2019 IHPI/HSR Summer Student Fellowship and Internship Program & Health Equity Summer Research Award - Faculty Projects

Faculty Name	Email Address	Faculty Title	Faculty School Primary Appointment	Master-level or Doctoral-level Student	Do you have a Health Equity Project	Short description of research project.
Ivo Dinov	dinov@umich.edu	Professor	Nursing/Medicine	Either	Yes	Predictive Big Health Data Analytics: This project will interrogate large, complex, multisource, time-varying, and incongruent biomedical and health datasets using model-based and model-free machine-learning methods. Examples of studies that will be examined includes progressive neurodegenerative disorders (e.g., ALS, Parkinson's, Alzheimer's) and machine-parsing of unstructured text (e.g., physician or nursing notes, images, audio, video). We will use supervised and unsupervised ML strategies to identify salient features in the data, forecast univariate clinical outcomes, and explicate derived computable phenotypes. Open source software (R) will be used to generate end-to-end analyses protocols that will be validated and shared with the entire community.
Mia Woodward	mariawoo@umich.edu	Assistant Professor	Ophthalmology & Visual Sciences	Either	Yes	Physician-scientist Maria A. Woodward, MD MS is seeking a master's or doctoral level student for research in Ophthalmology. The goal of her study is to help clinicians develop rapid, personalized treatment plans for patients with microbial keratitis. This objective is to quantify the clinical features associated with outcomes and treatment efficacy using electronic health record information. **Responsibilities will include:** • Literature review of relevant publications • Collection, analysis and interpretation of electronic health record information **Opportunities will include:** • Interactions with patient and physicians • Participation on scholarly manuscripts
Susan Goold	sgoold@umich.edu	Professor	Medical School	Either	Yes	1) various projects evaluating the Medicaid expansion in Michigan, 2) preliminary data regarding impact of Medicaid expansion on mitigating disparities in cancer care/treatment/outcomes
Christine Veenstra	cveenstr@med.umich.edu	Assistant Professor	Medical School	Master-level student	No	We are currently surveying colorectal cancer survivors and their spouses/partners to learn about factors that influence the quality of care received during the cancer survivorship period. Students will review written survey data as surveys are returned, contact patients and/or partners to clarify survey responses if needed, enter survey response data into our RedCAP database, and contact patients/partners who have not yet returned their surveys for follow-up.
Mary Janevic	mjanevic@gmail.com	Assistant Research Scientist	School of Public Health	Either	Yes	Pilot-testing a chronic pain self-management program delivered by community health workers to older adults in Detroit.
Geoffrey Barnes	gbarnes@umich.edu	Assistant Professor	Medical School	Either	No	In 2018, we implemented a new care pathway for patients who take antithrombotic medications (blood thinners) and are scheduled for outpatient endoscopic procedures at the University of Michigan. We plan to evaluate the effectiveness of this implementation intervention by comparing the cohort of patients who went through this new pathway as compared to patients who did not. The summer intern would help with chart abstraction, data entry, quantitative data analysis (statistical analysis skills preferable), and manuscript preparation.

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Xingyu Zhang	zhangxyu@umich.edu	Research Assistant Professor	School of Nursing	Either	Yes	Racial and ethnic disparities have been described in multiple aspects of medical care in the United States. These disparities have also been found in the Emergency Department (ED). Examples of this include the findings that black patients wait longer to be seen and have a longer length of stay in the ED after being admitted--a process called boarding which is associated with increased morbidity and mortality. Non-white patients have also been shown to receive less analgesia for painful conditions and appear to undergo less intensive medical testing and interventions for chest pain and treatment of ST Elevation myocardial infarction. The purpose of this investigation was to examine racial and ethnic disparities in the pediatric emergency department care using multiple nationally representative databases.
Emily Somers	emsomers@umich.edu	Assoc Prof	Medical	Either	Yes	Disparities in lupus outcomes, including interactions with nutrition, food security and health care access and utilization
Anne Fernandez	acfernan@med.umich.edu	Assistant Professor of Psychiatry	Medical School	Either	No	We have two active studies related to addiction and health services research. The Alcohol Screening and Preoperative Intervention Research (ASPIRE) Study aims to develop and examine a preoperative health coaching intervention to influence problematic alcohol use, improve patient health, bolster hospital outcomes, and reduce the cost of postoperative care. The Precision Prevention of New Persistent Opioid Use Following Surgery Study aims to use machine learning and natural language processing of electronic health records to define and categorize risky substance use to develop a prediction algorithm to identify and intervene with preoperative patients at risk of developing new persistent opioid use.

