasibility framework needed to support a sustainable physical activity program. Using a patient-oriented agenda, her goal is to create a model that serves to complement existing health services, and in this endeavor, be capable of benefiting advanced cancer patients at the local, national, and international levels.

In her spare time, Tali is passionate about playing sports, and promoting a healthy lifestyle. Currently, she plays with a women's soccer team and enjoys running, hiking, and being outdoors. She believes that while it is important to develop healthy lifestyle habits early on, engaging in exercise and physical activity as part of your daily routine is important at every age and stage of life.

Project Summary

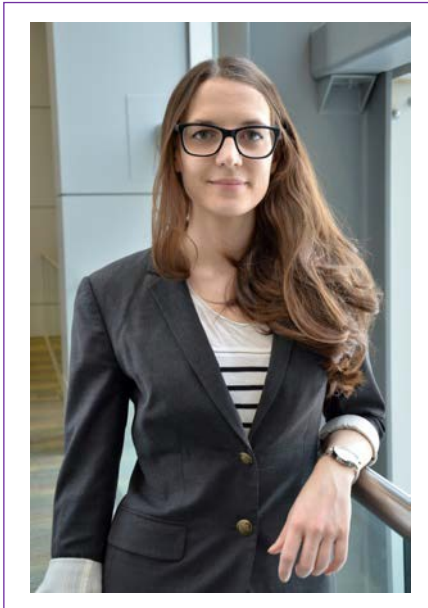
Physical activity (PA) offers numerous physical and psychosocial benefits, and is attributed with increased quality of life (QoL) in cancer survivors. However, evidence to date has concentrated on understanding these effects in patients who fall into the early stages of cancer diagnosis (stages I and II). There is relatively little information on the benefits that PA has to offer advanced-stage (III and IV) cancer populations, a currently underserved patient group in terms of wellness initiatives. More evidence is needed to better understand the optimal PA dose, type, and potential benefits experienced by advanced cancer survivors. However, feasibility, including facilitators and barriers to PA that patients in this phase experience, must first be understood.

The proposed research will examine the role of PA in the advanced cancer population, providing evidence to support introducing PA into their cancer care plans. The purpose of the Physical Activity in Advanced Cancer Treatment (PAACT) program is to (a) examine the feasibility of a PA program for advanced cancer patients and (b) qualitatively explore the cancer patients' experience with facilitators and barriers to participation, within a patient-oriented framework.

Given the negative impact that cancer has on QoL, it is important to explore the role of PA as a therapeutic tool. There is potential for PA to enhance physical functioning and QoL while also reducing negative side effects associated with advanced cancer. Thus, it is important to explore the feasibility and potential benefits PA has to offer in providing holistic and encompassing supportive care for patients in this phase.

Chloe de Grood – University of Calgary

Project: *Describing the Current State of Patient’s and Family Member’s Role in the De-adoption of Low-value Clinical Practices in Canadian ICUs*



Biography

Chloe de Grood graduated with a Bachelor of Science in Environmental Science from the University of Calgary in 2016. She was a summer student at W21C Research and Innovation Centre for three summers during her undergraduate degree and upon completion was hired as a research assistant at W21C Research and Innovation Centre.

Through her summer student and work experience in health research she has had the opportunity to develop a breadth of research skills and exposure to applied health services research including the use of mixed methods, stakeholder engagement and dissemination of findings. As a research assistant she contributed to the collection of

qualitative interviews and qualitative analysis as part of a prospective observational cohort study across Canada. In this work she interacted with different stakeholder groups including patients and their family members as well as providers (nurses and physicians).

This work gave her the opportunity to disseminate the findings in the preparation of abstracts and poster presentations at two conferences: American Thoracic Society and Canadian Frailty Network Annual National Conference, as well as a first-authored manuscript that is currently under peer review. Currently she is in her first year of a Master of Science in Community Health Sciences under the supervision of Drs. Stelfox and Parsons Leigh.

Project Summary

The translation of best evidence into practice is important, especially when evolving technologies change clinical practices and save lives. Despite this, translating evidence into clinical practice remains a major challenge for our healthcare system. The delay between the development of scientific evidence and integration into clinical practice is significant (~17 years) and has important implications for patient care and outcomes.

Recent work has emphasized the removal of practices in healthcare (i.e. de-adoption) that are ineffective or of low value, as their removal can prevent potential harm to patients and free resources for more effective therapies. Current evidence has shown that ineffective or low-value practices are common in medicine and that the development of new evidence that supports the removal of these practices does not always catalyze change. In order to address this issue, there is a need to find effective ways to implement and sustain the removal of ineffective practices to improve the quality of healthcare.

