Mama We Made It?: Mental Health of Black Undergraduates at Predominantly White Institutions in Boston
Fatima M. Ajose, 2018, Community Health & Africana Studies
Dr. Shalini Tendulkar, Community Health

My research involves the mental health of Black-identifying undergraduate college students that attend predominantly white colleges or universities in the Boston area. It aims to understand the impact of being at a predominantly white college or university on the mental health status of Black undergraduate college students. As well as, how factors such as race, culture, sexuality and gender influence their mental health status. Along with understanding what factors such as student groups, support mental health status among Black undergraduate college students.

The Effect of Homelessness and Gender on Indicators of Severity and Comorbidity in Admissions to Substance Use Disorder Services
Diane M. Arnos, 2018, Biology, Community Health
Andrea Acevedo, Community Health

Background: Substance use disorders and homelessness are two closely related issues with far reaching health impacts. This study examined whether homelessness is associated with indicators of severity of SUDs and psychiatric comorbidity. This study also examined if gender is associated with these same variables within homeless admissions.

Methods: This study used national administrative data on admissions to publicly funded substance use services. The sample consisted of 1,256,770 adult admissions to services. The second analysis used a sample of 225,844 homeless adult admissions. Logistic regression models were used to examine the association between homelessness and the dependent variables and the association between gender and the same dependent variables.

Results: After controlling for race and ethnicity, age, gender, education level, employment status, service setting, and state, homelessness is significantly associated with increased odds of cocaine and methamphetamine use, higher frequency of use, younger age of first use, use of more substances, injection drug use, and co-occurring psychiatric problem. After controlling for race and ethnicity, education level, service setting, and state, female gender is highly associated with higher odds of all substances besides alcohol and co-occurring psychiatric problems.

Conclusions: Homeless individuals enter substance use services with indications of more severe substance use disorders, different patterns of use, and more psychiatric comorbidity. Homeless women have different patterns of substance use and much higher likelihood of psychiatric comorbidity than homeless men. Future research should focus on the specific treatment needs of homeless individuals, and homeless women in particular.
Use of Water and Sanitation Infrastructure to Predict Schistosomiasis, Malaria, and Diarrheal Disease in the 216 Ghanaian Districts

Sara I. Banbury, 2018, Community Health
Karen Kosinski, Community Health

Previous research has demonstrated that the burdens of diarrheal disease, schistosomiasis, and malaria have strong ties to the quality and quantity of water and sanitation access in a population; control measures often center around improving access and preventing contamination of a water supply. Studies on these topics often rely on outdated or poor quality data. We used 2010 national census data for all 216 districts in Ghana published by Ghana Statistical Service that included 23 demographic variables and information about water and sanitation infrastructure (102 variables), as well as a Ghana Health Service dataset composed of 60 months (01/2012-12/2016) of district-level disease counts (20,718 observations) to assess risk factors and identify relationships between WASH access indicators and disease burden. We found substantial geographic heterogeneity in uses of water and sanitation infrastructure, as expected. Schistosomiasis demonstrated some variability longitudinally and spatially, while diarrheal disease counts were mainly homogenous. We truncated the malaria data after nine months due to an abrupt halt in reporting with a gap of 14 months with no observations, which prevents comparisons to schistosomiasis or diarrhea. The disease counts contained no confirmed zeroes; it was unclear if blank cells represented missingness or true zeros. Relationships between water and sanitation infrastructure use and disease burden are still being explored. The lack of current and high quality data prevents conclusions about key drivers of schistosomiasis, malaria, and diarrheal disease. This thesis will enable stakeholders to better understand how water and sanitation challenges relate to disease burden and will further underline the need for better data reporting practices.
Post-Treatment Disparities in Arrests for Individuals with an Alcohol Use Disorders

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Research Objective: Due to the link between alcohol use disorders (AUD) and involvement with the criminal justice system, arrest after treatment is an important outcome measure for treatment of people who report AUD disorders. The objectives of this study were to examine whether racial/ethnic disparities exist in post-treatment arrest and whether community level factors are associated with this outcome.