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Gabriela Marcu	gmarcu@umich.edu	Assistant Professor	School of Information	Either	Yes	Through qualitative research and review of literature, this project will investigate policy implementation around children with special needs. The work will take an anthropological approach to understanding experiences of stakeholders such as educators, parents, and children. By focusing on behavioral and emotional needs, we will also explore how the subjective nature of decision-making results in racial disparities and inequity within special education. Once a behavioral need has been identified in the school setting, U.S. law requires school practitioners to document and implement a behavioral plan. However, federal laws provide little guidance on how to accomplish this in practice. At the policy level, the primary guidance is the Individual Education Program (IEP). The IEP is a federally mandated document intended to formalize plans for behavioral intervention, but in practice the IEP is vaguely defined and its implementation varies considerably. In practice, the IEP is used as a legal contract, and does not serve as a useful tool for ongoing communication or collaboration. The IEP is typically used for annual decisions such as determining in which classroom to place a child so they can receive the appropriate level of support. Two common types of special education placement—both of which were included in our study—are self-contained and inclusion classrooms. Self-contained classrooms exclusively serve students with IEPs who need significant accommodation. Due to the high level of intervention required, these classrooms have a lower student to practitioner ratio. In contrast, inclusion classrooms place students with IEPs among students without IEPs, thereby enabling more independence and opportunities to interact with peers in a more typical setting. Throughout a school year, parents report frustration with the lack of information they receive about their child's behaviors at school and progress on IEP goals. IEPs are ostensibly used to document a child's behavioral needs, outline what interventions will be used to address behaviors, and set measurable behavioral goals for the school year. But actual practices of documenting behavior at school on a daily basis are not well aligned with the IEP or the related aim of sharing information with parents. Efforts shifting to computer-assisted management of IEPs have raised concerns that computerized methods are focusing on minimal compliance by reducing cost and time, rather than exemplary compliance by improving quality of documentation.
Joel Gagnier	jgagnier@umich.edu	Associate Professor	Medicine	Either	No	1. Safety in patients undergoing orthopaedic surgery; 2. use of patient reported outcome measures in orthopaedics; 3. influence of lipid disorders on musculoskeletal conditions and recovery from surgery; 4. statins for augmenting orthopaedic surgical procedures.

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Andrew Shuman	shumana@med.umich.edu	Assistant Professor	Medical school (CBSSM)	Either	No	Drug shortages are frequent and major barriers to providing consistent and high quality medical care. Whether caused by manufacturing problems, natural disasters, or discontinuation of a product, shortages can result in less effective treatment or even the absence of any effective treatment in critical areas such as cancer therapy, intravenous fluids, anti-infectives, and others. Healthcare institutions recognize and manage shortages in various ways such as procurement advocacy, stewardship of existing resources, rationing, and other approaches. Often these approaches involve reaching out to neighboring institutions to potentially transfer drug product or patients. But there are scant data describing how organizations, and the individuals tasked with managing these situations, make real-time decisions and what informs those decisions. This proposal aims to examine how hospitals in the state of Michigan currently handle drug shortages in order to find and describe best practices, and create real-time collaboration and communication across state institutions, to more effectively provide care when resources are strained. This quantitative and qualitative study will involve statewide sampling designed to identify and engage key stakeholders at institutions responsible for management of drug shortages. This research team offers substantial experience with methodological approaches to studying resource allocation schema and developing and evaluating pragmatic interventions. We also have the established relationships with communities and stakeholders throughout the state necessary to facilitate such work. This research will allow us to discover needs and inefficiencies, highlight and analyze best practices, and to design and refine an inter-institutional platform to share information and enable drug shortage management across the state of Michigan.
Megan Haymart	meganhay@med.umich.edu	Associate Professor	Internal Medicine	Either	No	Cancer-related worry is common among cancer survivors. Patients worry about recurrence, death, treatment side effects, and the impact of their cancer on their family. For patients with low-risk cancers who are past initial treatment, this persistent worry can impact quality of life. This study will evaluate the feasibility of a worry support tool for low-risk cancer patients identified through the Surveillance, Epidemiology and End Results (SEER) program. Patients will receive a brief survey with questions about worry and worry support. The patients will then be directed to a website with details on a worry support tool. We will assess patient willingness to visit the website and use this tool. We will also measure patient report of tool usefulness. Ultimately the data from this feasibility study will lead to the design and implementation of a worry support tool for patients with low-risk cancers. We are looking for a student who can assist in the development of this worry support tool. This project may include writing content, developing the website, working closely with our MCubed team as well as the Center for Health Communications Research (CHCR). Skills in health communication, graphic and/or software design would be useful for this particular opportunity although are not required to apply.
Karan Chhabra	kachhabr@umich.edu	Clinician Scholar	IHPI Clinician Scholars Program	Either	No	We are studying what drives high out-of-pocket costs for insured patients in the US, using surgical care as an example. Specifically, we are looking at surprise medical bills, high-deductible health plans, and other economic/policy trends that are contributing to unsustainable financial burdens on American patients.