Intensive care units look after severely ill patients and are being used at increasing rates as the population ages and severity of patient illness increases. Developing patient and family-centered care approaches, tools, and empowerment for the families (i.e., immediate family, relatives, friends, etc.) of critically ill patients who are frequently unable to participate in their own care is important for improving the experiences and outcomes of care for both patients and families.

This study will describe the current state and appropriateness of patient and family member involvement in decision making around the removal of ineffective and low-value clinical practices in intensive care. This work is a fundamental step in the development of patient and family centered care and knowledge translation as it will build a foundation to test patients and families as drivers for getting best evidence into practice.

Kara Irwin - University of Calgary

Project: *Diabetes Management for Patients with a History of Psychological Trauma*

Biography



Kara is a Registered Psychologist with a specialization in trauma and working with clients with complex physical and psychological health co-morbidities. She has experience as a Psychologist in private practice, not for profit, and government sectors.

Kara attended the University of Calgary as an undergraduate completing a BA honors degree in psychology and a BA with distinction in international development studies. Her master's education in Clinical Psychology was also completed at the University of Calgary. Her work with complex patients at the East Calgary Family Care Clinic prompted her return to school in 2017 to complete a PhD in Health Services Research, which is

currently in progress. She is working in collaboration with the University of Calgary and the East Calgary Family Care Clinic to develop and implement chronic disease management that is effective and appropriate for clients with diabetes and a history of psychological trauma.

Kara's goal is for her current research to support clients with psychological trauma and diabetes, act as a launching pad for a model of health care delivery that is trauma informed. She is passionate about meeting the needs of vulnerable populations, supporting health care providers in maximizing skill, and prompting the health care system to strive for best practices for its population.

Project Summary

Background: Data from the Government of Canada indicates that in 2013/14, 8.1% of Canadians were living with diagnosed diabetes (Public Health Agency, 2017, Diabetes in Canada: Highlights from the Canadian Chronic Disease Surveillance System) and that prevalence of diabetes increased 70% from 1998/99 to 2008/09 (Public Health Agency, 2011, Diabetes in Canada: Facts and figures from a public health perspective). These statistics and the implications for poor health, poor quality of life, and mortality are concerning given that

there are many modifiable risk factors and management approaches for diabetes; indicating that current understanding of prevention and management of diabetes may be missing an important component.

Purpose: Identify health systems interventions that acknowledge and address psychological trauma, resulting in improved outcomes for patients with diabetes.

Methods: A cross-sectional association study will be completed with psychological trauma as the exposure variable and diabetes control as the disease variable. A systematic literature review will be completed to identify interventions proposed for diabetes management in the setting of comorbid psychological trauma. A weighted criteria matrix will be applied to the articles from the literature review to prioritize recommendations important for developing the intervention. The themes determined from the literature review will be amplified by engaging clients and healthcare providers in designing interventions through human-centered co-design.

Outcomes: The foundation of knowledge from the cross-sectional association study, literature review, focus groups, and interviews will then be used to design an intervention program to address both the mental health and physical health needs of ECFCC clients who have comorbid psychological trauma and diabetes.

Cliff Lindeman University of Alberta

Project: *Characterizing exercise inputs and practice patterns of Albertan primary health care practitioners*

Biography



Cliff Lindeman is a Behavioural Medicine PhD student in the Faculty of Kinesiology, Sport, and Recreation at the University of Alberta. He has a Master's degree in Public Health and an undergraduate degree in Kinesiology (Honours) from Lakehead University. Cliff has held several positions including a practicum with Alberta Health Services Infection Prevention and Control and is currently working with the Primary and Integrated Health Care Innovation SPOR Network at the University of Alberta.

Cliff's doctoral research will analyze Albertan primary care physicians' electronic medical record information to determine if exercise activity inputs are sufficient for health services and epidemiological research, and to develop and

compare alternative processes to better record exercise information that may impact the health and well-being of patients.

His interests include patient-oriented and primary health care research, epidemiology, and utilization of administrative data.

Project Summary

The use of electronic medical records as a source of health information offers an opportunity to conduct surveillance to improve clinical practice and patient outcomes. The Canadian Primary Care Sentinel Surveillance Network (CPCSSN) routinely extracts electronic medical record information across Canada including data from 225 participating primary care providers and more than 250,000 patients in southern Alberta.

