

Poster Session 1



ELEVATING ORAL HEALTH INTERPROFESSIONAL PRACTICE AMONG PEDIATRICIANS THROUGH A STATEWIDE QUALITY IMPROVEMENT LEARNING COLLABORATIVE Joni D. Nelson, (Medical University of South Carolina), Amy B. Martin, Justin B. Moore, Christine E. Blake, Mindi Spencer

Background. Because of persistent effects of early childhood caries and impacts of dental health professional shortages areas, the integration of oral health in primary care settings is a public health priority. In this study, we explored oral health interprofessional practice (OHIP) as an integrative pathway to reduce oral health disparities. OHIP can include performing oral health risk assessments, describing the importance of fluoride in the drinking water, implementing fluoride varnish application, and referring patients to a dental home. Using implementation science, we conducted a formative evaluation analysis of 15 pediatric primary care practices to understand the adoption of oral health interprofessional practices (OHIP) in pediatric settings. Methods. Using McLeroy's ecological framework, we conducted a qualitative process evaluation to measure the factors that inhibited and facilitated adoption of OHIP into pediatric settings. A total of 15 CHIPRA pediatric practices participated in this study. Practices were located across 13 South Carolina counties. Outcomes of interest were the facilitators and challenges of OHIP adoption into pediatric primary care practices. Document review analysis and qualitative interviews were conducted with pediatric practices to contextualize OHIP adoption. Results. Thematic analysis revealed challenges for OHIP adoption including limited resources and capacity, role delineation for clinical and administrative staff, communication, and family receptiveness. OHIP training for clinical practitioners and staff and responsiveness from clinical staff and local dentists were facilitators of OHIP adoption. Twelve key recommendations emerged on the basis of participant experiences within OHIP, with developing an active dental referral network and encouraging buy-in from clinical staff for OHIP adoption as primary recommendations. Conclusion. We demonstrated the effectiveness of a learning collaborative meeting among pediatric primary care providers to adopt OHIPs. This work reveals an actionable pathway to support oral health equity advancement for children through an additional access point of preventive oral care, reinforcement of positive oral health behaviors, and interaction between parent and child for overall health and wellness of the family.

Presenting Author: Joni D. Nelson

CAUSALITIES IN AN INVISIBLE WAR: VIOLENCE, EPIDEMIOLOGY, AND POLITICAL ECONOMY ALONG THE US-MEXICO BORDER Auston Stiefer, (University of Oklahoma)

National headlines in 2017 sensationalized the increasing violence of the "Mexican Drug War" and prompted many academic commentaries attempting to contextualize these current events by focusing on the history of US-Mexico relations. However, an interdisciplinary analysis of the mortality caused by narcotrafficking violence has yet to be developed. Specifically, gun violence has remained conspicuously absent from national public health publications because of the Dickey Amendment's prevention of the CDC from studying gun violence as a public health threat to hinder these studies from impacting the promotion of gun control. Despite this amendment, public access crime statistics available online suggest that incidents of such violence exhibit epidemiological patterns similar to those of communicable disease. In 2009, however, the CDC did develop a public health framework for analyzing violence in urban city environments after reviewing the history of violence as a public health threat in the 20th century. This research project integrates various public health and anthropological frameworks to analyze violence as an epidemic unequally distributed among those living along the US-Mexico border. Data from the city of Tijuana-San Diego, considered the largest border town on the US-Mexico border, was used as a case study to study this narcoviolence. In border towns like Tijuana-San Diego, the political boundary becomes blurred when analyzing violence, culture, and populational health. In this space of interlinked economic exchanges and human migrations, narcoviolence is committed by drug trafficking organizations operating as capitalistic enterprises seeking to monopolize unregulated illicit markets. Primary quantitative statistical data for violent crime reports from 2006-2016 was analyzed and accessed from the public-access databases from the city governments of San Diego and Tijuana and the state governments of California and Baja California. Qualitative historical, economic, and anthropological research on current narcotrafficking in Tijuana-San Diego was used to contextualize the numerical crime data to characterize narcoviolence as a transnational epidemic and analyze it from established public health frameworks. This research integrates various research methods to establish a more holistic and inclusive model of interdisciplinary population health research. By defining narcoviolence in these public health and economic terms, and contextualizing it in historical and anthropological perspective, this research questions the efficacy of the upheld policy models which seek to dichotomize the US and Mexico and diminish the interconnectivity of addiction, economics, and mortality that are indiscriminate of political borders. Likewise, the results of this study prompt health policy changes for addiction and rehabilitation services, establish deaths caused by gun violence as a health disparity for the Hispanic and Latino/a population in the US, and proposes the US's role in the escalation of narcoviolence by its militarization of Mexican police forces in the 20th century.

Presenting Author: Auston Stiefer

PREPING FOR THE FUTURE: A MULTI-COUNTRY COMPARISON OF KNOWLEDGE, ACCEPTABILITY, BARRIERS, AND FACILITATORS
Adedotun Ogunbajo, (Brown University)

Pre-exposure prophylaxis (PrEP) is an HIV prevention tool that has the potential to inhibit the acquisition of HIV among seronegative users. Currently, PrEP is approved in a pill form (known as Truvada). The regimen is designed to be taken daily and if adhered to, is reportedly effective at reducing the risk of acquiring HIV by more than 90 percent. Men who have sex with men (MSM) are disproportionately affected by the HIV epidemic, and while they stand to benefit immensely from a biomedical intervention such as PrEP, uptake remains considerably low. A mixed methods study aiming to compare PrEP knowledge, acceptability of use, and possible barriers/facilitators for MSM is underway in Kenya, Ghana, and the United States. In Kenya, a detailed socio-behavioral assessment was conducted and consisted of 571 MSM. In this study, participants were recruited from nine of the country's western communities. Additionally, in Ghana, 22 focus groups with "peer yasss" social networks of MSM were drawn from three geographic communities in Ghana (Accra, Kumasi, Many Krobo). The U.S. sample of participants was drawn from a group of recent western and eastern MSM migrants from African countries currently living in New York City. This talk will explore this study and its findings, and will situate them within existing and potential clinical and policy interventions to address HIV/AIDS.

Presenting Author: Adedotun Ogunbajo

SOCIODEMOGRAPHIC AND TEMPORAL VARIATION IN METABOLICALLY-HEALTHY OBESITY AMONG U.S. ADULTS (1988-2015) Iliya Gutin, (University of North Carolina-Chapel Hill)

Background: There has been growing debate over the existence and significance of 'metabolically-healthy obesity' (MHO), as research finds cardiometabolic health among many obese individuals is on par with, or even better, than their non-obese counterparts. Pro-MHO advocates contend that weight status is a poor measure of health risk, misclassifying a substantial portion of adults as "unhealthy". On the contrary, opposing evidence shows that – in the long-term – obesity nevertheless increases risk of early-onset disease and/or premature mortality. This debate is important as it raises questions about public health policies/strategies/interventions targeting cardiometabolic health, especially as studies suggest weight loss is unattainable or unsustainable for the majority of adults. Do we directly target weight, with 'BMI-focused' policies? Or do we instead target weight-related risks, with 'biomarker-focused' policies? Indeed, many argue that obesity is only a 'diseased' state when it reflects cardiometabolic dysregulation. Even in defining MHO there is uncertainty over which measures to use, as most definitions rely on clinical criteria for what we expect a cardiometabolically healthy profile to resemble, rather than examining actual population-level variation. Thus, critical to this discussion is a better understanding of how weight and cardiometabolic markers are clustered within the population, and how they are associated with early death. Further, extant research promotes biological explanations for observed variation in healthy/unhealthy obesity, neglecting social determinants of health and disease that contribute to these differences. While a strictly biogenetic explanation implies randomness in the distribution of MHO across population subgroups and over time, differences in individuals' access to health-promoting resources suggests that the observed variation is socially-patterned, reflecting variation in individuals' ability to remain healthy despite being obese. These differences are driven by structural process as defined by (a) individuals' 'ascribed' or 'attained' characteristics, such as gender, race/ethnicity, socioeconomic status; and (b) societal capabilities, such as medical knowledge/innovation/technology, as reflected in period and/or cohort effects. Objectives and Methods: The primary objectives are to: (1) identify different profiles of weight and health based on over 20 measures of weight, anthropometry, and cardiometabolic indicators; (2) estimate their association with premature mortality; (3) examine sociodemographic differences in the prevalence of these profiles; (4) examine temporal differences in prevalence; and finally, (5) examine sociodemographic and/or temporal differences in the relationship between these profiles and premature mortality. Data come from National Health and Nutrition Examination Survey (1988-2014) linked to restricted-use mortality records through December 31st, 2015, which should be available by Spring 2018. I will use Latent Class Analysis, and other clustering methods, to identify profiles of weight and health in the U.S. adult population, and their sociodemographic composition. Preliminary results suggest at least six distinct profiles of weight and health, with significant sociodemographic differences in membership. I will then use these classes in a multivariate survival analysis framework to examine their association with mortality. Restricted detailed cause of death data allow me to focus on metabolic and weight-related diseases. Finally, I will analyze sociodemographic variation in the relationship between these classes and mortality, as well as temporal variation in mortality (e.g., Age-Period-Cohort models).

Presenting Author: Iliya Gutin

LONG-TERM ASSOCIATIONS BETWEEN PRENATAL MATERNAL CORTISOL AND CHILD NEUROENDOCRINE-IMMUNE REGULATION

Jenna Riis, (University of California, Irvine), Jenna L. Riis, Douglas A. Granger, Han Woo, Kristin Voegtline, Janet A. DiPietro, Sara B. Johnson

Introduction: Understanding the impact of early-life stress on child neuroendocrine-immune (NEI) functioning is key to elucidating the biological mechanisms of population health disparities. Despite widespread recognition of the link between early-life adversity and disease risk across the lifespan, the impact of prenatal stress on fetal NEI development has rarely been examined in humans. This study examined whether prenatal maternal hypothalamic-pituitary-adrenal (HPA) activity moderates child NEI relations and explores the consistency of this moderating effect across gestation. We hypothesized prenatal HPA activity moderates child NEI relations and these relations are stronger among females than males. **Methods:** Pregnant women participated in five prenatal study visits at three-week intervals from 24–38 weeks gestation. At each visit, women provided a saliva sample and completed questionnaires. Maternal-fetal pairs were re-contacted for a follow-up study when children were age 5. The study sample consists of 45 mother/child pairs with prenatal and child data. In the follow-up study, children (mean age 64 months; female n=25) provided a saliva sample and completed behavioral assessments. Mothers (82% white; mean age 32 years) provided child health information and completed psychological assessments. Prenatal maternal saliva samples were assayed for cortisol ($\mu\text{g/dL}$). The mean cortisol concentration across all prenatal visits and cortisol determinations from each visit were examined as indices of prenatal HPA activity. Child saliva samples were assayed for cortisol ($\mu\text{g/dL}$) and cytokines (IL-1 β , IL-6, IL-8, TNF α ; pg/mL) as indices of HPA and inflammatory activity, respectively. Covariates included: maternal pre-pregnancy body mass index, parity, and age during pregnancy, and child age and maternal depressive symptoms (Center for Epidemiologic Survey Depression Scale) at the 5-year visit. **Results:** Multilevel mixed models for child cortisol revealed that, among males, average prenatal cortisol did not moderate child NEI relations nor was it associated with child cortisol levels. By contrast, among females, there were modest effects suggesting average prenatal cortisol moderated child NEI relations (for IL-1 β : $z=1.95$, $p=.05$; IL-6: $z=2.41$, $p<.05$; IL-8: $z=1.73$, $p=.08$). Average prenatal cortisol was also inversely associated with child cortisol among females only (z 's=-2.84- -2.55, p 's<.05). The relations between prenatal cortisol and child HPA and NEI functioning varied across pregnancy for female children. Cortisol during later pregnancy (weeks 30-32 and 36-38), but not earlier pregnancy, was inversely associated with child cortisol levels (z 's=-4.35 -2.84, p 's<.01). Cortisol during later pregnancy was also associated with moderation of child NEI relations, with moderation effects found at or after 30-weeks gestation for most cytokines (trend-level and significant effects: z 's=2.21- 3.04, p 's= .09- <.05). **Discussion:** We found relations between child inflammatory and HPA activity in saliva varied by maternal prenatal cortisol among girls but not boys. Higher prenatal cortisol was also associated with lower cortisol levels in five-year old girls. The findings suggest prenatal HPA activity may moderate child NEI functioning by altering HPA activity and the sensitivity of inflammatory processes to cortisol's inhibitory effects. This desensitization may increase disease risk and contribute to population health disparities, particularly for inflammation-related diseases such as asthma, depression, and cardiovascular disease.