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Paul Fleming	pauljf@umich.edu	Assistant Professor	School of Public Health	Either	Yes	My research team examines how immigration-related stressors impact health and healthcare utilization for Latino immigrants in Southeast Michigan. for example, we have documented that the stress related to fear of deportation causes some people to miss clinic appointment, avoid enrolling in public benefits, and sometimes causes food insecurity. We use a mix of qualitative and quantitative methods to study this relationship and identify potential solutions. We have written about our work in the Detroit Free-Press, The Conversation, and other news outlets. This summer, I am looking for an intern who is functionally bilingual in English/Spanish, has good writing skills, and can assist with either qualitative data analyses or quantitative data analyses. We will be launching a survey of immigrants to measure their immigration-related stress and comparing that with health outcomes data from health-service providers.
Jeff Kullgren	jkullgre@med.umich.edu	Assistant Professor of Internal Medicine	Medical School	Either	No	There is growing national enthusiasm for engaging patients in evidence-based strategies to prevent type 2 diabetes mellitus (T2DM), such as participation in a weight loss program, use of metformin, or engagement in individually-directed lifestyle change. Yet, little attention has been devoted to how health care systems can leverage processes through which patients receive health information to better engage them in key preventive strategies. Insights from the fields of behavioral economics and health psychology hold significant promise for improving patient engagement in this area. The INcreasing Veteran EngagemeNT to Prevent Diabetes (INVENT) pilot randomized controlled trial aims to determine the effects of 5 innovative strategies from behavioral economics and health psychology on behaviors to prevent T2DM among patients with prediabetes in the VA Ann Arbor Healthcare System. Students will assist with data collection and analysis, as well as interpretation and dissemination of study results.
Hwajung Choi	hwajungc@umich.edu	Research Assistant Professor	School of Medicine	Either	No	Title: Assessing the influence of family care availability on care transitions and costs among older adults with dementia in the US Aging in place is often assumed to be less costly than alternative types of care and to provide better quality of life for older adults with dementia. In community settings, spouses and adult children most often provide in-home care for older family members. However, not all older adults have access to willing and available family caregivers who live nearby and can devote the time and energy required. Potential care availability of family, in turn, influences the type and level of formal and informal care that older adults with dementia receive. Detailed knowledge of potential family care availability for older adults is essential to develop effective aging policies and services. Few studies, however, have examined potential family care availability prior to the onset of dementia, and few have assessed the influence of family care availability on care utilization during its onset and transitions in dementia care. For sustainable community-based care service system, optimal care allocations between informal and formal care is essential. The overarching goal of this project is to inform policy and intervention research - toward the development of coordinated and efficient care services that offer the dual benefits of reducing costs while improving the welfare of patients with dementia and their family caregivers. Specific aims are the following: Aim 1 -- Determine the availability or "potential supply" of family members of older adults from prior to the onset of dementia through the period during which older adults have dementia. Aim 2 -- Examine how patterns and levels of potential family care availability influence care utilization, care transitions, and care costs at onset and during the course of dementia. Aim 3 -- Examine how potential family care availability influences care allocation among family members and the costs and burdens of informal dementia caregiving at onset and during the course of dementia care.