Study Design: This study used administrative data on clients receiving publicly funded treatment services in Washington State, linked with criminal justice data. Community level data were obtained from the U.S. Census based on the census tract of the client's residence. Multilevel parametric survival models were employed with outcomes measuring time to any arrest.

Population Studied: The analytic sample was made up of adult clients receiving publicly funded outpatient treatment for AUD disorders in specialty settings in 2012 in Washington State. Most clients were White (64.5%), while American Indians made up 15.3%, Latinos 11.6%, and Black clients made up 8.7% of the sample.

Principal Findings: Compared with white clients, Black and Latino clients were found to be more likely to have any arrest in the year after treatment (HR=1.447; 95% CI=1.262, 1.659, and HR=1.184; 95% CI=1.038, 1.352 respectively). Additionally, clients living in communities with a higher proportion of black residents were more likely to experience any arrest (HR=1.230; 95% CI= 1.116, 1.354).

Conclusion: These findings suggest that, while outside/community-level factors contribute to the likelihood of arrests, other factors that are unaccounted for in our analyses may contribute to disparities in arrests. Treatment and policymakers should monitor these disparities and address them by intervening at the individual or community level.
The Role of Summer Meal Programs for New York City Parents

Allison V. Kannam, 2018, Community Health  Keren Ladin, Occupational Therapy

Only 15 percent of U.S. children who receive free and reduced-price lunches during the year access USDA-sponsored free summer meal programs when school is out of session. Previous research has explored parent perceptions of summer meals to understand the underutilization of the program. The present study aimed to explore the perceived role that summer meal programs have for families. The study drew upon participating families’ experiences and non-participating families’ perceptions of the program’s potential benefits through twenty qualitative semi-structured phone interviews with parents from Queens, Bronx, and Brooklyn, New York. All interview respondents were recruited through their participation in a separate summer meals survey at their child’s elementary school, where they offered their contact information for follow-up. The interview asked questions about the challenges providing food in the summer and the perceived benefits or barriers to participating in a free meals program. Interviews were transcribed, coded, and analyzed thematically. Results demonstrated that summer meals reduce financial and psychological stress for parents, build social capital in the community, and improve consumption habits for children. However, some meal programs may lack cultural inclusivity, preventing families with religious dietary restrictions from participating. On the whole, while the main purpose of summer meals is to reduce food insecurity, the programs provide many additional social and psychological benefits that demonstrate their value in the community. Summer meal administrators should incorporate messaging about these advantages into their marketing to leverage support for and participation in the programs, while meal sites should continue innovating ways to improve access to meals for all families.
A 3D Bioengineered Model of Intestinal Immunity to Modulate Pathogen Transcytosis

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Since the gastrointestinal tract is in contact with the outside world, the defenses of the human epithelium against pathogens is of paramount importance to human health. Mucosal immunity relies both on the innate defense actions of antimicrobial peptides and on inflammation created by macrophages and Paneth cells. Adaptive immunity in the intestine is more complicated, with presentation of antigens carefully regulated by immune-surveillance posts known as M-cells which are scattered in low numbers throughout the intestine and which pass certain antigens through to adaptive immune cells lying beneath its surface. Due to their low numbers and selective differentiation, these cells have not been reliably cultured in vitro in physiologic conditions despite their relevance to toxicity and disease modulation efforts. This work focuses on the differentiation of human intestinal stem cells to M-cell fate in the context of a previously developed in vitro model of the intestine which recapitulates tight junction formation, oxygen gradients, enzyme secretion, and innate anti-bacterial responses to infection. Initial efforts to differentiate towards M-cell fate are confirmed by qPCR and analyzed by immunostaining. Future plans on the use of a 3D model containing M-cells to measure how transcytosis action is modulated in the normal and diseased states, and the use of co-cultures to determine evidence for M-cells as the start of the IBD inflammatory pathway are also presented.