Presenting Author: Jenna L. Riis**PROJECT ACTIVE: PRELIMINARY RESULTS OF A PERSONALIZED PREVENTION CLINIC** Ebony Scott, (New York University School of Medicine), Melanie Applegate, Mirtala Sanchez, Scott Braithwaite

Background: Evidence-based preventive care in the United States is underutilized, although preventable morbidity and mortality is substantive. Further, health disparities are worsened due to unequal distribution of preventive care. Personalization and prioritization is essential for successful preventive care implementation. Project ACTIVE is a clinical randomized control trial (RCT) of the effectiveness of a previously piloted intervention to personalize care and activate healthful behavior change for patients at high risk of premature morbidity and mortality. The intervention is compatible with emerging care models including the patient-centered medical home model and applicable to diverse care settings. **Purpose:** The purpose of this RCT is to evaluate the effect of a clinical intervention prioritizing and personalizing preventive care recommendations. Our hypothesis is that Project ACTIVE will increase overall estimated life expectancy and reduce unfulfilled clinical goals by at least one compared to usual care. **Methodology:** The Project ACTIVE intervention involves 6 study visits over the course of 9 months in addition to regularly scheduled primary care visits. These visits were divided into two parts: First, a validated mathematical model based on the USPSTF recommendations was utilized to quantify and rank the estimated amount of health benefit that would arise from improved adherence to each preventive care guideline. These results were communicated by providing personalized estimates graphically to participants. The nurse practitioner engaged the participant in a shared decision making process in which the participant identified which preventive health goals he or she aimed to achieve. Second, a health coach met with the patient to set personalized action steps to be completed by the next study visit, congruent to these goals. The health outcomes of the intervention participants were compared to a control sample of patients who did not receive the clinical intervention. English or Spanish speaking non-elderly non-pregnant adult patients in care were recruited and consented. Outcomes were (1) estimated life expectancy, based on the validated mathematical model; and (2) change in unfulfilled clinical goals, based on applicable USPSTF guidelines of grade A or B. Number of unfulfilled clinical goals were evaluated in a blinded fashion and in duplicate by clinicians who were not involved in delivering the intervention. **Results:** 140 patients were recruited and consented. Preliminary results demonstrate that the participants who have completed the intervention accomplished an average of 21.04 months estimated gain in life expectancy compared to 4.52 months estimated gain in life expectancy by the control participants. Thus far Project ACTIVE seems to be delivering its benefit by improving the control of hypertension, hyperlipidemia, tobacco and alcohol use, depression, diet and exercise, colorectal and breast cancer screening, and aspirin use. Numbers are currently insufficient to permit evaluation of the statistical significance of these trends, but evaluation will occur following the trial's completion in June 2018. **Conclusions/Implications for Practice:** It is feasible to implement a program that enhances personalized and patient-centered preventive care at a busy inner-city ambulatory care clinic. Preliminary results suggest that this program, associated with improved health outcomes, and may be expanded to other similar settings.

Presenting Author: Melanie Applegate

RACE AND CONTEXTUAL VARIATION IN EDUCATION'S HEALTH EFFECT Michael Esposito, (University of Washington, Department of Sociology)

Neighborhood environments structure experience. One's immediate spatial context shapes an array of social (e.g., social networks), environmental (e.g., exposure to toxins), and institutional (e.g., access to public goods) features. Among the mixture of outcomes associated with spatial context, health is one of the most conspicuous. Due to their effects on the aforementioned features, neighborhood environments have been shown to have pronounced effects on various physical and psychological health outcomes. As insightful as the health ~ f(neighborhood context) literature has been, there is still room for improvement. Most of the work here has treated individual-level traits as nuance parameters, to be averaged over. While this strategy is useful, it ignores heterogeneity in how individuals experience the same spaces--and thus potential heterogeneity in the protective effects of contextual environments. Our understanding of for whom neighborhood environments are most/least effective in warding off poor health is limited. Of the many features that may affect how context protects against health decline, education is prime. Indeed, education is a powerful predictor of health; individuals with greater levels of education have better health outcomes due--ostensibly--to the host of cognitive, meta-cognitive and material resources that education provides. The relationship among education and health is unique, in that many of the resources that propagate this relationship are embedded within the individual; individuals with more education are thus able to call upon a resource to protect against various health problems, regardless of the context in which they exist. The above suggests an interaction between education, residential context, and risk of poor health. That is, contextual environments may have the largest effect on the risk of various poor health outcomes for individuals with lower levels of education. Put differently, individuals with greater educational attainment may be less reliant on contextual features to protect their health, given the embedded, salubrious resources that educational attainment provides. Lacking these internalize resources, individuals with lower levels of educational attainment may be more subject to the immediate external resources available to them to ward off poor health. This interaction--among personal educational attainment, context, and health--may be particularly important for understanding health among Non-Hispanic Black individuals, for whom the positive association among education and salubrious residential traits is decoupled, relative to Whites. (I.e., because of residential segregation, Blacks with higher levels of education often find themselves in neighborhoods that have fewer health-protective neighborhood resources than similarly educated Whites). Education may be an especially important resource for Blacks to protect against poor health, in a social structure that systematically bars them from otherwise health-protective contextual resources. In this project, using Bayesian multilevel models and data from the National Longitudinal of Adolescent to Adult Health, I examine how neighborhood environments intersect with education to produce variable risk of poor health. I will examine: (1) how the association between education and cognitive decline varies by Census-tract; (2) what specific tract-level features (or combination of features) enhance/limit education's role in influencing cognitive diseases; and (3) whether racial differences exist in how this interaction manifests.

Presenting Author: Michael Esposito

UNDER PRESSURE: SALIVARY CORTISOL, PSYCHOSOCIAL STRESS, AND TYPE 2 DIABETES IN FIVE AMERICAN INDIAN COMMUNITIES Melinda Dertinger, (University of Minnesota Medical School, Duluth Campus), Melissa Walls, Ben Aronson, Melanie McMichael

Background: Many American Indian (AI) communities experience significant health inequities, including type 2 diabetes (T2D). Disease onset, progression, and complications of T2D for AIs are worsened by disproportionate exposure to psychosocial stressors. Although much research has examined the effects of stress on T2D complications, there is very little known about how stress affects these processes in AI populations. The current study describes feasibility and compliance to a community-based salivary cortisol collection protocol in 5 tribal communities. We also explore potential confounding factors and correlates of cortisol patterns, the latter of which include psychosocial stressors identified by AI community members. Methods: The Maawaji' idi-oog Mino-ayaa-win (Gathering for Health) study is a community-based participatory research (CBPR) collaboration between the University of Minnesota (UMN) and five Anishinaabe (Ojibwe) communities in the upper Midwestern US. Clinical staff at each participating medical facility generated lists of possible participants using random sampling techniques. Inclusion criteria were a diagnosis of diabetes within 5 years of the sampling data, 18 years of age or older, and self-identified as AI. Data were collected from three sources: 1) Computer-Assisted Personal Interview (CAPI) surveys; 2) medical chart reviews, including lists of relevant prescribed medications, collected by clinical staff; and 3) salivary cortisol levels, self-collected from participants at home. Participants collected salivary samples four times throughout the day to capture their diurnal pattern. At the time of each sample collection, participants also completed the Subjective State Scale (SSS) to assess their environment, behavior, and subjective feelings of stress. This procedure occurred in four waves at 6-month increments. Results: A total of 194 AI participants (109 females) with T2D ranging in age from 18-77 years ($M = 46.32$) were involved in baseline data collection. Participants adhered closely to salivary cortisol protocol collection requirements. As expected, individual cortisol indices were quite variable between participants, but most demonstrated a healthy diurnal pattern (a rise after waking and gradual decrease throughout the day). Consistent with other research, waking value was the only index that significantly varied by gender, with men ($M = 9.42$ nmol/L) showing higher values than women ($M = 7.26$ nmol/L). Waking cortisol values were significantly positively associated with AUCg values ($r = .42, p < .001$), suggesting that these values are a useful indicator of total daily cortisol output. Smoking was the only self-reported temporal behavior that seemed to influence sample values: smoking was positively associated with waking cortisol values ($r = .23, p < .01$). Very few chronic stressors were associated with baseline cortisol indices. We expect that chronic exposure to stress will be linked with intra-individual variation over time, rather than inter-individual differences at baseline; preliminary findings for longitudinal data will be presented. The influence of medications on cortisol indices will also be presented. Conclusions/Implications: Findings demonstrate the feasibility of using at-home collection procedures to measure cortisol as a stress biomarker. The findings will also allow us to determine how chronic illness and stressors may influence cortisol activity over time, and examine both intra- and inter-individual differences in responses to stress.

Presenting Author: Melinda Dertinger

SOCIOECONOMIC STATUS, FINANCIAL STRESS, AND AMERICAN INDIAN HEALTH Melissa Walls, (University of Minnesota Medical School, Duluth campus), Kelley Sittner, Dane Hautala, Melanie McMichael

Socioeconomic status (SES) is a fundamental cause of disease and a critical agent in creating health inequities. Despite widespread attention to the role of SES as a health determinant at the population level, the health impacts of SES factors like income and related dimensions of financial stress in areas of concentrated economic disadvantage are unclear. Many American Indian (AI) reservations were initially and intentionally situated in rural, low-resource areas of the United States. The social, political, and economic stress resulting from this context exists simultaneously with rich cultural and communal strengths. We investigate how various indicators of SES and financial stress relate to quality of life in five reservations with a sample of adults living with type 2 diabetes. Such work is needed to advance understanding of the complex interplay of race, SES and health for disadvantaged groups. Methods: Data are from Maawaji' idi-oog Mino-ayaawin (Gathering for Health), a mixed-methods, community-based participatory research (CBPR) collaboration between the University of Minnesota and five AI communities. The study involved 2 phases: 1) qualitative data collected via focus groups, and 2) longitudinal quantitative data from computer-assisted personal interviews (CAPI), salivary cortisol samples, and clinic-based medical chart reviews with 194 AI adults diagnosed with diabetes. We present findings from phase 1 and the CAPI portion of the project; the latter includes results from 162 participants in waves 1 - 2. Dependent variables are quality of life (QoL) and diabetes-related QoL. Independent variables include financial stress (i.e., family financial strain, negative financial events, financial food insecurity), SES (i.e., income, education), and relevant control variables (i.e., age, gender, on/off reservation). We conducted lagged bivariate and multivariate analyses between financial indicators at Wave 1 and QoL at Wave 2 to explore the associations between SES, financial stress and quality of life. Results: Bivariate Results: Income and education were modestly correlated with QoL; only income was associated with diabetes-related QoL. Family financial strain and financial food insecurity were negatively associated with both QoL outcomes. Financial events were negatively correlated with diabetes-related QoL only. All financial stressors were significantly and positively correlated with each other and negatively correlated with family income. No financial stress measures were correlated with education. Multivariate Results: Income and education were positively associated with QoL, controlling for age, gender, and on/off reservation location; the income effect dissipated after accounting for financial stressors. Family financial stress was associated with lower QoL; these effects dropped to marginal significance after accounting for financial food insecurity. Financial food insecurity had the strongest association with and explained the largest proportion of variance in QoL. Family financial stress was linked to lower diabetes QoL across models. Conclusions: Results demonstrate differential returns of education on QoL for AIs relative to what has been observed in general population studies. Various indicators of financial stress are linked to reduced QoL (general and diabetes-specific); however, family-specific financial stressors (as opposed to individual experiences) represented the most consistent predictor across models. Quantitative findings will be contextualized with community qualitative excerpts from community focus groups.

Presenting Author: Melissa L. Walls

THE URGENCY OF ALGORITHMIC FAIRNESS, ACCOUNTABILITY AND TRANSPARENCY IN HEALTH CARE Norma Padron, (Thomas Jefferson University)

As Jim Gray observed the first, second and third paradigms of science –empirical, analytical, and simulation –have successfully carried us to this point in history. The next wave of innovation and breakthroughs will come from data-driven science. Indeed, we are at the cusp of the fourth paradigm, increasingly grasping the power of data-intensive science and with this, its opportunities and challenges as we move away from hypothesis-driven to data-driven science. Among these challenges is the realization that algorithmic design and the data used for it may have profound societal implications across dimensions such as fair housing, economic opportunity and discrimination. As we enter this fourth paradigm it is vital to ask questions such as: are racial minorities less likely to find housing via algorithmic matching systems? Does algorithmically-controlled personalization systematically restrict the information available to the economically disadvantaged? Are content recommendations steering us away from decisions we would like to make? And, do online markets unfairly make goods more expensive for particular demographics or particular geographic locations? In the context of health care, with algorithms that require highly dimensional patient data to make precise diagnoses and treatment options, we begin to ask whether populations in less participatory cultures be “information-poor” in this new system? The intricate institutional and regulatory aspects of health care make it a particularly complex environment, which underscores the urgency to develop an open framework and tools to codify clinical practice guidelines, prediction and decision support algorithms, that decisively engage in multidisciplinary evidence generation and transparency and that extend into policy design and implementation in order to avert the potential harms from data and algorithmic bias. One of the key challenges in understanding and addressing bias is that there are multiple, different categories of bias and definitions, many of which are context-specific. In statistics, bias simply refers to an estimate's deviation from a statistical standard. As algorithms are used to make automated decisions or as input to decisions made by people, other standards become important to prevent moral bias, regulatory bias, social bias, psychological bias and others. Crucially, the same algorithmic processes can be biased according to one standard, but not according to another. The main goal of this discussion article is to outline strategies for active and engaged collaborative design and prototyping of a set of digital tools and frameworks that can aid the understanding, assessment, measurement and solutions for the types of biases that can be most commonly encountered in the data and algorithms used in the context of the health care industry INNOVATION: In the specific context of health care both the societal value of using big data and the risks are exacerbated given the stakes and state of fragmented data infrastructure. Some of the potential factors that may give rise to algorithmic bias in health care delivery when using electronic health records (EHRs) will not be resolved through sheer sample size or even through achieving data interoperability. Furthermore, because big data are oftentimes integrated from multiple sources, the biased view of the data collected at each different site often leads to biased decisions or models.