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Jacob Kurlander	Jkurland@umich.edu	Clinical lecturer	Medical School	Either	No	We will be using a nationally representative database to examine changing rates of gastrointestinal bleeding, as well as changing associations of bleeding with age, gender, location, medications, and comorbidities.
Brian George	bcgeorge@med.umich.edu	Assistant Professor	Medical School	Master-level student	No	As surgical training paradigms have evolved, standards developed including fixed length of training and case volume requirements which served as basis for training and determining competence. In more recent years, significant and appropriate changes have occurred within surgical training, including work hour limitations, increased trainee oversight, and increasing specialization of different fields. The current time and case volume based training paradigm has not evolved despite these regulatory changes. There is a critical need to develop training paradigms that account for these changes in modern surgical practice while also ensuring the competency of graduates. One of the greatest challenges to implementing a new time variable, competency-based training program is logistical. It is unknown, however, how these logistical constraints might interact with the variability in how trainees learn to operate, or how alternative work models (scheduling strategies) might impact trainees, their training programs, and their institutions. As such, this research project represents a first step in creating a time variable, competency-based training program. We will develop new work models and investigate the interaction between work models, learning curves, and multiple outcomes related to feasibility. The hosted student will specifically work on literature reviews, data analysis, modeling, and simulation studies. This work is in collaboration with IHPI faculty member, Amy Cohn, amycohn@med.umich.edu .
Lena Chen	lenac@umich.edu	Associate Professor	Medical School	Either	No	Policymakers are paying increased attention to vertical integration of health care providers, with several recent high-profile mergers. However, horizontal integration is also on the rise and has the potential to change practice patterns as well. National Provider Practices (NPPs) are large physician practices that span multiple states, have multi-year contracts with numerous hospitals, and employ hundreds to thousands of physicians. Growth of NPPs has been greatest in hospital-based specialties, including hospital medicine. Indeed, NPPs employ more than 10,000 hospitalists in more than 48 states, or at least one in five hospitalists.

In spite of the rapid emergence of NPPs, we know very little about key drivers behind their growth. In particular, we do not fully understand why hospitals and health systems are turning to NPPs for their hospitalist staffing needs, or why hospitalist providers are joining NPPs in such large numbers. Therefore, we propose to develop a standard interview guide and perform in-depth, semi-structured qualitative interviews with providers that contract with NPPs, as well as NPP leaders and hospitalists. |

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Sunghee Lee	sungheel@umich.edu	Associate Research Scientist	Institute for Social Research	Doctoral-level student	Yes	Improving Measurement Equivalence of Subjective Well-Being across Racial/Ethnic Groups

While valid assessment of subjective well-being (SWB) is at the forefront of health disparity research, literature increasingly reports measurement noncomparability of batteries designed to capture SWB across racial/ethnic subgroups. One of the major contributors to this noncomparability is response style, a tendency that respondents choose certain response points particularly on Likert-type response scales regardless of the question content. For example, Hispanics are considered to be incline to acquiesce by choosing "strongly agree" or "agree" systematically more often than Whites. Because SWB measures often rely on Likert scales affected by response style (e.g., Please say how much you agree or disagree with the following statements. "In most ways my life is close to ideal."), a higher SWB score by Hispanics than Whites, for example, may mean that Hispanics experience higher SWB than Whites or that Hispanics simply agree to SWB questions more than Whites. This measurement noncomparability may make cross-racial/ethnic comparisons futile.

