



The Methods Hub Summer Student Program

The Methods Hub is looking for summer students!

Opportunities are available for the summer of 2017 (May-August) for Senior Undergraduate (3rd and 4th) year students in the areas of (bio)statistics, math and actuarial sciences, health informatics, computer science, and the Bachelor of Health Sciences program to conduct research in the areas of clinical/health services research and public health.

During the summer studentship, students are expected to work on a given research project. Students will be expected to attend meetings and events organized by The Methods Hub, educational programming such as seminars, networking activities and submit their summer work to a poster competition for the Campus Alberta Student Conference on Health (CASCH).

It is expected that students will apply for external summer studentship funding opportunities. Please consult the deadlines for these. We will be selecting successful candidates prior to these deadlines, and guidance for funding applications will be given to the successful candidates.

There are 3 research projects with one available summer student position in each. For details on each project, please see below or consult The Methods Hub website: www.themethodshub.com

The deadline for applications for The Methods Hub Summer Student positions is Friday, January 13th, 2017.

Please send a copy of your unofficial transcripts to date (course and credit report,) CV/resume and specification of which research project you would like to apply for to the themethodshub@ucalgary.ca, subject line: Summer Studentship Opportunity.

Applications that do not include all of the required information will not be considered

****Only candidates selected for interview will be contacted****

For all other information about The Methods Hub, please see the website: www.themethodshub.com

For any questions about this opportunity, please email themethodshub@ucalgary.ca.

Thank you for your interest.





1. Associations between Patient-Reported Health Status and Health Care Utilization in Coronary Artery Disease Patients

Project Summary

Background: The increasing prevalence of chronic diseases in Canadian population has led to poorer quality of life of patients living with chronic diseases and increased demand for healthcare services such as emergency department visits and acute inpatient services. Multivariate prediction models, which uses patients' demographic, clinical, and/or behavioral characteristics to predict individual-specific risk of experiencing an outcome (e.g., death, readmissions, hospitalizations, and so on), are commonly employed in surveillance programs to early identification of individuals with are more likely to use large healthcare resources in chronic disease populations. However, these predictions models often focus on measures of disease severity, comorbidities, and other clinical factors, but fail to account for patient-reported health status that may modify subsequent health care utilization behavior.

Study Purpose: This study investigates whether generic and disease-specific patient-reported measure of health status are predictive of subsequent acute health care utilization in persons with coronary artery disease. We hypothesize that disease-specific patient-reported measures will be more predictive of healthcare utilizations in coronary artery disease patients.

Methods: Data for analyses will be obtained by linking the Alberta Provincial Project for Outcome Assessment in Coronary Heart Disease (APPROACH), a population-based registry of individuals who received catheterization in Alberta, to administrative databases including Hospital Discharge Abstract Database, Physician Billing Claims, and National Ambulatory Care Reporting System. Seattle Angina Questionnaire (SAQ) and 5-dimensional EuroQOL (EQ5D) were used as disease-specific and generic measures of health status, respectively. Generalized linear regression models will be used to assess the relative contribution of SAQ and EQ5D in predicting mortality, number of hospitalizations, and number of ED visits in coronary artery disease patients.

Skill Set Needed

Literature review, intermediate knowledge of statistics (3th or 4th year statistics), and some knowledge of programming (R, SPSS, STATA, or SAS)

Researcher's Profile

Dr. Tolu Sajobi is assistant professor of biostatistics in the Department of Community Health Sciences O'Brien Institute for Public Health at the University of Calgary. His research interests include measurement and analysis of behavioral and patient-reported outcomes, robust statistical methods for prediction in repeated measures designs, and design of randomized controlled trials. He collaborates widely on a variety of projects related to the use of patient-reported outcomes in predicting clinical outcomes and measures of healthcare utilization in chronic disease populations.





2. ICD Algorithm Dictionary

Project Summary

Background: The accurate identification of conditions using ICD-coded administrative data for use in health services research is paramount for identification of cohorts. We examined the literature for algorithms using ICD-9 or ICD-10 codes to define different conditions in administrative data.

Study Purpose: This study synthesizes the literature and will summarize ICD algorithms and definitions for health researchers to use. The dictionary will be available on a website for open use.

Methods: A Scoping Review was performed and analysis will be the compilation of pertinent information from the identified manuscripts into tables along with a few summarized figures and tables. The plan is to create an exhaustive list of comorbidity coding algorithms from the literature and provide information on PPV, NPV, sensitivity & specificity as well as validation.

Skill Set Needed

Literature review, knowledge of Microsoft Office (Excel, Word)

Researcher's Profile

Danielle is a Program Manager for SPOR Alberta Methods & Development Platform and Research Associate with the W21C Research and Innovation Centre, O'Brien Institute of Public Health and the Department of Community Health Sciences at the University of Calgary. Danielle has a background in Applied Mathematics and Statistics (BSc University of Manitoba) and Biostatistics (MSc University of Calgary). She works with many inter-disciplinary teams as an analyst and coordinator. She works as a Senior Analyst with the Alberta Provincial Project for Outcomes Assessment in Coronary Heart Disease (APPROACH) and a Member of the World Health Organization Family of International Classifications (WHO-FIC) Quality & Safety Topic Advisory Group.





3. APPROACH survey data transcription Project Summary

Background: Content analysis of open-ended comments by patients has seen limited use in spite of the insight it can provide into factors contributing to patient (dis)satisfaction.

Study Purpose: This study will use the transcribed text data for researchers to mine to examine patient experience in relation to cardiac outcomes and/or characteristics.

Methods: The student would transcribe APPROACH survey text into a database for researchers to gain insight from patient experience. The student would then work with project manager to start text mining and working with clinicians to determine research question. This project could lead to Master's work for a potential student.

Skill Set Needed

Knowledge of Microsoft Office (Excel, Word), Adobe PDF.

Researcher's Profile

Dr. Maria Santana is an Assistant Research Professor at the University of Calgary, W21C Research and Innovation Centre, O'Brien Institute of Public Health and the Department of Community Health Sciences. Dr. Santana completed a degree in Pharmacy and a Master in Pharmaceutical Technology at University of La Laguna in Spain and her clinical pharmacy degree at the School of Pharmacy in London, UK. In 2009, she received her PhD in Clinical Epidemiology from the University of Alberta. Dr. Santana is a patient-reported outcome measures methodologist. Current research interests include patient-centered care, patient engagement, transitions of care, the practice of Iyengar yoga for chronically ill individuals, and quality of care.