Presenting Author: Norma Padron

FRAMING CLIMATE CHANGE IN TERMS OF RESILIENCE AND PREPAREDNESS FOR SENIORS IN LOWER SOCIOECONOMIC, URBAN SETTINGS TO ADDRESS SOCIAL INEQUALITIES Julie Becker, (University of the Sciences in Philadelphia), Teresa Mendez-Quigley, MSW

In the next several decades, the greatest threat to human health is climate change, forcing people to adapt to a changing environment. Climate change is often considered an abstract concept, with few tangible ways to link the outcomes of the events to human health. The need to reframe climate change into something real and addressable is crucial, especially among vulnerable populations like seniors, because they have diminished capacity to thermoregulate their bodies, may be socially isolated, face economic and social inequities, and have co-morbid health conditions that influence negative health outcomes and limit mobility. Using principles of resilience thinking and emergency preparedness, the purpose of this project is to prepare an urban, economically underserved senior population in Philadelphia for climatic changes that may affect their health. Resilience thinking includes the capacity to absorb environmental disruption, and change or adapt in order to retain similar function. Preparedness involves being able to implement that change or adaptation to that disruptive situation. Methods: Using an educational curriculum previously developed and pilot-tested in similar sites, we utilized a strategy of teaching seniors to prepare for Philadelphia's changing climate (hotter and wetter) and increase their resilience to extreme weather events. The curriculum included: climate overview, extreme weather events with examples, connections between climate change and health, and adaptation strategies that focus on resiliency and preparedness, as well as availability of local resources within one's neighborhood. Results: A total of 279 seniors (average age 75) voluntarily participated in the program at 10 senior centers throughout Philadelphia, almost all in lower socioeconomic neighborhoods. Using pre and post tests, seniors demonstrated knowledge increases regarding: the connections between climate change and severe weather events; the effects of climate change upon health like increases in heart attacks during extreme heat or cold spells; and changes in Philadelphia's climate to a hotter, wetter environment. To improve resilience, seniors may benefit from improved nutrition (increasing the intake of fruits and vegetable – more frozen, not just fresh) and the use of local maps to locate resources (pharmacies and food sources) in case of weather emergencies. To improve preparedness, seniors need to maintain an updated list of their medications in an accessible place (example provided in the training) as well as keep supplies available like canned goods (with limited sugar and salt) and bottle water. Since the attendees to these programs face social and economic inequities, policies to provide additional food, water, and pharmaceutical supplies should be adopted by agencies providing services to seniors like Programs of All-Inclusive Care for the Elderly (PACE) under Medicare or even the Senior Centers to ensure both resilience and preparedness in the advent of climate change.

Presenting Author: Julie Becker

SOCIOECONOMIC TRAJECTORIES AND THE MENTAL HEALTH STATUS OF AFRICAN AMERICAN ADULTS Alexis Dennis, (University of North Carolina at Chapel Hill), Alexis C. Dennis, Julie Olson, Robert A. Hummer

BACKGROUND: Research consistently demonstrates that high socioeconomic status (SES) is related to favorable mental health among the U.S. white population. Yet, research examining SES and mental health among African Americans has yielded mixed results. The majority of studies focusing on African Americans utilized conventional, static measures of adult SES (i.e., education, income, occupation). Adult SES, however, is a dynamic process that unfolds over the life course. Many studies have overlooked how unconventional SES indicators (i.e., student loan debt), and child and emerging-adulthood SES indicators that differ from but are related to adult SES indicators, influence African American adults' mental health. This study aims to address these gaps. Specifically, we assess how dynamic socioeconomic processes unfold across the life course and shape African Americans' mental health outcomes in adulthood. **DATA AND METHODS:** We follow a weighted sub-sample of African Americans (n=413) from Waves 1, 3, 4, and 5 of The National Longitudinal Study of Adolescent to Adult Health (Add Health). To date, we have applied latent class analysis to determine the appropriate number of SES groups at Waves I, III, and IV, using traditional SES indicators and other life course appropriate SES measures from each wave. We plan to use latent transition analysis (LTA) to evaluate the likelihood that respondents move from a given class at Wave I to another at Waves III and IV. In doing so, LTA will produce a categorical variable of life course SES, which we refer to as "socioeconomic trajectories." Using logistic regression, we will predict risk for depression and anxiety (diagnosis and medication use) at Wave 5, when respondents are ages 32 to 42, by socioeconomic trajectory. **PRELIMINARY RESULTS:** A two-class solution best fit the data at each wave. Importantly, the class distributions varied by wave. At Wave I, most respondents (81%) grouped into a class characterized by more college-educated parents, less poverty, and both parents working full time. At Wave III, 34% of respondents grouped into a class characterized by high frequencies of college enrollment or completion, credit card debt, and student loan debt, and low frequencies of poverty and support from parents. At Wave IV, 38% of respondents grouped into a more advantaged class characterized by higher frequencies of college enrollment or completion, fulltime work, homeownership, positive net worth, and giving financial support to parents. Respondents who were disadvantaged at Waves 1, 3, or 4 reported higher frequencies of diagnosis for depression or anxiety at Wave 5 (29%, 28%, and 31%, respectively) compared to more advantaged groups (25%, 21%, and 23%). Moreover, respondents who were disadvantaged at Waves 3 or 4 reported higher frequencies of current medication use for depression or anxiety at Wave 5 (10% and 9%, respectively) than advantaged respondents (7% and 5%). **POTENTIAL IMPACT:** This study advances theoretical and empirical understanding of how socioeconomic processes unfold across the life course to shape African American adults' mental health. Results will reveal points in the life course where intervening on African Americans' socioeconomic well-being could have downstream effects on adult mental health.

Presenting Author: Alexis C. Dennis

LESS AND MORE? EXAMINING THE RELATIONSHIP BETWEEN FOOD ASSISTANCE GENEROSITY AND CHILDHOOD WEIGHT STATUS

Megan M. Reynolds, (University of Utah)

SIGNIFICANCE Malnutrition-related health conditions among children are commonly regarded as a problem of developing nations. Yet, here in the United States about 35% of children below the federal poverty rate are either underweight or obese. Supplemental Nutritional Assistance Program (SNAP) should reduce rates of malnutrition-related outcomes among the poor by intervening on three primary mechanisms linking poverty to malnutrition: food insecurity, financial hardship, stress. Yet, little attention has been paid to how features of the SNAP program, other than the timing of benefit receipt, might affect health in interaction with individual SNAP participation. What research does exist has been severely limited by the following factors: (1) it has examined the extensive margin of program alone, neglecting the intensive margin of program generosity (2) it has focused on only one level (e.g. - state, person); and (3) it has relied upon cross-sectional data. In combination with three waves of individual-level data on children age 5-18, we exploit exogenous variation at the state-level to determine whether SNAP generosity modifies the effect of SNAP participation on the probability of being underweight or obese. **METHODS** Data. Our individual-level data come from the Child Development Supplements of the Panel of Income Dynamics (PSID). Aged 0-12 years in 1997, these children of PSID sample members were surveyed roughly every five years through 2007. The total number of observations over the study period is just over 8,093, representing 3,563 children. We drew state-level data from the State Welfare Generosity Index, a decomposable index of state welfare generosity capturing state policy variation across four programs (TANF, SNAP, Unemployment Insurance and Medicaid/CHIP) and two dimensions (eligibility requirements and benefit levels). Measures. Child weight status was determined using the Center for Disease Control (CDC) BMI-for-age gender-specific growth charts: underweight (BMI 95th percentile). SNAP participation is a dichotomous indicator based on the head-of-households or their spouses reported receipt of SNAP benefits during the previous calendar year. SNAP generosity is scored on a scale of 0-100, with more generous states receiving higher scores. Covariates include sex, race, age, head-of-household years of education and household income adjusted for family size. **Estimation.** We conducted multivariate logistic regressions estimating the odds of being underweight and of being obese. We include adjustment for the clustered nature of data and the complex survey design. **PRELIMINARY RESULTS** Controlling for a variety of demographic and socio-economic factors, the interaction effect for SNAP participation and generosity is negatively signed in the case of underweight and positively signed in the case of obesity. Marginal effects plots of SNAP participation based on SNAP generosity indicate a significant negative effect of SNAP participation on underweight risk above (but not below) mean SNAP generosity. While a positive effect of SNAP participation on obesity risk appears with above-average levels of SNAP generosity, this effect is not statistically significant.

Presenting Author: Megan M. Reynolds**ROLE OF SOCIAL AND CLINICAL DETERMINANTS IN FREQUENT UTILIZATION OF EMERGENCY DEPARTMENTS**

Maliha Ali, (George Washington University), Melissa McCarthy

Objective: Frequent utilizers of EDs (FUEDs) utilize Emergency Department (ED) services at least four times/year, comprise less than 10% of ED patients but account for a quarter of ED visits. FUEDs comprise a high-cost-high-need vulnerable group of patients with multiple chronic diseases and poor health outcomes. Through application of the WHO CSDH Framework, this research sought to characterize the care utilization of FUEDs and elicit the influence of specific social and clinical determinants upon total and preventable ED utilization. **Study Design:** Analysis of claims data merged with interview data from an urban hospital's Frequent User Study was used in a retrospective cohort study design. We applied negative binomial regression to estimate patient level effects upon (i) total ED visits (ii) preventable ED visits. Independent variables included indicators of social and clinical determinants. **Population Studied:** 474 DC Medicaid beneficiaries, 18-64 years, who attended the hospital between October 2015 – 2016 and attended any ED 3 or more times in the past 1 year. **Principal Findings:** In one year, FUEDs had an average of 16.2 total ED visits and 30% of ED visits were preventable. People with mental illness had more ambulatory care visits (mean 11, SD 9.3) compared to FUEDs without. 60% of FUEDs had a diagnosed mental illness but there was significant under-utilization of psychiatric evaluation and management (mean 1.2, SD 4.4). Multivariate analyses revealed that increased physical illness severity, poor behavioral health status, inadequate food and shelter were associated with increased number of total and preventable ED visits. Increased levels of social support were associated with a decrease in total (IRR 0.94) and preventable (IRR 0.86) ED utilization. Physical illness severity and care continuity (CC) had a significant positive interaction effect upon ED utilization. FUEDs whose CC could not be assessed due to inadequate ambulatory care (<3 visits/year) had the greatest ED utilization. **Conclusion:** Addressing inadequate access to food and shelter and providing social support could reduce the number of preventable ED visits and further leverage the benefits due to care continuity in FUEDs with multiple physical and behavioral health conditions. **Policy Implications:** This research is directly applicable to DC Medicaid Care Coordination initiatives whereby patients with multiple chronic illnesses can receive a care coordination benefit. Curbing ED use by FUEDs will require a two-pronged approach: adequate and coordinated ambulatory care for those most at risk as well as attention to specific social determinants they experience.