This project aims to examine not only detecting measurement noncomparability of well-established SWB scales across racial/ethnic subgroups but also statistical/psychometric models that reduce the undesired effect of response style in measuring SWB. In particular, we will focus on the effect of acquiescent response style and extreme response style when comparing across Hispanics, Blacks and Whites using the Health and Retirement Study (HRS), which includes a rich data set on SWB measures. We will employ multigroup confirmatory factor analysis and item response theory to detect noncomparability and latent class analysis and multidimensional unfolding model to tease out the effect of response style in comparing SWB across racial/ethnic subgroup. |
| Greta Krapohl | krapohlg | Research Investigator | Medical | Either | Yes | The Michigan Surgical Quality Collaborative is a MSQC is a collaborative of Michigan Hospitals dedicated to overall surgical quality improvement, including better patient care and lower costs. We are multidisciplinary and inclusive as we work together to transform surgical quality and deliver care that is cost effective. Founded in 2005, today we provide our 72 member hospitals with practical approaches to better patient outcomes and lower costs. We are looking for students in all disciplines to capitalize on our large dataset of 500,000 surgical cases of clinical data. Collaborative relationships with the University of Michigan Schools of Nursing and Medicine further enhance cross-fertilization and student interactions.
Some potential areas for student research include:
Opportunities for surgical quality improvement involving process measures that impact patient outcomes (i.e. enhanced recovery processes)
Data science and use of data analytic approaches in large clinical datasets.
Questions surrounding surgery and insurance coverage. (i.e. Do people who have private insurance have less of a rate of urgent and emergent surgery)
Intraoperative factors that influence patient risk and outcomes
Research questions surrounding surgical patients use of opioids and acute pain.
Implementation science and the use of bundled interventions
Link: http://msqc.org/
Leadership and team: http://msqc.org/msqc-coordinating-center-staff |
| Tammy Chang | tachang@med.umich.edu | Assistant Professor | Medical School | Either | Yes | MyVoice is a national longitudinal text message poll of over 1000 youth age 14-24. Our mission is to elevate youth voice to inform policies and practices to promote their health and well-being. We have ongoing polls that are asking about a variety of questions related to youth: from mental health to sex ed to opioids to Juuling. We are looking for summer fellows and interns who are passionate about health policies related to youth. Our team can guide fellows and interns starting from forming a policy-important question to generating policy-relevant findings within weeks. Please check out our website: www.hearmyvoicenow.org |

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Jessica Mellinger	jmelling@med.umich.edu	Clinical Lecturer	Michigan Medicine	Either	Yes	National surveys in the US have shown that the prevalence of alcohol use, high-risk drinking, and alcohol use disorder have significantly risen between 2001 and 2013, with the steepest increases occurring among women, older adults, racial/ethnic minorities, and people with low socioeconomic status. Heavy alcohol consumption can lead to severe and costly chronic diseases such as alcoholic liver disease (ALD) and its sequelae including cirrhosis, alcoholic hepatitis, cancer, and premature mortality. If the pattern of alcohol use continues in the US, the burden of ALD will likely increase, and better estimates of incidence and prevalence will be needed to inform resource allocation decisions and policy development. This project aims to estimate the future burden of ALD in the US, given the rise in alcohol use, through a state-transition simulation model. This project will also attempt to provide burden of disease estimates for subpopulations within the US, particularly vulnerable groups disproportionately impacted by high-risk alcohol use. Finally, this project will estimate the burden of ALD under different scenarios where alcohol use patterns will be varied.
Donovan Maust	maustd@umich.edu	Assistant Professor	Medicine	Either	Yes	I have two primary active lines of research, and the student could develop a project from one or both. Regardless of the project, will require strong quantitative skills. First, we are currently using Optum claims data to assess adverse events related to psychotropic prescribing (think overdose from benzos + opioids) as well as describe the longitudinal trajectory of psychotropic use. Project option 1 = using claims data for pharmaco-epi type work. Second, we are using two companion longitudinal nationally-representative surveys (NHATS + NSOC), each with multiple waves, to learn more about older adult + caregiver dyads. Project option 2 would involve learning about longitudinal trajectory of these dyads. Neither research grant requires student effort to move forward, so I am flexible re: student proposing a topic broadly within either. Would ideally lead to product (paper, poster, presentation, etc.), with my support for the student to present their work.
Adrienne Lapidos	alapidos@med.umich.edu	Clinical Assistant Professor	Psychiatry	Either	No	Investigators from University of Michigan (U-M) Institute for Healthcare Policy and Innovation (IHPI), in partnership with the Detroit Health Department, the Southfield-Joy Community Development Corporation, and three Medicaid health plans, have collaboratively developed an innovative new model for a Community Health Worker (CHW)-led demonstration project in Detroit's Cody Rouge neighborhood. Defined as frontline health workers who are trusted members of, or have an unusually close understanding of, the community served, CHWs can be liaisons between agencies and the community, facilitating access and improving services, and in particular improving the cultural responsiveness of those services. Participating health plans have each deployed one of their staff CHWs to the project for an 18-month period. The CHWs proactively reach out to identified beneficiaries to conduct an initial health, behavioral, and social needs assessment, and develop an individualized 'action plan' with each beneficiary. U-M investigators are evaluating the project's effect on health care utilization and costs among high-healthcare-utilizing participants compared to eligible individuals not yet enrolled. The team is exploring issues such as patient-centered outcomes, project costs, return on investment, and barriers and facilitators to adoption, implementation, maintenance, and potential spread. The selected student will assist with all aspects of the current project, including data analysis, data management, qualitative thematic analysis, reviewing literature, and preparing reports. The student will be supervised by Dr. Michele Heisler (U-M Internal Medicine) and Dr. Adrienne Lapidos (U-M Psychiatry) and will work collaboratively with other team members such as the project manager and statistician. The student will have the unique opportunity to become fully immersed in this research team's processes, including participating in team meetings in Detroit and Ann Arbor. The student will help conduct on-the-ground qualitative interviews and will obtain training on qualitative coding and analysis. If the student is interested and qualified, there is also potential to be included on publications associated with this project.