CPCSSN extracts an open-text field titled 'exercise'. An exploratory overview of this open-text field found that information was not recorded in a standardized way. Of the more than 95,000 southern



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Alberta exercise field entries, the most common was 'yes'. However, this occurred less than 500 times; most entries were unique text strings. If exercise data was incorporated as a validated information field and not random, unusable series of text strings, it may be a powerful resource for primary care providers and researchers to identify exercise behaviour for a variety of chronic conditions presented in primary care.

Natural language processing statistical techniques will group exercise entries through sentiment analysis. A standardized exercise input template in primary care providers' medical records will enable a review of these entries and allow feedback on practice feasibility. To better understand the intentions of recording exercise in electronic medical records, cognitive task analysis will be conducted with primary care physicians. As well, a survey will be conducted of all Canadian medical schools in order to learn the range and focus of exercise prescription training in Canada.

Alexandra Loverock - University of Alberta

Project: *Assessing Patient-Centredness in Services for Opioid Use*



Biography

Alexandra is a first year MSc student in the School of Public Health. As part of her undergraduate program (BSc in Psychology) at the University of Alberta, she completed a 16- month internship at the Edmonton Early Psychosis Intervention Clinic. In this position, she assisted with various research projects and completed neuropsychological assessments with individuals with psychosis. After completing her BSc, Alexandra worked as a research assistant for the Bebensee Schizophrenia Research Unit (U of A Department of Psychiatry) for two years. In this role, she was involved in research that examined the effects of cannabis use on cognition in psychosis patients and healthy controls.

From her experience working with early psychosis patients, Alexandra realized that she would like to advocate for groups of vulnerable people especially those with mental illness or substance addictions. She has also become very interested in the broader public health issues surrounding substance use in the community such as the disconnect between services preference and availability. Alexandra is now studying cannabis use at the population level and opioid service preferences in out-of-treatment opioid users. Overall, she is determined to promote mental health and wellness at the community and patient level to reduce substance related harm.

Project Summary

Evidence-based addiction treatment and harm reduction programs are being expanded in Canada as a result of an on-going public health emergency in relation to opioids use. The impact of these services may be limited, however, because there are existing knowledge gaps in the way opioid users view treatment and harm reduction services, and how well existing services use procedures and implement policies designed to enhance client interest and engagement. The proposed research consists of two studies.

The **first study** will ask opioid users from across Canada, who have not attended any treatment, about their opioid use patterns, awareness of harm reduction and treatment services, their perceptions on accessing these services, and awareness and attitudes toward five well-known opioid-related services (i.e., naloxone, medically-supervised consumption, methadone, suboxone, and drug testing/checking). This information will be collected anonymously online. The goal is to see what opioid users not currently involved in treatment know about existing services, and if these services are appealing. There is also uncertainty about whether existing opioid addiction services value patients' thoughts, feelings, and input.

The **second study** will complete a scoping review of existing research on opioid treatments to see if patient factors (e.g., choice in treatment) are considered in treatment services. All research papers about opioid treatment published in the past 15 years will be reviewed for population, study type, patient-oriented factors, treatment type, and main outcomes. This review will provide a better understanding of the patients' role in treatment and indicate areas of treatment that can be improved.

Maria Pavlova - University of Calgary

Project: Reframe the Pain: A Parent-Led Intervention to Alter Children's Memories for Pain



Biography

Maria is a Master's student in Clinical Psychology at the University of Calgary, working under the supervision of Dr. Melanie Noel. Maria completed her undergraduate degree in Psychology at the University of Calgary. Following her graduation, Maria worked as a lab coordinator Alberta Children's Pain Research Lab (PI: Dr. Noel), where she was responsible for setting up and coordinating several large-scale studies examining acute and chronic pediatric pain.

Maria developed a particular interest in examining children's memories for painful experiences as well as ways to reframe those memories.

She intends to pursue this line of research in her Master's research project. The key focus of her project will be to examine the efficacy and feasibility of a brief parent-delivered memory reframing intervention in pediatric populations in the context of post-surgical pain (tonsillectomies). The intervention will be developed based on the principles of Patient-Oriented Research and will be used to improve patient health outcomes and alter the trajectory of pediatric pain. The project will be conducted in close collaboration with pediatric anesthesiologists and Ear, Nose, and Throat surgeons at Alberta Children's Hospital.