Presenting Author: Maliha Ali

A 10-YEAR COST-EFFECTIVENESS SIMULATION STUDY OF A NOVEL APPROACH TO WEIGHT GAIN PREVENTION IN YOUNG ADULTS: THE SNAP INTERVENTION Natalie R. Smith, (Department of Health Policy and Management, UNC Chapel Hill), Deborah Tate, Rebecca Nieberg, Mark A. Espeland, Rena R. Wing

Introduction Young adults experience significant weight gain which can track into adulthood and increase chronic disease risk and economic costs. Intervening in young adulthood and preventing early weight gain is therefore critical to improving health across the life course and has the potential to reduce later-life health disparities. The Study of Novel Approaches to Weight Gain Prevention (SNAP) investigated two weight gain prevention interventions in young adults. The interventions focused on self-regulation in combination with daily small- or periodic large- changes to health behaviors (e.g., increase steps by ~2000 per day vs. exercising for 250 minutes per week). Over an average follow-up of 3 years the SNAP large-changes intervention reduced average weight gain and obesity incidence compared to both the small-changes intervention and control group. Given these results, healthcare payers may be interested in implementing the SNAP large-changes intervention in young adult populations. This work investigated whether the SNAP large-changes intervention was cost-effective over 10 years when compared to the SNAP control group from a healthcare payer perspective. The findings will add to a limited literature examining the economic impact of prevention in young adults and help healthcare payers understand potential outcomes of intervention implementation. **Methods** This study used a Markov simulation model, a common approach to simulate cost-effectiveness of chronic disease interventions. These models allow individuals to transition between discrete disease states according to pre-specified transition probabilities. We defined our states using standard BMI categories of normal weight, overweight, and obesity and derived 4 years of transition probabilities from SNAP's weight check-in data. For years 5-10, the control group was assumed to continue transitioning according to year 4 probabilities. The intervention was assumed to be half as effective in year 5 and return to year 4 control probabilities for years 6-10. We retrospectively calculated intervention delivery costs and derived healthcare costs for normal weight, overweight, and obese individuals from published literature. We simulated 1,000 normal weight (500) and overweight (500) young adults over 10 years. The primary outcome was individual cost per year of overweight or obesity prevented. Sensitivity analyses were conducted by modifying the starting cohort and costs. Costs were inflated to 2017 dollars and costs and outcomes were discounted by 3% each year. **Preliminary Results and Conclusions:** Over 10 years of simulation, the SNAP large-changes weight gain prevention intervention decreased total costs and improved outcomes over the control group. The intervention decreased the time spent in overweight or obesity by 10 months per person and decreased the cost per person by \$1,058. Sensitivity analyses varying input parameters were not substantially different from the baseline results but indicated that results were most sensitive to changes in the costs of normal weight, overweight, and obesity. This study provides preliminary evidence that prevention may be a cost saving way to improve health outcomes and that the SNAP large-changes intervention may be a worthwhile tool for healthcare payers to consider implementing for young adult populations in order to delay weight gain and associated costs and comorbidities.

Presenting Author: Natalie R. Smith

RURAL CHILDHOOD RESIDENCE AND CHRONIC PAIN AMONG MIDDLE-AGED ADULTS IN THE UNITED STATES Audrey R. Murchland, (University of California, San Francisco, Department of Epidemiology and Biostatistics), M. Maria Glymour, Elizabeth Whitlock, Elizabeth Rose Mayeda

Background: Mounting evidence reveals widening health disparities in the United States (U.S.), with declining life expectancies often attributed to “deaths of despair”. Chronic pain may play an important role in explaining these patterns. Lifecourse epidemiology suggests that childhood place of residence may be particularly relevant for health in adulthood, but few prior studies have linked geographic place of residence in childhood to mid-life chronic pain. We evaluated whether rural childhood residence was associated with chronic pain among Health and Retirement Study (HRS) participants and whether this association evolved across birth cohorts from 1942 to 1959. **Methods:** We included U.S.-born adults ages 50-57 years who enrolled in HRS in 1998 (birth cohorts 1942-1947), 2004 (birth cohorts 1948-1953), or 2010 (birth cohorts 1954-1959) (total n=7,989). Rural childhood residence (rural/non-rural) was based on self-report. We operationalized chronic pain as a participant reporting that they were often troubled with moderate or severe pain in two sequential biennial interviews, beginning at their enrollment wave. We used logistic regression, adjusting for alternative covariate sets (set 1: age, sex, race/ethnicity, birth year; set 2: set 1 plus southern birth, parental education; set 3: set 2 plus own education) and applying sampling weights to estimate the effect of rural childhood residence on odds of chronic pain in midlife. To evaluate cohort effects, we examined interactions between birth cohort and rural childhood residence. Additionally, for each model, we calculated the predicted probability of chronic pain at each exposure level using marginal standardization. **Results:** Mean age at enrollment was 53.2 years (range 50-57); 43.5% of the sample reported rural childhood residence. Across successive birth cohorts, prevalence of chronic pain increased (1942-1947: 12.1%, 1948-1953: 13.7%, 1954-1959: 18.2%). In age, race/ethnicity, and sex adjusted models, rural childhood residence was associated with prevalent chronic pain (odds ratio (OR) = 1.27; 95% CI: 1.10, 1.48); marginal predicted probability of chronic pain = 16.2% for rural and 13.2% for non-rural childhood residence. Additional adjustment for parental education and southern birth attenuated this association (OR = 1.19; 95% CI: 1.02, 1.39); marginal predicted probability of chronic pain = 15.7% for rural and 13.5% for non-rural childhood residence. After additional adjustment for own education, rural childhood residence was not associated with chronic pain (OR = 1.06; 95% CI: 0.91, 1.24); marginal predicted probability of chronic pain = 15.0% for rural and 14.3% for non-rural childhood residence. However, the estimated effect of rural childhood on chronic pain was modified by years of own education (interaction OR = 1.10; p-value = 0.001). We found no evidence of cohort differences in the estimated effects of rural childhood residence (OR close to null and p-value > 0.47 for all interactions). **Conclusions:** We found that rural childhood residence was associated with higher prevalence of chronic pain among middle-aged U.S. residents. Educational environment, both parental education and own education, appear to contribute to this disparity. Further research is needed to elucidate lifecourse pathways through which rural childhood residence may influence risk of chronic pain.

Presenting Author: Audrey R. Murchland

EDUCATIONAL GRADIENT IN LATER-LIFE TRAJECTORIES OF CHRONIC DISEASE: WHAT ROLE DO INCOME AND COGNITIVE ABILITY PLAY? Zhangjun Zhou, (The Pennsylvania State University)

Consistent with the theory of fundamental causes (Link and Phelan, 1995), the association between education and health and mortality has been well documented in the United States, and such relationship is argued to persist across time and place even if the mechanisms change (Link, 2008). Education provides individuals with material resources, psychological resources, and healthier lifestyles that reduce the risks of health problems and consequently improve one's health conditions (Ross and Wu, 1995). However, evidence is mixed on how early-life educational attainment is associated with different stages of disease and health problems at later life course. While educational attainment is significant in delaying the onset of chronic disease, less is known on whether the protective educational effect is consistent for predicting individuals' trajectories of deterioration in chronic conditions. Additionally, while some evidence supports that income mediates the educational gradient in the progression of physical health problems (such as functional limitations) (Herd, Goesling, and House, 2007), less is known on whether such effect is consistent in predicting the overall trajectory of chronic disease. This study plans to use individual growth model to examine the educational gradient in the trajectory of chronic diseases over time. It addresses three research questions. What is the individual trajectory of chronic diseases? Does the individual trajectory of chronic diseases at later life vary by early-life educational attainment? Does the educational gradient remain after controlling for later-life income and cognitive ability? The current study uses data from the Health and Retirement Study (1998-2012). The analytic sample is nationally representative of Americans aged 50 and above at 1998 (N=161,640 person-waves). The key dependent variable is respondents' reported total number of chronic conditions at each wave, including diabetes, stroke, hypertension, heart problems, cancer, lung problems, and arthritis. Results indicate that average aging Americans are on an upward trajectory of increasing number of chronic conditions over time, although significant between-person variations exist in terms of the initial status and rate of change. Significant educational gradient exists in the initial status of chronic conditions, net of individuals' sociodemographic, health status, and health behaviors. Compared to those without a high school diploma, high school graduates on average have 0.2514 ($p < 0.001$) fewer chronic conditions at the beginning, and those with more than high school degree have 0.4782 ($p < 0.001$) fewer chronic conditions. Additionally, educational attainment predicts the trajectories of chronic conditions. Those who have less than high school degree are on a significantly steeper upward trajectory than those with high school degree, while those with more than high school degree are on the least steep trajectory. After controlling for the effects of household income and cognitive functioning (measured by total word recall score) on both the initial status and rate of change, the significant educational gradient remains, though smaller. In contrast to previous literature, the current findings provide strong evidence that early-life educational attainment plays a significant and long-term role on the later-life deterioration in health problems, even after controlling for potential mechanisms such as material resources and cognitive functioning.

Presenting Author: Zhangjun Zhou

IDENTIFYING MORTALITY HOTSPOTS WITH SHARED UNDERLYING RISK FACTORS USING COUNTY-LEVEL MORTALITY DATA FOR 21 CAUSES OF DEATH IN THE UNITED STATES Andrew Stokes, (Boston University School of Public Health), Chunyi Zhang, Jason M. Collins, Katie M. Berry, Justin Rising, Laura Dwyer-Lindgren, Ludovic Trinquart

Research Question: Are there distinctive clusters of US counties that share similar mortality patterns across multiple causes of death? How are mortality hotspots associated with sociodemographic, behavioral, and metabolic risk factors? Significance: Clusters of mortality in the US population have been typically identified on the basis of patterns exhibited in all-cause mortality or specific causes of death considered in isolation. Considering all causes of death simultaneously may considerably enrich the identification of hotspots and shed light on counties that share broad patterns of mortality risk. Furthermore, establishing clusters of mortality risk in the population through an investigation of similarities in mortality across multiple causes of death may provide an avenue for systematically identifying the contribution of underlying risk factors. Methods: We used data on county-level mortality rates for 3,142 counties and 21 causes of death over the period 2010-2014 to identify shared mortality patterns. Mortality rates were age-standardized and included deaths occurring between the ages of 15-64 to capture premature mortality rates. A two-stage multivariate clustering approach using G-Means and K-Means++ clustering was used to partition counties into coherent groups based on multivariate mortality patterns. Clustering was performed on all 21 causes and on major subgroups, including non-communicable diseases (NCDs) and injuries. External data on county-level risk factor prevalence were used to identify factors associated with the estimated mortality patterns. Results: The two-stage multivariate clustering approach led to the identification of nine clusters (coded as Groups A-I) for NCD mortality in males. Cluster membership was strongly associated with county-level sociodemographic characteristics, including mean household income, educational attainment and race/ethnicity. For race/ethnicity, there were four non-Hispanic White majority (more than 80%) groups: A, B, C and H. Group I had the highest mean proportion of Black/African American, 50.0%. For behavior factors, including smoking, alcohol use, physical activity and obesity, the first four groups generally performed better than others. Group H had higher levels of behavioral risk factors than Group I, despite Group I's overall higher mortality levels, especially on heavy alcohol use (Group H: 25.4% vs. Group I: 19.4%). Conclusion: We developed an innovative approach to identifying major clusters of mortality variation within the US population and underlying risk factors that contribute to generating these disparities. Our findings indicate major heterogeneity in mortality risks and underlying risk factors across US counties.

Presenting Author: Andrew Stokes

PARTNERSHIPS TO ENCOURAGE ACTIONABLE CULTURES OF HEALTH (PEACH): AN RWJF SYSTEMS FOR ACTION STUDY Luke Sleiter, (NYC Department of Health and Mental Hygiene), Carl Letamendi, Rachel Dannefer

Coordination among health and community services are critical to improving health outcomes in the most marginalized neighborhoods. Through generous support from the Robert Wood Johnson Foundation, our Partnerships to Encourage Actionable Cultures of Health (PEACH) study evaluates how aligning a city health department with community stakeholders under a place-based model can improve health, reduce inequities and address social determinants across neighborhoods. PEACH investigates a co-located, cross-sectoral partnership and a shared decision-making governance structure between clinical and nonclinical partners, the city health department, frontline staff, and community-based organizations. Our electronic social needs referral and linkage system (NowPow) serves as a primary and novel mechanism to connect community members to clinical and social services that are tailored to their needs, which cultivates a cross-sector collaboration to improve health. We observe data on the impact that Action Center co-located partners and the NowPow system have on community health in East Harlem and the relative impact of this model in the community. Through application of RWJ's culture of health framework, cities across the country can take steps towards fostering a culture of health. Co-location, active referral management and a collective governance structure among partners at the East Harlem Neighborhood Health Action Center help to address social determinants of health and fosters a partnership which improves neighborhood health. Working with neighborhood partners and including them in a collective structure where ideas are exchanged and decisions are made can help to identify and address health disparities, meet service gaps and take steps towards achieving health equity.