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Lee Schroeder	leeschro@med.umich.edu	Assistant Professor	Medical School	Either	No	'Without diagnostics, medicine is blind' (Alain Merieux). Yet, in many low and middle income countries, diagnostics are underfunded and underutilized. There is a growing international recognition that clinical laboratory systems must be strengthened in low resource settings to combat epidemic-prone disease, reduce anti-microbial resistance, and address diseases of public health importance. To this end, the World Health Organization has recently created the first edition of the Essential Diagnostics List (EDL), detailing tests that should be available to a country's population. There are several potential projects available to students interested in looking at the clinical laboratory as a system. One project is to map current test utilization in low and high resource settings to develop benchmarks for the WHO EDL and determine which diagnostics should be considered in subsequent EDL editions. We are also developing a specimen transport service in Ghana to improve test utilization in remote areas of the country where local laboratory instruments are unavailable. It is based on the Uber business model using taxi drivers and is funded by the Bill and Melinda Gates Foundation. Finally, we are preparing for a multi-year mapping of the public health laboratory network in Ghana. We will mathematically model the current laboratory system and evaluate the cost-effectiveness of alternative testing strategies with respect to 6 priority conditions: HIV, TB, hepatitis C, bacterial meningitis, yellow fever, and measles. We are looking for dynamic students with a passion to improve health in low resource settings through strengthening of laboratory systems. It is expected that each student will take ownership of some aspect of a chosen project and incorporate a defined goal (e.g. a manuscript, abstract).
Chithra Perumalswan	cperumal@umich.edu	Postdoctoral Research Fellow	Medical School Administration	Either	No	This study is an evaluation of the incidence and impact of sexual harassment of medical students and residents at an academic medical center as conducted by the #MedToo Study, jointly funded by the CBSSM, UM ADVANCE, and the Department of OB/GYN and administered in June 2018. Using a validated survey instrument (Sexual Experiences Questionnaire), a 20-minute online survey was conducted to determine "experiences with civility and respect in our institution" in the past year at the University of Michigan Medical School. This research project examine incidence of sexual harassment and specific dimensions of sexual harassment (gender harassment, unwelcome sexual advances with and without coercion) and outcomes (mental health, sense of safety at work, job satisfaction, and attrition among others).
Rebecca Sripada	rekaufma@med.umich.edu	Assistant Professor	Medical School	Doctoral-level student	No	Although evidence-based treatment for PTSD is largely effective, it is unknown what type of treatment works best for whom. The purpose of this study is to inform PTSD treatment decision tools and ultimately help answer this critical clinical question. Using machine learning, this project will leverage data from the national implementation of evidence-based psychotherapy note templates and the measurement-based care initiative to identify variables that predict positive and negative treatment outcomes in PTSD. Predicting treatment response will improve treatment outcomes as well as the cost-effectiveness of treatment by reducing the provision of treatment modalities that are unlikely to be successful. The IHPI/HSR Summer Student will conduct the machine learning analysis under the guidance of our collaborator in the Department of Statistics.