Project Summary

Pain in childhood is common. How children remember pain robustly predicts their future pain experiences. Distressing pain memories (e.g., remembering more pain as compared to initial reports) may lead to worse future pain and higher pain-related distress. Children's memories for pain can be altered to reduce detrimental effects of memory biases. Only a few studies have examined the memory reframing interventions aimed to reduce negative biases in memories and subsequent pain and fear. These techniques have not been used to target children's memory of post-surgical pain, which is often long-lasting and distressing.

Previous interventions were not led by parents, who are powerful agents of change in the context of children’s recall and pain experiences. Parental reminiscing has a profound effect on how children remember other past events. Specifically, parents who use more unique information and open-ended questions have children who recall past events more accurately. Drawing from existing and our emerging research on memory reframing techniques, the study will be the first to examine a parent-led intervention aimed to positively alter children’s memories of post-surgical pain.

The intervention will be created with guidance from families who have gone through the tonsillectomy. We will teach parents to talk to their children in the most adaptive ways about distressing painful experiences, which will lead to a more accurate and less distressing recall of pain. Patients will also assess how helpfulness of the intervention. The study will be the first to develop a family-centered intervention for altering children’s memories for post-surgical pain.

Brooke Russell - University of Calgary

Project: *Survivors of Childhood Cancer: Isolating Modifiable Targets to Improve Health-Related Quality of Life*

Biography



Brooke is an MSc student in the Clinical Psychology program under the joint supervision of Dr. Lianne Tomfohr-Madsen and Dr. Fiona Schulte. She obtained her BA (hons) in Psychology from the University of Calgary in 2015. Brooke has had a longstanding interest in psychosocial oncology, and her undergraduate thesis work examined the follow-up care practices of primary-care providers for adult survivors of childhood cancer in Alberta.

After completing her undergraduate degree she worked as a research coordinator in the Hematology, Oncology, and Transplant program at the Alberta Children's Hospital for two years before beginning her graduate work. This position provided an opportunity to work within a fully

integrated multidisciplinary team of oncologists, psychologists, neuropsychologists, nurses, child-life specialists, and clinical researchers, alongside patients and families receiving care on the unit. This experience elucidated the unparalleled value of working with professionals from across disciplines and collaborating with patients and families on research endeavors.

Brooke is passionate about patient-oriented research and is currently focused on investigating the survivorship experience of pediatric cancer survivors. She is eager to begin work on her project, which will examine the relationship between psychological symptom burden (disrupted sleep, fatigue, trauma symptoms, and pain) and the health-related quality of life of childhood cancer survivors. Ultimately, she hopes her work can help to improve long-term psychological outcomes for pediatric cancer survivors.

Project Summary

Approximately 1,270 Canadian children are diagnosed with cancer each year; fortunately, over 82% will survive. Although the survival statistics are encouraging, three in four survivors will develop a mental or physical illness resulting from the treatment they received, significantly reducing their quality of life. For some survivors, quality of life can become exceptionally poor. Thus, it is exceedingly important that potential solutions to these problems be developed, so that survivors can live healthy and productive lives.

Research suggests that some survivors experience persistent pain, difficulty sleeping, and traumatic memories of their cancer experience. These symptoms are often related to one another and frequently occur together. Moreover, pain, difficulty sleeping, and trauma have been shown to persist for years after treatment has ended and can be extremely distressing. Ultimately, each of these symptoms can significantly reduce the quality of life of long-term survivors of childhood cancer.

Brooke's research will identify which elevated psychological symptoms (pain symptoms; fatigue symptoms; trauma symptoms; sleep disturbances) are most strongly associated with a reduction in quality of life. By doing so, her research has the ability to identify targets for early interventions aimed at reducing the burden of cancer survivorship and improving quality of life for survivors. This work is embedded within a larger program of research that is focused on the long-term psychological well-being of survivors of pediatric cancer.



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Natalie Scime – University of Calgary

Project: Breastfeeding and Medically High-risk Pregnancy: A Mixed Methods Approach to Examining Feeding Intentions, Experiences, Support and Outcomes



Biography

Natalie Scime is a PhD student in Epidemiology at the University of Calgary, studying under the supervision of Dr. Suzanne Tough and Dr. Kathleen Chaput. She is a trainee with the All Our Families pregnancy cohort study and the Alberta Children's Hospital Research Institute. Natalie also works as a Consultant with the Maternal Newborn Child & Youth Strategic Clinical Network on knowledge translation projects to improve the quality of prenatal care across Alberta. Natalie previously completed her Bachelor's degree in Health Sciences and Master's degree in Health Promotion at Western University.