Presenting Author: Carl Letamendi

BUILDING THE CASE FOR HOUSING POLICY: UNDERSTANDING PUBLIC BELIEFS ABOUT HOUSING AFFORDABILITY AS A KEY SOCIAL DETERMINANT OF HEALTH Selena E. Ortiz, (Department of Health Policy and Administration, The Pennsylvania State University), Bobbie L. Johannes

Research Objective: The current housing crisis in the U.S. calls for the consideration and promotion of policies that improve the circumstances of severe housing cost burdens. Building public awareness of the health impacts associated with housing affordability may be a key prerequisite for policy change. Whereas some studies have examined public opinion regarding the importance of housing quality on health, to our knowledge, no prior studies have explicitly tested whether people believe that housing affordability is a driver of health. Using mixed methods, data from a 2015 national survey were used to assess public understandings about housing affordability as a key driver of health. Study Design: We apply a convergent parallel mixed-methods research design to gain a fundamental understanding of current public beliefs regarding the relationship between housing affordability and health. Regression analysis was used to test whether Americans agreed that housing affordability is a fundamental driver of health. Qualitative data from responses to an open-ended item were examined to identify the ways Americans believe housing affordability matters. Finally, quantitative and qualitative findings were integrated to test whether the discourse used to discuss affordable housing induced consensus about the relationship between housing affordability and health, and, if so, whether significant differences existed within sub-group populations. Population Studied: The study's sample includes 400 adults, age 18 and older who participated in an online cross-sectional national survey administered by the FrameWorks Institute in November 2015. Principal Findings: These data support three key findings. First, understandings of the affordable housing-health relationship is politically and income-based driven, with conservative and high-income respondents less likely to acknowledge the effects of housing affordability on health ($p < .001$). Second, the values of opportunity ($p < .01$) and personal responsibility (61%), only a small percentage of respondents (<15%) identified connections between affordable housing and health in open responses. Conclusions: Contextualizing the issue of housing affordability as a key social determinant of health within various domain specific areas (e.g. health and fundamental need), in ways that connect with and mobilize the American public and policymakers (e.g. the use of value-based messaging), is both timely and highly imperative. Implications for Policy or Practice: Despite growing belief that governmental provision of affordable housing for low-income communities is "absolutely essential" and that health is impacted by social and economic factors, these findings provide some insight into the challenges policymakers and advocates may face in maximizing public support for government intervention. We recommend future investigations examining how opportunity and personal responsibility can be intertwined and diffused throughout policy discourse and messaging strategies, as well as in the development of policy language itself to widen public support, particularly among conservatives and high-income earners.

Presenting Author: Selena E. Ortiz

ST. LOUIS CHILDREN'S HOSPITAL EXTENDS ITS REACH INTO THE COMMUNITY TO PREVENT INFANT MORTALITY – RAISING ST. LOUIS Nila Garba, (St. Louis Children's Hospital), Meloday Schaeffer, Sarah Reinhold

Background Preterm birth and low birth weight are major causes of mortality in newborn infants. Disparities exist among African Americans, low socioeconomic status and drug-users who are more likely to have poor birth outcomes. Referrals to home visitation programs can help address disparities by providing services to populations in need. St. Louis Children's Hospital provides Raising St. Louis (RSTL), a free home visitation intervention beginning in pregnancy and continues until the child reaches age 5. RSTL is a partnership between Nurses for Newborns and Parents as Teachers to bring services to families in a coordinated and systematic way. The program is designed to improve birth outcomes, including birth weight and gestational age, ensure children are developing on track, teach effective parenting techniques, and provide wraparound resources and social services. Participants must live in one of the 22 STL zip codes designated with high infant mortality rates. Methods RSTL is evaluated through a comprehensive mixed-methods approach by tracking the number of participants, birth outcomes, developmental milestones and referrals to resources and social services, including schools, the Perinatal Behavioral Health Service (PBHS), Federally Qualified Health Centers (FQHC), medical homes, OB/GYN clinics and referrals from program participants. Basic demographic and behavioral information, including age, race, smoking and drug use were also collected. Results Since inception in 2014, 367 babies were born into the program; 89.4% babies are black. Preterm birth and LBW had a statistically significant relationship. 15.5% were born with a LBW (<5 lbs 0 oz) and 25.6% were born preterm (<37 weeks of gestation). Additionally, race had statistically significant relationships with LBW and preterm births. A sample of 63 births in 2017 were analyzed. Risk factors with statistical significance related to preterm births include reported drug use during pregnancy (55.6% born premature), reported smoking during pregnancy (75.0% born premature), and age of mother (57.1% born premature). Risk factors with statistical significance related to LBW include reported drug use during pregnancy (55.6% with LBW), and reported smoking during pregnancy (75.0% with LBW). Since 2014, 396 participants received services from RSTL; 146 have been discharged. Average number of days in the program is 317. The majority of participants were discharged (44%) within the first year, specifically between 3 and 9 months. Only 3% of all discharged participants were into their second year. A protocol was created to track the number of days since a participant's last appointment to decrease discharges. There is a statistically significant reduction in the discharge rate of participants that were referred through one of the FQHCs (41% to 37%). Conclusion Raising St. Louis focuses on improving the well-being of mothers, infant and children by tracking and improving birth outcomes for vulnerable populations in the St. Louis area. In addition, referrals help reach high risk mothers by recruiting and maintaining participants and decreasing discharges from the program.

Presenting Author: ShaNeco Fennoy

EXAMINING THE ROLE OF RACE-ETHNICITY IN U.S. INFECUNDITY Andrea N. Goodwin, (University of North Carolina - Chapel Hill Sociology/Carolina Population Center), Danielle Gartner, Robert A. Hummer, Whitney Robinson

Fundamental cause theory stipulates that higher educational attainment is generally associated with positive effects on individual-level health. The proposed study will assess whether highly educated women in different racial and ethnic groups experience similar reproductive health outcomes in the United States. In particular, this study will address whether highly educated African American and Hispanic women exhibit lower fecundity than their White peers, in association with disproportionately experiencing social and biological factors that decrease fecundity, or the ability to have children. This question is particularly important in the contemporary U.S. for several reasons. First, there is a clear trend of highly educated women postponing fertility, the rate at which women actually have children, and African American and Hispanic women are no exception to this trend. Second, there is recent evidence that higher educational attainment is actually associated with deleterious effects on young adult African American and Hispanic women's physical health compared to their less-educated counterparts. Third, relative to White women, African American and Hispanic women face more barriers to assisted reproductive technologies (ART) beyond the anticipated economic constraints, despite having higher rates of infertility. Arline Geronimus's theoretical perspective of weathering will guide this study. Based on Geronimus's work, I offer the hypothesis that African American and Hispanic women will have less favorable reproductive health compared with non-Hispanic White women. Geronimus's "weathering hypothesis," first introduced 25 years ago with regard to neonatal mortality, posits that African American and Hispanic women's health declines more quickly than White women in early adulthood as a physical consequence of cumulative racial inequality. This may result in African American and Hispanic women experiencing a higher level of impaired fecundity in their 30s and 40s relative to White women. To test this hypothesis, I will use data from the National Survey of Family Growth (NSFG). The NSFG gathers information on family life, pregnancy, infertility, use of contraception, and general reproductive health. First conducted in 1973, and expanding over time, the NSFG is a nationally representative sample of individuals 15-49 years of age. The sample for this proposed study will include data from the 2011-2013 NSFG and 2013-2015 NSFG, including 11,300 interviews with women, in an effort to ensure sufficient sample size for the populations of highly educated African American, Hispanic, and White women. In order to focus on highly educated women, I will limit the age range under consideration to 25-49. I will measure the fecundity status of highly educated women, trying to conceive or not actively preventing pregnancy, by using time-to-pregnancy (TTP), a commonly used measure to gauge the impact of social and environmental factors on conception. The key independent variable will be race/ethnicity. Variables frequently controlled for in fecundity studies will also be incorporated, including age, previous contraceptive usage, various substance use, and menstrual and reproductive history factors. To test the weathering hypothesis, I will assess whether racial/ethnic disparities in fecundity among highly educated women are apparent as early as ages 25-29, in addition to more advanced ages, while controlling for key covariates.

Presenting Author: Andrea N. Goodwin

USE OF ELECTRONIC HEALTH RECORDS (EHR) DATA AS A CATALYST FOR HEALTH EQUITY RESEARCH IN WOMEN'S HEALTH

Whitney R Robinson, (Department of Epidemiology, UNC Gillings School of Global Public Health), Sarah R Hoffman, Erin T Carey, Wanda K Nicholson, Til Stürmer, Timothy S Carey, Evan R Myers, Kemi M Doll

BACKGROUND: Each year, more than 18 million premenopausal women suffer from non-cancerous (“benign”) gynecologic conditions that can be treated with hysterectomy. The decision to undergo hysterectomy represents a complex trade-off between, on the one hand, permanent relief from symptoms and, on the other hand, cessation of fertility, risks from surgery, and, in some cases, early menopause and its long-term side effects. Historically, hysterectomy decision-making was influenced by factors outside of clinical need, such as a woman’s race, wealth, and intellectual status. Currently, marked differences in hysterectomy remain, with Black women, lower-SES women, and women in the South more likely to be treated with hysterectomy compared to their counterparts. However, the extent to which these differences reflect variations in clinical need, provider bias, or health care system inequities remains unclear. Most gynecologic research relies on administrative or claims data that fails to capture symptom severity or community-level or health system factors. Further, studies of electronic health records (EHRs) from single hospitals or small health systems fail to capture the diversity of women affected by gynecologic conditions. **OBJECTIVE:** To demonstrate the feasibility of using an EHR-based database from a large health care system to examine multilevel determinants of hysterectomy among a diverse population of reproductive-aged women. **METHODS:** Querying data from a healthcare system comprised of 10 hospital systems and treating >1 million female patients per year, we identified patients aged 18-44 years who underwent hysterectomy for a benign gynecologic condition from 04/04/2014 through 10/15/2017 in one state in the U.S. South. Patient-level demographic and clinical data are provided through a “data warehouse” that aggregates EHR-derived data for research purposes, capitalizing on the uniform EHR software used across this healthcare system. Moreover, data warehouse staff have linked each medical record to a census tract based on patient’s most recent home address (>90% match rate). Provider characteristics from a professional database will also be linked to each record. **RESULTS:** Of the 2,299 women identified, median age was 39 years. Most were non-Hispanic White (53%), non-Hispanic Black (30%), or Hispanic or Latino (8%). Most patients were insured by private insurance (n=1375; 60%), Medicaid (n=324; 14%) or a state-run plan for state employees (n=254; 11%). A sizable proportion of treated women were uninsured (n=189; 8%). An academic medical center performed the majority of surgeries (n=912; 40%), followed by a large, urban, not-for-profit hospital (n=789; 34%). Hospitals were in counties that varied considerably in demographics. For instance, percent of county residents living below the poverty line ranged from 7.8% to 20.5%. Racial/ethnic composition varied as well: 3.4%-13.0% Hispanic/Latino, 3.3%-33.9% non-Hispanic Black, 0.3%-4.1% Asian background. Future research will leverage patient census tract and provider data to examine contributions of residential contexts and provider influence. **DISCUSSION:** This one-state integrated health care delivery system includes a reproductive-aged patient population that is diverse with respect to race/ethnicity, insurance status, and residential environments. Data linkages present opportunities to examine determinants of treatment at the demographic, community, and provider levels, in addition to examining the rich clinical data available in the EHR.

Presenting Author: Whitney R Robinson

CONTENT ANALYSIS OF INTERVENTIONS USED BY NONPROFIT COMMUNITY HOSPITALS IN TEXAS BASED ON THE SOCIAL ECOLOGICAL MODEL

Jaspreet Sodhi, (University of Texas Medical Branch), John D. Prochaska, Jacques Baillargeon, Cara Pennel

Background: Community health assessment is a significant component of the public health assessment function and is important in the development, implementation, and evaluation of effective health improvement programs and policies conducted by nonprofit hospitals. However, the previous literature shows that nonprofit hospitals primarily focus their interventions at the intrapersonal level of the social ecological model and very few are targeted toward the actual improvement of community health. Overall, there is lack of information about the levels of intervention implemented by nonprofit hospitals based on the social ecological model, which our study will examine. **Objectives:** 1) Characterize and compare the differences in the levels of interventions, using the Social Ecological Model, identified and implemented by nonprofit community hospitals in the southeast region of Texas and 2) Examine the most common conditions by intervention level identified and implemented by nonprofit community hospitals using the social-ecological model approach. **Methods:** We will conduct a content analysis of publicly available community health needs assessment and implementation strategy reports for 35 nonprofit community hospitals in the southeast region of Texas. In particular, we will review CHNAs and implementation strategies reports for health priorities identified and level of intervention based on the SEM. Using four conditional categories, health priorities and intervention strategies will be identified as a health condition, behavioral condition, health system condition, and/or community condition. Next, within each conditional category, interventions will be classified as intrapersonal, interpersonal, organizational, community, or policy based on the social-ecological model. We will generate and report descriptive statistics for health conditional category and level of intervention, both independently and stratified. **Expected Results:** We anticipate that most of the interventions implemented by the nonprofit hospitals will be focused at the intrapersonal level, as opposed to higher-level interventions, and patient care services, as opposed to population health improvements. **Public Health Implications:** Analyzing the community health needs assessment and implementation strategies and the levels of the target by the nonprofit hospitals, will help in identifying community health issues and interventions for population health improvement.