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Andria Eisman	aeisman@umich.edu	Research Assistant Professor	School of Public Health	Either	Yes	This project focuses on initial steps for tailoring the state adopted health curriculum to better suit the needs of youth facing individual and contextual risk. It will involve analyzing qualitative data from health teachers across the state on challenges to delivering the program in communities serving high risk youth, investigating how other programs have used implementation strategies to tailor programs for marginalized populations and reviewing the current curriculum to identify possible areas for adaptation. The project is suitable for someone interested in learning more about implementation science, addressing health disparities and collaborating with State Health Department partners.
Mousumi Banerjee	mousumib@umich.edu	Anant M. Kshirsagar Collegiate Research Professor	Public Health	Either	No	The proposed project is motivated by a collaboration with the Pediatric Cardiac Critical Care Consortium (PC4), a clinical registry including over 30 children's hospitals with pediatric CICUs. Extubation failure is an important outcome in children with critical cardiovascular disease because of downstream complications and increased resource utilization in the CICU. The central hypothesis is that risk prediction for extubation failure can be enhanced by utilizing large-scale registry data in tandem with small-scale granular physiologic data to uncover patterns of physiologic changes unrecognizable to even experienced clinicians. The overall goal of this project is to develop a machine learning based framework that can influence real-time clinical care in this population. Towards that end we will develop machine learning methods for complex designs (e.g. clustered data, time-series data, tandem data resources) that are frequently encountered in many healthcare delivery settings, including the PC4 population.
Caroline Richardson	caroli@umich.edu	Professor	Medical school	Either	No	The primary project is a clinic based intervention to improve type 2 diabetes control using continuous glucose monitoring and low carbohydrate diet counseling. We have two other studies looking at using CGM and low carbohydrate diet counseling for diabetes prevention.
Sue Anne Bell	sabell@umich.edu	Assistant Professor	School of Nursing	Either	No	Examining health effects among older adults who have lived through natural disaster.

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Lisa Prosser	lisapros@umich.edu	Professor	Medical School	Doctoral-level student	No	Incorporating Equity Considerations into Cost-Effectiveness Decision Making With the increasing number of highly costly orphan drugs, organizations that conduct cost-effectiveness analysis for coverage decisions have proposed higher cost-effectiveness thresholds to recognize the value of providing effective treatments for rare conditions. In the UK, the National Institute for Health and Care Excellence has developed an alternate threshold for "highly-specialized technologies" that meet certain conditions for magnitude of benefit and rare diseases. In the US, the Institute for Clinical and Economic Review has proposed an alternative value framework for "ultra-rare diseases". The goal of this study is to consider more broadly which attributes of the disease, treatment, or patient population should be considered to address equity considerations in the context of cost-effectiveness analysis beyond the specific context of orphan drugs. For example, distributional impacts not considered in the conventional cost-effectiveness framework could include societal preferences relating to age, race/ethnicity, socioeconomic status, and disease severity. Further, interest to consider health equity in the context of cost-effectiveness analysis is growing because of recognition by decision makers in resource limited settings that health equity is an important goal that health systems should strive for alongside efficiency. This project aims to understand the cost-effectiveness and health equity landscape by conducting a systematic review of the literature. The review will consider a wide range of topics and methodological advancements, such as the use of health equity weights, alternative cost-effectiveness thresholds, and population-specific parameters. Research leading from this study will propose alternate frameworks for incorporating equity considerations into the cost-effectiveness framework (e.g., equity weights) or alongside the cost-effectiveness analysis (e.g., multi-criteria decision making). This project is best suited for doctoral-level trainees interested in decision science and economic evaluation methods.
Prashant Mahajan	pmahajan@med.umich.edu	Professor	Medical School	Either	No	Diagnostic decision-making is a highly complex cognitive process involving uncertainty, making it susceptible to errors. Clinicians working in emergency departments (EDs) are particularly vulnerable to making diagnostic errors due to time-pressured decision-making in chaotic environments. Diagnostic errors result from a complex interplay between various patient (e.g. health literacy, presenting symptoms, complexity, and behaviors), provider/care-team (e.g. cognitive load on providers, information gathering and synthesis) and systems (e.g. health information technology, crowding, and interruptions) factors. To reduce diagnostic errors in the ED, we must use methods that account for the dynamics of human-system interaction inherent to the diagnostic process and address the underlying risk this interaction poses. The IHPI intern would assist study team with creation of a ED process flow map by conducting observations of the ED providers, patients, and their caregivers which will include various elements, such as tasks, the time taken to achieve a goal (e.g. number of clicks on the EHR, interruptions, breakdowns). The IHPI intern will work with physicians, nurses and engineers as well as patients to ensure the success of data collection. This will include observation and data collection on the information-intensive activities and communication practices among various ED providers, including team members (nurses, consultants). Through observation documenting how clinicians prepare, gather, record, and discuss information about patients to make decisions as well as during patient consultations (i.e. we will observe patient-provider information exchanges).