Natalie is passionate about maternal and child health, and her research focuses on women and babies with medical complications during the perinatal period. Specifically, her PhD thesis will examine breastfeeding in women with high-risk pregnancies. By merging quantitative data on breastfeeding goals and outcomes with qualitative data on breastfeeding experiences, Natalie aims to provide rich and detailed insight into how we can optimally support this population of mothers. She also plans to engage a stakeholder committee of clinicians, policymakers, and women with lived experiences throughout her research.

Project Summary

Optimal breastfeeding protects women and infants against numerous acute and chronic diseases, yet three quarters of Canadian mothers do not meet the global recommendation of exclusive breastfeeding from birth to six months. In Canada, approximately one in four pregnant women have high-risk medical complications, such as diabetes, high blood pressure, or pre-existing conditions. These women are less likely to plan to breastfeed, to begin breastfeeding after birth, and to continue exclusive breastfeeding until six months compared to low-risk pregnant women. This is worrisome because a high-risk pregnancy

often leads to the delivery of a preterm or sick infant, and breastfeeding plays an important role in protecting the survival and health of these newborns.

Explanations for suboptimal breastfeeding behaviours among women with high-risk pregnancies are lacking, which makes it impossible to effectively address this problem. This research will examine the breastfeeding goals of women with high-risk pregnancies and the reasons behind these goals. We will track whether mothers begin and continue breastfeeding, as well as explore their breastfeeding experiences and perceptions of support.

Finally, we will identify what factors positively or negatively influence the achievement of breastfeeding goals among mothers, which may include demographic or social characteristics, delivery outcomes, and breastfeeding experiences. We can use these findings to collaborate with health professionals and program planners in developing education and supports that facilitate successful breastfeeding after a high-risk pregnancy. Ultimately, this research will be instrumental in improving the number of high-risk women and their infants who receive the lifelong health benefits of breastfeeding.

Tamara Williamson – University of Calgary

Project: *A Qualitative Exploration of the Needs, Preferences, and Healthcare Utilization Patterns of Patients with Low-risk Syncope*



Biography

Tamara is a first year MSc. student in the Clinical Psychology program at the University of Calgary. Originally from Nanaimo, B.C., she previously earned a B.Sc. in Biology at the University of British Columbia. After several years in the workforce, she decided to return to University to pursue a career in Clinical Psychology, receiving her B.A. after-degree in Psychology at the University of Calgary in 2017.

Broadly, Tamara's research interests pertain to the psychosocial and behavioural determinants of physical health outcomes, particularly among patients with chronic disease (e.g., cardiovascular disease, cardiac arrhythmias, obesity). She is especially interested in the development of effective motivational interventions that promote health behaviour change (e.g., exercise, healthy diet, medication adherence).

Tamara completed her undergraduate psychology thesis under the supervision of Dr. Tavis Campbell in the Behavioural Medicine Lab, investigating the "Intention- Behaviour Gap" for cardiac rehabilitation participation, and the role of patients' perceived barriers to attending cardiac rehab. During her time with the SPOR program, Tamara will be exploring the healthcare utilization patterns of patients with low-risk syncope (fainting). After completing her graduate training, Tamara plans to become an independent investigator and Clinical Health Psychologist. When she is not in the lab or busy with coursework, Tamara enjoys weight training and yoga, trying out new restaurants, and skiing.

Project Summary

At least half the population will experience syncope (fainting) and 13.5% faint repeatedly. Recurrent fainting is distressing to patients and their families, and many experience increased psychological distress and functional impairment. Over half of emergency department (ED) syncope presentations are benign, yet 160,000 patients present to Canadian EDs for fainting annually. ED visits are expensive (>250 million CAD/year) and rarely (<1%) beneficial to patients.

In order to provide meaningful, cost-effective support to patients who faint, there is a need to understand: (a) why patients with low-risk syncope access emergency medicine, and (b) which alternative resources they need to manage their symptoms outside the ED. This qualitative study will explore the needs, perspectives, and desires of patients who faint, particularly with respect to their decisions to access (or not) ED treatment.

Patients with low-risk syncope in Calgary, Alberta will be recruited to participate in focus-groups. An interdisciplinary team of researchers and clinicians will engage patients in open-ended group interviews to determine: (a) why they choose (or not) to present at EDs when they faint, and (b) what alternative resources they require to manage their condition outside of the ED. Patients' responses will be recorded, transcribed, and common themes will be identified and described. The information obtained from these patients will inform future studies to develop and test patient-oriented resources for people with low-risk syncope to manage fainting outside the ED and improve quality of life for patients.