Presenting Author: Jaspreet Sodhi

THERE GOES THE NEIGHBORHOOD: NEIGHBORHOOD COHESION AND MENTAL HEALTH AMONG LESBIAN, GAY AND BISEXUAL AMERICANS Guadalupe Marquez-Velarde, (Utah State University), Gabe H. Miller, Verna M. Keith

Public acceptance towards lesbian, gay, and bisexual (hereafter LGB) Americans has changed drastically in the last few decades. Despite an overall decrease in the stigma towards this population, the mental health outcomes of LGB individuals continues to show worrisome trends. LGB individuals are at higher risk of stress-related psychiatric disorders such as depression, anxiety and overall feelings of distress, have elevated prevalence of psychiatric morbidity, and are at greater risk for suicide attempts than their heterosexual counterparts (Cochran and Mays 2000a; Cochran and Mays 2000b; Cochran, Sullivan, and Mays 2002; Gilman et al. 2001; Mays and Cochran 2001; Remafedi et al. 1998; Sandfort et al. 2001). Neighborhood context plays an important role in mental health outcomes through providing a source of emotional support via social networks as well as resources and information that facilitate optimal health (Diez Roux 2001; Echeverria et al. 2008; Elliot et al. 2014; Hong, Zhang, and Walton 2014; Kawachi and Berkman 2014; Kim et al. 2013; Steptoe and Feldman 2001). LGB individuals are less likely to rate their neighborhood as highly cohesive when compared to their heterosexual counterparts (Henning-Smith and Gonzales 2017). However, the relationship between neighborhood cohesion and mental health outcomes among LGB individuals is understudied. This paper addresses this gap by examining the connection between poor mental health outcomes and lower perceptions of neighborhood cohesion among LGB individuals. Using 2013-2016 data from the Integrated Health Interview Survey (Blewett et al. 2016), we explore the relationship between sexual orientation, neighborhood cohesion, and mental health. Mental health is measured through three distinct outcome variables: level and frequency of depression, level and frequency of anxiety, and symptoms of distress. Self-reported sexual orientation compares heterosexual respondents (N=129,534) to lesbian, gay, or bisexual respondents (N=3,359). Neighborhood cohesion uses four scaled items assessing the level respondents agree that 1) this is a close-knit neighborhood, 2) there are people I can count on in this neighborhood, 3) people in this neighborhood can be trusted, and 4) people in this neighborhood help each other out. We dichotomize these items and add them to create a neighborhood cohesion scale ranging from 0 (disagree with all the statements) to 4 (agree with all the statements). Other covariates include gender, marital status, race/ethnicity, nativity, education and region. Preliminary analysis suggests that although neighborhood cohesion does decrease the likelihood of poor mental health, it has a milder effect among LGB than among heterosexuals. This paper has larger population implications through examining the relationship neighborhood cohesion and mental health among marginalized populations. Our findings suggest that a more accepting and welcoming neighborhood can reduce mental health disparities among sexual minorities.

Presenting Author: Guadalupe Marquez-Velarde

SUMMER SCHOOL ATTENDANCE, SCHOOL DISENGAGEMENT, AND SUBSTANCE USE: RESULTS FROM A NATIONAL SURVEY OF 8TH GRADE STUDENTS Sarah A Stoddard, (University of Michigan Ann Arbor), Philip Veliz

Purpose: Dropping out of high school has a consistent, negative effect on the social, economic, and health conditions of both individuals and communities. School dropout is associated with substance abuse and its' negative consequences during adolescence and adulthood. The middle school years are a key period for school disengagement and the initiation of substance use. We examine the associations between summer school attendance, school disengagement, and recent substance use in a national sample of 8th grade students. Method: Secondary data analysis of data from the Monitoring the Future cross-sectional study of 8th grade students between 1997 and 2016 (n = 112,705). The association between summer school attendance (i.e., 'did you ever attend summer school to makeup for poor grades or to keep from being held back') and recent substance use (i.e., past two-week/30-day binge drinking, cigarette use, marijuana use, nonmedical prescription drug use [NMPD], and illicit drug use) was assessed using binary logistic regression. Both bivariate associations (odds ratios [OR]) and associations (adjusted odds ratios [AOR]) controlling for socio-demographics (e.g., sex, race, cohort year, parental education) and key school disengagement items (e.g., suspension, average grade, truancy, aspirations to finish high school) were assessed. Results: 17.2% of 8th graders indicated summer school attendance; with roughly one-third of Black and Hispanics indicating summer school attendance. The bivariate analysis assessing summer school attendance and recent substance use behavior found that 8th graders who attended summer school had higher odds of binge drinking (OR = 1.65, 95% CI = 1.54, 1.76), cigarette use (OR = 1.71, 95% CI = 1.61, 1.81), marijuana use (OR = 1.91, 95% CI = 1.79, 2.03), NMPD (OR = 1.40, 95% CI = 1.29, 1.52), and illicit drug (OR = 1.36, 95% CI = 1.25, 1.47) use when compared to 8th graders who have never attended summer school. Analytic models controlling for only socio-demographic characteristics found similar statistically significant associations between summer school attendance and substance use behaviors, while models controlling for key school disengagement items (e.g., suspension, truancy) mediated the associations between summer school attendance and substance use behaviors. Having skipped/cut a full day of school during the past four weeks and a history of suspension had the strongest association with substance use. Conclusion: Youth with a high propensity to use substances and who are at risk for high school dropout (based on school disengagement) attend summer school. Our results point to summer school as a key opportunity to provide substance use prevention and intervention programming to a population of high risk youth. In particular, substance use interventions should target students who have a history of skipping school and suspension, as these factors had the strongest associations with substance use.

Presenting Author: Sarah A Stoddard

MECHANISMS UNDERLYING RACIAL/ETHNIC INEQUALITIES IN HEALTH: STATUS ATTAINMENT AND STRESS PROCESSES Tyson H. Brown, (Duke University)

Dramatic racial/ethnic inequalities in health result in unnecessary suffering and premature mortality. In addition to the significant human toll stemming from excess morbidity and mortality, health disparities also have substantial economic costs. Projected U.S. population trends—e.g., population aging and growth in racial/ethnic diversity—suggest that the human suffering and economic toll of racial/ethnic inequalities in health among the elderly are likely to grow dramatically in the future. This underscores the importance of understanding and addressing barriers to achieving health equity. While there is no dearth of research on health disparities and their etiologies, our understanding of the roots of these inequalities has been hampered by several limitations, including: examination of a limited set of mediators (e.g., SES), lack of formal tests of mediation; over-reliance on community-based samples; relatively little attention to mechanism underlying health disparities among older adults. This study extends prior research by formally testing the extent to which racial/ethnic inequalities in status attainment and stress processes mediate group differences in health among a nationally-representative sample of black, Mexican American and white adults in late life. Specifically, this study uses data from the Health and Retirement Study (2010/2012 core dataset and supplemental modules on psychosocial factors and biomarkers) and structural equation models (SEM) to examine the extent to which socioeconomic resources, stressors, and allostatic load—individually and collectively—mediate racial/ethnic inequalities in self-rated health among older adults (N=10,109). In doing so, this study widens our view of the social determinants of health by improving our understanding of mechanisms underlying racial/ethnic inequalities in health. Results reveal that a majority of the effect of race on self-rated health is indirect through SES (education, income, wealth), exposure to stressors (discrimination, chronic stressors, financial strain, neighborhood disorder, traumas), and allostatic load. Collectively, indicators of achievement and stress processes explained approximately 85% of black-white and Mexican American-white inequalities in self-rated health. Findings of residual inequalities in health are consistent with growing evidence that aspects of discrimination that are often unmeasured (e.g., structural racism, and discrimination in the criminal justice system, and in housing, labor and credit markets) also contribute to racial/ethnic inequalities in health.

Presenting Author: Tyson H. Brown

CITY-LEVEL MEASURES OF HEALTH, HEALTH DETERMINANTS AND EQUITY TO FOSTER POPULATION HEALTH IMPROVEMENT: THE CITY HEALTH DASHBOARD MARC N GOUREVITCH, (NYU School of Medicine, Department of Population Health), Marc N Gourevitch, Shoshanna E Levine, Jessica K Athens, Neil Kleiman, Lorna E Thorpe

Background: Most US cities lack actionable data, specific to their jurisdictions, on population health status, health determinants and health equity. While such data is often accessible at the county and state level, it is not readily available for many cities and urban neighborhoods, hindering local efforts to set health improvement priorities and to build cross-sector partnerships to foster healthier, more equitable communities. Intervention: To address the needs of city health planners and communities for data addressing health status, health determinants and equity at city and sub-city levels, we developed the City Health Dashboard, a web-based resource with 34 actionable measures of health outcomes, health determinants, and health equity across five domains: social and economic factors, physical environment, health behaviors, health outcomes, and clinical care. Created with input and feedback from four pilot cities—Waco, TX, Kansas City, KS, Flint, MI and Providence, RI—the Dashboard presents measures calculated to the city and, where possible, sub-city level, drawing on diverse data sources that include the Behavioral Risk Factors Surveillance System, American Community Survey, American Housing Survey, National Vital Statistics System, United States Department of Agriculture, and state education datasets. When available, data is disaggregated by demographic characteristics. Initial findings: Early feedback from pilot cities included use cases suggesting the Dashboard's utility in bringing together local stakeholders to measure, understand, and take action to address pressing needs in their communities. For example, community health workers in Waco, Texas, used Dashboard data to pinpoint leading health and social service needs in their individual catchment areas to target programming and services to the residents they are working with. Use by the Healthy Communities Office in Providence, Rhode Island, focused attention on identifying barriers and opportunities for increased walking and biking to improve street safety and physical activity among residents in specific neighborhoods. Plan for scaling impact: To enhance the Dashboard's reach and impact, it is being scaled to all 500 US cities of population \geq 70,000, for release in May 2018. The expanded site will include new metrics and data visualizations, as well as resources of evidence-based policies and programs that can be implemented in response to newly identified population health improvement priorities (these features will be highlighted in our presentation). User-engaged design drew upon input from a City Advisory Committee of local stakeholders from 15 cities across the country chosen for their diversity in geography, size and governance structure. Committee members represent their city's health departments, local executive leadership, fire departments, community development organizations, and other local stakeholders, ensuring a wide range of perspectives in building this tool for population health improvement. Conclusion: As the City Health Dashboard expands to cities across the country, it promises to augment local surveillance efforts and support urban population health improvement at a national scale.

Presenting Author: Marc N Gourevitch

ENVIRONMENTAL JUSTICE IN THE CONTEXT OF OIL AND GAS DEVELOPMENT IN COLORADO: PATTERNS AND DRIVERS Katherine L Dickinson, (Colorado School of Public Health), John L. Adgate, Adrienne Kroepsch, Peter Maniloff, Lisa McKenzie

Oil and gas (O&G) development affects multiple social determinants of health in host communities. Potential negative effects include exposure to air, water, and noise and light pollution, as well as lower probability/higher consequence events such as the Firestone explosion in Colorado in 2017. At the same time, host communities may benefit from job opportunities and economic growth. We posit that environmental justice in this context, defined as the distribution of O&G risks and benefits across different groups, is a result of decisions by multiple actors over time. These include: - Individuals' housing location choices, which are made in part based on perceived risks and benefits of O&G development, and are constrained by available information and financial resources. - Communities' collective action to influence O&G siting decisions (e.g., through neighborhood meetings or commenting in regulatory venues); participation in and effectiveness of collective action depends on individual and community characteristics, including race and class. - Oil and gas developers' decisions about where and how to develop, which are driven by economic and regulatory factors. - Housing developers' decisions about the types and quantity of homes to build in proximity to O&G activities, taking into account economic, regulatory, and land and mineral ownership parameters. - Policymaker and regulator decisions that set the rules of the game and how these are enforced in different areas. Our poster synthesizes results from multiple ongoing projects in Colorado. Our team of environmental health and social scientists is tackling these questions using interdisciplinary research methods and data sources. An analysis of spatial data on housing and O&G well locations has shown that patterns of exposure to O&G-related health hazards vary across basins. Areas with ongoing O&G development dating back to the mid-1900s had higher proportions of low value homes in close proximity to wells, while average home values near wells were higher in areas with less historic development. Quantitative household surveys in five counties reveal that homeowners have limited knowledge about their homes' proximity to O&G wells, and most did not receive any information about local O&G development when they bought their homes. People living closer to wells also tend to have lower O&G-related risk perceptions. Qualitative analyses documented a case where community opposition led developers to move their well from a site near a more affluent charter school to one near a public school in a lower income, Hispanic neighborhood. Integrating these approaches, we outline a mixed-methods research framework. We will analyze large secondary datasets (US Census, real estate transactions, O&G well permits and development activities, new housing permits) to estimate spatially and temporally explicit models of individual, O&G developer, and housing developer location choices. These large-N analyses will be coupled with quantitative household surveys and qualitative interviews with community members, O&G developers, home builders, and regulators to more fully understand the processes underlying environmental justice outcomes. Building on existing partnerships, research will be conducted in collaboration with policy makers and O&G host communities to inform efforts to increase equity in O&G risks and benefits.