Faculty Name	Email Address	Faculty Title	Faculty School Primary Appointment	Master-level or Doctoral-level Student	Do you have a Health Equity Project	Short description of research project.
Brendan Nyhan	bnyhan@umich.edu	Professor of Public Policy	Ford School of Public Policy	Doctoral-level student	No	Ph.D. student with advanced statistics and text analysis skills needed for research project analyzing public consumption of information from pro- and anti-vaccine websites. (This project will follow a similar approach to http://www-personal.umich.edu/~bnyhan/fake-news-2016.pdf.) The work to be done is the following: -complete updated data collection of anti- and pro-vaccine websites following procedure in Moran et al. https://doi.org/10.1080/17538068.2016.1235531 -calculate respondent-level exposure measures in YouGov Pulse data -work with PI and co-PIs to make tables and graphs documenting correlates of exposure -help draft and edit article reporting results (potentially as coauthor conditional on appropriate level of commitment and contribution)
John Ayanian	ayanian@med.umich.edu	Professor	Medical School	Either	No	IHPI Director John Ayanian, MD, MPP is seeking a master's or doctoral level student to conduct an in-depth, systematic organizational research study of all global health programs and resources on the University of Michigan Ann Arbor campus, in order to identify differentiators, areas of overlap, gaps, and opportunities. **Responsibilities will include:** • Research review of relevant websites • Literature review of relevant program materials, reports, publications • Qualitative interviews with program leaders • Qualitative interviews with stakeholders (faculty, students, staff) **The student will be expected to submit a final report that includes:** • Areas of existing strengths for the University • Current level of satisfaction with existing resources & collaboratoin between U-M schools and colleges • Gaps in resources or opportunities • Opportunities where Michigan might further differentiate and distinguish itself
Vanessa Dalton	daltonvk@med.umich.edu	Professor	Medical School	Master		Cesarean delivery (CD) accounts for one-third of all births in the US, representing an increase of approximately 50% in the last decade. Elective repeat CDs (ERCD) are a significant contributor to the rising cesarean rate, resulting from the combination of an increasing rate of primary CD and a decreasing rate of vaginal birth after cesarean (VBAC). A primary driver of the decreased frequency of VBAC is the decline in frequency with which eligible women elect a trial of labor after cesarean (TOLAC). The reasons for this decline are unclear; in particular, significant racial/ethnic disparities exist in rates of VBAC, and little is known about the extent to which patient preferences have contributed to this decrease. In addition, tools to help patients and providers engage in patient-preference driven, shared decision making regarding approach to delivery after cesarean are lacking. We propose to 1) identify sociodemographic, clinical, and patient preference drivers of delivery approach (TOLAC or ERCD) and mode (VBAC or CD) among TOLAC-eligible women using the National Inpatient Sample dataset, and 2) use this data to create innovative, personalized shared-decision making tools to improve knowledge and reduce decisional conflict about TOLAC. Students will have the opportunity to work in a team to 1) conduct literature review on a critical healthcare problem affecting women, 2) participate in women's health services research activities, including workshops and seminars, 3) learn, or improve skills in statistical software use, 4) learn, or improve skills in data management and analysis of large, national databases, and 5) participate in abstract/presentation/manuscript creation and submission