Borehole Functionality by Management and Spatial Characteristics in the Eastern Region, Ghana

Olivia L. Schultes, 2018, Community Health
Karen Kosinski, Community Health

Water systems such as boreholes (drilled wells) are crucial to expanding access to safe water sources in rural areas. Water systems in rural areas have mainly relied on community management and have often failed to ensure adequate administrative capacity and financial management skills. There is also evidence that the spatial distribution of boreholes and other unimproved water sources can influence motivation to fix broken systems. This has resulted in high rates of non-functionality; in Africa, for instance, there have been documented
Failure rates of 18% - 59%. In this study, water infrastructure, housing, and survey data were collected from 15 towns in the Eastern Region of Ghana. Borehole functionality was examined using longitudinal data from 3 years. Borehole functionality was then examined by management and spatial characteristics. Results will help external organizations evaluate potential infrastructure locations, establish effective management structures, and provide administrative support.

Lessons Learned from a Community-Based Participatory Research Collaboration between the Medford Family Network and Tufts University

Seblewongel Yigletu, 2020, Community Health
Shalini Tendulkar, Community Health

There are currently 43.3 million immigrants in the US and this number continues to rise. Immigrant families face disproportionate socioeconomic and health burdens with the current political climate challenging service provider’s engagement with these communities. Community-academic research partnership may offer value in better understanding these and other challenges and ultimately inform strategies to address them. Community-based participatory research (CBPR) is the practice of leveraging the resources, first-hand experiences, and personal relationships of community partners with the research experience of students and faculty at Tufts. This abstract presents the lessons learned from MATCH (Medford and Tufts Community Health), a classroom-based collaboration between the Medford Family Network (MFN), an organization serving families and children, and an undergraduate student-faculty team. The goal of the Spring 2018 CBPR project was to better understand how to engage immigrant parents of children 0-8 years old in services through data collected in the form of focus groups with immigrant families and semi-structured interviews with immigrant service providers in the community. We identified several lessons. First, community-academic partnerships provide a great learning opportunity for both community partners and undergraduate students. In particular, community input and involvement in the research process can enhance research validity. Second, discussing mutual expectations for work and developing concrete and achievable timelines can support successful partnerships. Finally, it is imperative that students recognize that community partners face many demands on their time. It is crucial that teams discuss how to ensure the authentic engagement of community partners in the research process utilizing strategies such as regular meetings and updates and efforts to develop relationships with partners. Both community partners and research institutions should strive to work side by side, in equitable collaboration to better understand how to make the most positive and lasting impact in their communities.
Partnering with North Suffolk Mental Health to Increase Access to Cancer Prevention, Early Detection, and Treatment

YooJin Yoon, 2019, Biology & Community Health
Kelly Irwin, MD, Massachusetts General Hospital Cancer Outcomes Research Program (CORe)

Background: Individuals with serious mental illness (SMI) experience markedly increased cancer mortality due to delays in diagnosis and inequities in treatment. People with SMI face unique barriers to cancer care, including uncontrolled psychiatric symptoms, fragmentation of mental health and cancer care, and stigma impacting healthcare delivery. These challenges are compounded by disproportionate poverty, limited health literacy, and cultural barriers to care in communities served by North Suffolk Mental Health and Mass General (MGH) community health centers.

Method: To increase access to high-quality cancer care, MGH collaborated with North Suffolk to identify individuals at high risk for cancer and individuals with a recent/previous cancer diagnosis. We conducted educational sessions and outreach at multiple levels including mental health clinicians, administrations, residential, and community staff. Nursing staff on the medical services team met with residential staff leaders and collaborated with MGH to develop a population-based system to track referrals and increase access to cancer care and clinical trials.

Result: From June 2017 through January 2018, we received 49 referrals of patients with SMI at high risk for cancer or previously/recently diagnosed with cancer. We partnered with North Suffolk staff to access screening and oncology care. Examples include collaborating with group home staff to facilitate a same-day diagnostic mammogram and conducting joint meetings with MGH oncology to guide end of life care discussions.

Conclusions: Patient-centered approaches, collaboration between the cancer center and mental health, community engagement and population-based tracking are promising strategies to promote equitable cancer care for patients with SMI from underserved communities.