Presenting Author: Katherine L Dickinson

USING ACADEMIC DATA TO IDENTIFY ADOLESCENTS WITH BEHAVIORAL HEALTH NEEDS Eryn Piper Block, MPP, (Department of Health Policy and Management, Fielding School of Public Health at UCLA), Sheryl Kataoka, MD, MS, Rebecca Dudovitz, MD, MS

Background: Low-income minority children often face multiple barriers to accessing healthcare and so may not present to the health system until their burden of disease is high. Identifying youth early in the course of illness through schools can prevent emotional and behavioral health problems through coordinated care. Academic achievement is a powerful determinant of child and adolescent health disparities. Multiple measures of declining academic performance and school engagement, including grades, attendance, test scores, and disciplinary infractions are associated with substance use, depression, and post-traumatic stress disorder. We hypothesize that poor school performance may be a valuable early indicator of children in need of behavioral health services. Methods: To improve equity in under-resourced Los Angeles communities, this study is conducted in partnership with community leaders in the Los Angeles Unified School District (LAUSD) to create a pragmatic surveillance tool to identify students in need of mental health care. First, we analyze data from Waves I, II, and III of the National Longitudinal Study of Adolescent to Adult Health (Add Health) to develop a risk-indicator tool using demographic and academic data from students' high school transcripts to predict self-reported substance use, depression, and PTSD during adolescents. Models will be built using forward selection, based on incremental increase in area under the ROC curve (AUC). We will then test the sensitivity, specificity, and predictive value of this tool to identify each behavioral health outcome using survey, health record, and academic data from students served by the LAUSD. Results: The Add Health sample includes 6798 adolescents with both academic and health outcome data available. Demographics of this sample are nationally representative. LAUSD datasets include clinical depression screening results from 260 adolescents visiting school-based primary care clinics from 2013-2016; self-reported PTSD symptoms (PC-PTSD scale) from 1944 LAUSD students who participated in a school-based resilience classroom curriculum in 2015-2016; and self-reported substance use from 240 LAUSD high school students surveyed in 2017 as part of an evaluation of AVID, a college preparatory program offered to low-income minority students who are unlikely to attend college without additional support. All three LAUSD datasets reflect the demographic characteristics of the district in which 74% of the students are Latino, 8.4% are African American, and 76% qualify for free- or reduced-price meals. Risk-indicator models and performance metrics will be available at the time of presentation. Conclusions: Using academic data to anticipate and deliver behavioral health services where they are most needed can shift the health system towards prevention and address the underlying drivers of school misbehavior early. This study suggests that passively collected, near universal academic data might serve as a critical population health management tool.

Presenting Author: Eryn Piper Block, MPP

EXPLORING REGIONAL CLASSIFICATIONS FOR PREDICTING HEALTH BEHAVIORS BY SEX ACROSS UNITED STATES Julia Kay Wolf, (West Virginia University), Jeralynn Cossman, Douglas Myers

Research has found sex-specific disparities in obesity, physical activity, and smoking rates across areas of the United States. However, these areas are typically operationalized as the census regions or divisions which were defined without considering sociological theories of health. Underlying reasons for areal variations remain unclear. We test the empirical predictive capability of more theoretically informed regional classifications of the US on these health behaviors and outcome by sex. The classifications include the US Census Bureau's administrative divisions and regions, Joel Garreau's (1981) economic "Nine Nations of North America," and Colin Woodard's (2011) eleven cultural "American Nations." Sex-specific county-level obesity, physical activity, and smoking data are from the Institute for Health Metrics and Evaluation's Global Health Data Exchange. They were used to explore how well these regional definitions explain sex-specific differences in prevalence of obesity and sufficient levels of physical activity for 2001, 2009, and 2011 as well as the prevalence of males and females who currently smoke daily for 1996-2012. Preliminary findings show that Woodard's cultural regions predicted obesity prevalence for females better than the US Census Bureau's divisions and Garreau's regions. Each classification scheme was relatively similar in its capability to predict physical activity prevalence; however, each was able to predict better for females than for males. We have not yet run preliminary analyses with smoking prevalence. These findings provide support for using a cultural theoretical framework to analyze disparities in obesity by sex across the US and for examining the effect of place on female physical activity levels.

Presenting Author: Julia Kay Wolf

STUDYING EQUITY-ORIENTED IMPLEMENTATION IN A STATEWIDE SYSTEM OF LOCAL PUBLIC HEALTH DEPARTMENTS: AT THE BOUNDARY OF PRACTICE-BASED RESEARCH AND IMPLEMENTATION SCIENCE Katherine Stamatakis, (Saint Louis University College for Public Health and Social Justice), Elizabeth Baker, Hannah Keedy, Allese McVay

Background: Population health approaches run the risk of ignoring or exacerbating disparities if they do not contextualize programs, policies and systems changes to address the needs of vulnerable populations (VP). The study objective was to examine the capacity of local public health organizations to implement structural approaches to reducing inequities that address the heterogeneity of VP within their communities. Data and Methods: Primary data were collected via an online survey of 92 Missouri local health department directors (LHD, 80% response), with a follow-up survey sent two weeks later in order to conduct a test-retest reliability sub-study. Drawing upon practitioner expertise, frameworks from implementation science, public health essential services and practice recommendations for health equity, a questionnaire was developed. Measures described heterogeneity of VP served; implementation climate toward addressing the needs of VP, processes and practices for addressing inequities in general and specifically in relation to obesity prevention, and training needs. The resulting data were examined with descriptive statistics (frequency distributions for individual items and univariate statistics for summary scales). Test-retest reliability was assessed using weighted kappa for variables with Likert response categories (e.g., implementation climate items); kappa (for binary response) or ICC (for continuous summary indices). Linear regression models were conducted to test hypotheses of whether a higher implementation climate score was related to a higher score in indicators of LHD equity-related action. All analyses were conducted using SAS version 9.4. Principal findings: There was variation in identification of specific VPs across jurisdictions, though all respondents identified low income groups. Promoting the health of VP was overwhelmingly deemed important, though there was frequent concern over conflicting priorities. Likewise, a strong internal push to promote the health of VP was often accompanied by limited external political and community support. A higher implementation climate score was associated with LHD involvement in more equity-related action in four areas: assessment and planning ($\beta=0.63$, $p<.001$), monitoring and analysis ($\beta=0.28$, $p=.001$), leadership support ($\beta=0.53$, $p<.001$), and obesity prevention ($\beta=1.60$, $p<.001$). The associations were little altered by adjustment for service population size and heterogeneity of VPs served in the jurisdiction. Conclusion: These data provide insights into organizational gaps and training needs that may guide policies and strategies to accelerate and develop sustainable infrastructures for implementation of health equity interventions that more effectively address the heterogeneity of vulnerable populations in communities served.

Presenting Author: Katherine Stamatakis

IMPACTS OF THE OPERATION PEACEMAKER FELLOWSHIP IN RICHMOND, CALIFORNIA ON FIREARM DEATHS AND INJURIES: A QUASI-EXPERIMENTAL STUDY Ellicott Matthay, (Evidence for Action, Robert Wood Johnson Foundation, University of California - San Francisco), Kara Rudolph, Scott Zimmerman, Dana Goin, Kriszta Farkas, Jennifer Ahern

Firearm violence is a major driver of population health and health disparities in the United States (US). Identifying effective, creative, and multifaceted interventions to address firearm violence is a top priority for public health and public policy researchers and practitioners. We evaluate the impacts of the Operation Peacemaker Fellowship, a novel program launched by the Office of Neighborhood Safety in the City of Richmond, California in 2010 to combat its high and rising rates of firearm violence. Operation Peacemaker identifies the small subset of individuals at highest risk for shooting someone else or being shot and engages them in a comprehensive program that combines goal setting, life experiences, stipends, job training, social and health services, and 24-hour intensive case management. Notably, the program seeks to reduce gun violence without further changing firearm policies or restricting access to firearms. A previous process evaluation of Operation Peacemaker conducted by the National Council on Crime and Delinquency documented declines in homicide and firearm assault in Richmond following the implementation of the program, as well as improvements in quality of life for participants. However, to date, no studies have used a more rigorous quasi-experimental approach. We used comprehensive data on all hospital visits and deaths in California from 2005 to 2013 and a modified synthetic control approach to assess the relationship between Operation Peacemaker and firearm and non-firearm homicide and assault injuries. The approach used a weighted average of comparison cities and accounted for other potential causes of changes in violence. Preliminary findings suggest that the Fellowship was associated with an average 32% reduction in firearm-related deaths and hospital visits and an average 19% increase in non-firearm homicides and assault-related hospital visits. These results were unlikely to be explained by chance alone. Future planned analyses will assess impacts on firearm and non-firearm homicide and aggravated assault as measured in FBI Uniform Crime Reports. Operation Peacemaker may have reduced firearm violence in Richmond, but a co-occurring increase in non-firearm violence raises the possibility of substitution. Further research should examine the possibility of substitution and the dynamics that might underlie such a phenomenon. In addition, replication programs currently being conducted in other US cities provide opportunities to assess effects of Operation Peacemaker in other settings.

Presenting Author: Ellicott Matthay

UNDERSTANDING THE ROLES OF EXPLICIT AND IMPLICIT BIAS AMONG HEALTH CARE PROVIDERS: A LITERATURE REVIEW Marie Plaisime, (Howard University), Marie-Claude Jippuep-Akhtar

Objective: Evidence suggests that the relationship between health disparities experienced by Black men in cardiovascular care must be further explored. Researchers have explored policy implications and the patient-provider relationship; however, few have been able to address the role of institutional racism within the clinical-decision making process. This review seeks to (a) compare the role of and the extent to which current literature examines bias and institutional racism in the health care system, (b) the methodological use of implicit and explicit bias in clinical settings, and (c) the distinct roles of care providers (medical physicians, medical students, nurse practitioners, nurses) and their impact on patient outcomes. **Background:** Using Camara Jones' framework, institutional racism refers to the systematic and differential access to goods and services. Black men are less likely to receive invasive cardiac procedures in comparison to Whites, even when presenting identical signs and symptoms. The role of provider bias in the clinical decision-making process has been extensively studied and suggested as a possible contributor to this phenomenon. Despite the breadth and depth of available research, there remains a gap in understanding the providers' perspective in understating how race and racism play a role in the clinical setting. **Methods:** A literature review was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) recommendations using ProQuest, PubMed, PsycINFO, and SCOPUS. Articles were considered eligible if they were published between January 1998 and February 2018 and focused on health providers (medical physicians, medical students, nurse practitioners, nurses). Key search terms included institutional racism, healthcare provider, clinical-decision process, healthcare, bias, stereotype, discrimination, and healthcare disparities. Using Nvivo, a qualitative data analysis application, we organized and managed the articles for review and inclusion. Articles were excluded if they solely examined explicit racial attitudes, subjects were not health providers, not in English, and not conducted in the United States. **Results:** Twenty-eight articles were examined to explore institutional racism in clinical settings, the methodical use of implicit and explicit bias in clinical settings, and the distinct roles of clinical providers. While many studies have focused on the role of implicit bias, fewer studies have explored the role of explicit bias. This may be due to (a) research time constraints, (b) feasibility, (c) availability of resources, and (d) ethical concerns. Furthermore, literature has only examined this phenomenon in relatively small groups. While they provide valuable information, most of the articles examined had limitations related to sample size and methodology. **Conclusion:** Future studies should examine the role of institutional racism and explicit bias in larger datasets as it would provide more reliable samples for analysis.

Presenting Author: Marie Plaisime

MIGRATING TOWARD RISK: AN ANALYSIS OF GENDER AND HIV PREVALENCE IN ZIMBABWE Hannah Randolph, (American University Department of Economics), Catherine Hensly

East and southern Africa continue to demonstrate some of the highest rates of HIV in the world. Numerous macroeconomic models have revealed the adverse impacts of the virus on economic development in the region while highlighting the need for more micro-level analyses to understand the underlying channels in which the virus interacts (e.g. Dixon et al 2002). Although migration itself is not thought to contribute to HIV vulnerability, migrants demonstrate significantly higher odds of HIV infection compared to non-migrants in sub-Saharan Africa (Magadi 2013). Meanwhile, gender discrepancies are left unexplained by any biological or physiological differences. Young women ages 15-24 are especially vulnerable, accounting for approximately a quarter of all new infections in 2016 despite only representing only a tenth of the population. Relatively few studies rigorously consider the effects of either of these factors on HIV status, let alone the interaction of the two. The exception is Camlin et al 2010, which documents differing patterns of HIV status for male and female migrants in KwaZulu-Natal, South Africa. This paper tests whether similar results can be found in a different cultural context, and therefore whether such results might be generalizable to a larger region. Zimbabwe's male-dominated gender relations have proliferated in spite of policies aimed at gender parity; that, combined with a major economic crisis culminating in total abandonment of its currency in 2009, lends itself to a more unique analysis that incorporates migration. This project explores how HIV/AIDS affects and is affected by migration, with an emphasis on the observed difference in vulnerability between genders using data from the Zimbabwe Demographic and Health Survey (DHS) and AIDS Indicator Survey (AIS). The data include extensive socio-demographic and migratory information, such as duration of current residency and previous province of residence, as well as information regarding HIV-related attitudes, perceptions, and behaviors. Furthermore, responses are matched to HIV status determined by independent blood testing conducted at the time of the survey. The analysis proceeds as follows. Bivariate examination first reveals trends between characteristics of men and women by migratory and HIV status. Multilevel logistic regression models are used to explore the extent of the effects of migration on HIV status while controlling for other socio-demographic characteristics. By fitting different models for men and women in Zimbabwe, the analysis explores the interplay of migration and HIV vulnerability through a gender lens previously unexplored in the literature. Finally, the paper explores policy prescriptions implied by the results, including an interpretation of which groups are most vulnerable to HIV and potential channels of HIV prevention. Camlin, C. S., Hosegood, V., Newell, M.-L., McGrath, N., Barnighausen, T., & Snow, R. C. (2010). Gender, Migration and HIV in Rural KwaZulu-Natal, South Africa. *PLOS ONE*, 5(7), e11539. Dixon, S., McDonald, S., & Roberts, J. (2002). The impact of HIV and AIDS on Africa's economic development. *BMJ : British Medical Journal*, 324(7331), 232–234.

Presenting Author: Catherine Hensly and Hannah Randolph

RACIAL/ETHNIC DISPARITIES IN PHYSICAL WORKING CONDITIONS AND DISCRIMINATION EXPERIENCES AMONG A NATIONAL SAMPLE OF U.S. WORKERS Rada Dagher, (National Institutes of Health)

Background: There is a scarcity of research that documents racial/ethnic disparities in the occupational health of U.S. workers; however, the scant existing research suggests occupational segregation, where African Americans and Hispanics are the least likely to be in managerial, professional and related jobs and most likely to be in service jobs and in production, transportation and material moving jobs. One's occupation structures their differential access to resources and protective factors, exposure to risks, and life chances including health. This paper examines the racial/ethnic differences in the quality of physical working conditions and perceptions of employment discrimination among U.S. workers. Methods: This study utilizes data from the 2015 American Working Conditions Survey (AWCS), a new nationally representative survey of U.S. workers, ages 18-71. The AWCS was closely harmonized with the 2015 European Working Conditions Survey, which was fielded in 35 European countries. The analytical sample includes 2,033 survey participants who were "currently" working. Results: The mean age was 47.9 years (SD = 12.2), 58.7% were married/partnered, 49.9% had a college degree, and 9.8% rated their general health as fair/poor. The racial/ethnic composition of the sample was as follows: 65.1% White, 19.1% Hispanic, 10.2% Black, 3.25% Asian/Pacific Islander, 0.6% American Indian/Alaska Native, and 1.7% other race/ethnicity. In terms of discrimination experiences, chi-square analyses showed that Asians (14.5%), Blacks (13.4%), and Hispanics (7.5%) were significantly more likely than Whites (3.5%) to be treated less favorably at work based on race/ethnicity/color. Similarly, Asians (14.5%), Blacks (5.9%), and Hispanics (5.9%) were significantly more likely than Whites (2.6%) to be treated less favorably based on nationality. In terms of physical work exposures (half of the time or higher), Blacks and Hispanics, respectively, were more likely than Whites to be exposed to: vibrations from hand tools and machinery (16.1%, 11.7% vs. 7.9%), loud noise (23.2%, 18.8% vs. 11.8%), high temperatures (21.5%, 22.9% vs. 16.0%), low temperatures (25.8%, 19.6% vs. 13.1%), breathing of smoke/fumes/powder/dust (11.8%, 8.4% vs. 5.5%), handling chemical products (15.1%, 16.2% vs. 8.9%), breathing tobacco smoke (14.5%, 7.8% vs. 3.5%), and handling infectious materials (17.8%, 14.5% vs. 10.0%). Asians were more likely than Whites to be exposed to breathing of smoke/fumes/powder/dust (6.4% vs. 5.5%), and breathing tobacco smoke (4.8% vs. 3.5%). In terms of physical work demands (half of the time or higher), Blacks and Hispanics, respectively, were more likely than Whites to be in a job that involves: tiring or painful positions (30.0%, 32.7% vs. 22.1%), lifting/moving people (18.2%, 20.1% vs. 8.5%), carrying/moving heavy loads (30.5%, 33.8% vs. 17.4%), and repetitive hand/arm movements (71.1%, 72.8% vs. 56.8%). Asians were more likely than Whites to be in a job that involves lifting/moving people (11.1% vs. 8.5%). Finally, Blacks and Hispanics were more likely than Whites to rate their health as fair or poor (13.4%, 16.4% vs. 7.4%). Discussion: Results showed significant racial/ethnic differences in discrimination experiences and quality of physical working conditions. Next, decomposition analyses will be conducted to examine the contribution of physical working conditions and discrimination experiences to racial/ethnic disparities in workers' health.

Presenting Author: Rada Dagher

RACE/ETHNIC DISPARITIES IN EXPOSURE TO CHRONIC STRESSORS VARIES BY AGE AMONG OLDER ADULTS Lauren Brown, (USC Leonard Davis School of Gerontology), Uchechi Mitchell, Jennifer Ailshire

Chronic stress exposure is linked to worse mental and physical health and blacks tend to report more stress exposure than whites. The experience of chronic stressors may vary across the older adult life course, making it important to investigate age differences in the race disparity in chronic stress exposure among older adults. We examine age variation in race/ethnic differences in the number of reported chronic stressors in five key domains: health, financial, residential, employment, and relationship. Data come from 6,878 white, black, and Hispanic adults age 54+ from the psychosocial subsample of the 2006 Health and Retirement Study. Descriptive results show whites and Hispanics report a decline in exposure to financial, residential, employment, and relationship stress after age 70. Yet, blacks report an increase in residential stress and relatively smaller decline in financial, employment, and relationship stress after age 70. Reports of health related stress increases for all race/ethnic groups after age 70. Multivariate results show that blacks ($\beta=0.23$, $p<0.001$) and Hispanics ($\beta=0.13$, $p<0.01$) report more stressors than whites. But while fewer stressors are reported by adults 70+, compared to the young-old ($\beta=-0.18$, $p<0.001$), analysis of age interactions shows that blacks ages 70+ reported more stressors than their white counterparts ($\beta=0.14$, $p<0.05$). Importantly, total stress burden is similar among blacks and whites ages 54-69. Results were similar for after adjustment for sociodemographic characteristics. Hispanic-white differences were attenuated after adjusting for SES. Thus, race/ethnic disparities in stress may reflect differential experiences of age-related declines in chronic stress exposure.

Presenting Author: Lauren Brown

WEST PHILADELPHIA PROMISE NEIGHBORHOOD: MULTISECTORAL DATA INTEGRATION TO PROMOTE CHILD AND FAMILY WELL-BEING Felice Le-Scherban, (Drexel University), Irene Headen, Amy Carroll-Scott

Background: The West Philadelphia Promise Neighborhood (WPPN) is a 5-year, place-based project funded by the U.S. Department of Education to create a comprehensive cradle-to-career continuum of support for children who live or attend school in designated neighborhoods in West Philadelphia, as well as their families and communities. The WPPN footprint is an urban area of roughly two square miles comprised of historically vibrant, predominantly African American communities and adjacent to large educational and health institutions such as Drexel University, the University of Pennsylvania, and many large hospitals. Yet residents have largely not benefited from the economic growth of these "eds and meds," experiencing a dramatically higher poverty rate (48%), unemployment rate (15%), and lower median household income (\$19,236) relative to other neighborhoods in Philadelphia and the US. Drexel University serves as the WPPN lead agency, with partnership from the School District of Philadelphia, the City of Philadelphia, and over 100 other organizations and service providers. Objective: A key focus of WPPN, and of the overall Promise Neighborhoods program, is the creation of integrated, multisectoral data systems to support, inform, and evaluate the initiatives. The WPPN Data and Research Core, led by Drexel's Dornsife School of Public Health, is leading the creation of two connected systems to accomplish this goal. We will describe the process of the WPPN data systems development, the infrastructure of the systems, and challenges in their implementation. Approach: The first system is a comprehensive, secure integrated longitudinal data system that integrates child-, family-, school- and neighborhood-level information into a robust longitudinal data system. This will synthesize data from City, clinical, and School District systems, as well as annual school surveys and biennial population-based neighborhood surveys. Integrated data will be linked to a separate, real-time case management system to provide contextual information about each child through secure permissions for case management by service providers. At the same time, student program and service utilization and outcomes data from the case management system will input back into the integrated data system. This will allow WPPN to track children's progress over time in order to robustly evaluate WPPN initiatives and identify multilevel factors affecting child outcomes over time, as well as produce regular snapshots of progress on Promise Neighborhood-required indicators and other measures of population impacts. Discussion: Challenges in creating the WPPN data systems include both challenges shared across data integration efforts and challenges unique to the WPPN context. These include 1) aligning organizational priorities and goals for data integration, 2) logistics and technical capacity for data integration, 3) lengthy legal processes, 4) consent and privacy, 5) sustainability, and 6) developing participatory processes for data governance, requests, and use. Despite these challenges, WPPN presents an unprecedented opportunity to use data systems as a basis for multisectoral partnership to improve child and family well-being.

Presenting Author: Felice Le-Scherban

COMMUNITY ENGAGED RESEARCH ON COLLABORATION AROUND INFANTS AT RISK Lina Svedin, (University of Utah), Kristine Campbell, Tonya Myrup

This research is part of a larger effort to conduct community engaged research to improve health outcomes for children at risk who are 0-5 years old. The research team featured in this poster consists of a child abuse pediatrician, a public administration and public policy professor and the Deputy Director of Utah's Child Welfare agency. With training and funding support from the Robert Wood Johnson Foundation's Interdisciplinary Research Leaders program the team has been seeking positive action that can improve health outcomes for the kids in these abuse cases. Almost 1 in 20 children in America are referred to child welfare services for suspicions of maltreatment every year. Infants are at highest risk of dying from maltreatment. Frustrated by the experience of key agencies interacting with these kids continuing to work in silos in Utah this research team has been pursuing three complimentary studies of inter-professional collaboration around infants referred to child protective services. The first study is a nationwide regulation and policy study scoring states regulatory framework as being more or less supportive of collaboration between Child Protective Services and other professional groups. The regulation study has been followed up with interviews with child welfare administrators, child protective services supervisors and case workers as well as pediatricians working in the most and the least collaborative states. The interview portray how these regulations are interpreted and implemented at different levels of the child welfare system. The results of this study reveal important information on what facilitates and what hinders collaboration on the ground. Rather than referring to a strong regulatory framework, child welfare systems that experienced extensive and effective collaboration attribute their success to inter-personal relationships, multi-disciplinary reviews of cases and face-to-face interactions. In other words, factors other than regulation and policy. The primary obstacles to collaboration states include differential power dynamics in inter-professional interactions, high turn-over among protective services case workers, cultural differences in communication, and profession based differences in how risk assessment. Consequently, socio-cultural factors along with perception and power, not policy or law itself, undermine collaboration around infants at risk of abuse and neglect. The second is an implementation study of a collaborative policy in Utah. The team is interviewing CPS supervisors and case workers to see if the same barriers and facilitator of collaboration identified in study 1 are operating in the Utah context with this medical referent letter policy. The third study pilots a collaborative practice initiated by CPS case workers in a randomized controlled trial. The practice connect families in needs with a medical home and longer-term professional support. Parent-reported infant health reports and satisfaction with service are collected at service and six month after case closure. The team presents results from the first and third study. The also reflect on lessons learned about designing and conduct community engaged research, working across disciplines and communicating research to policy audiences.

Presenting Author: Lina Svedin

A PLACE BASED APPROACH TO EARLY CHILDHOOD WELLNESS IN CINCINNATI: COMMUNITIES ACTING FOR KIDS EMPOWERMENT (CAKE) Michael Topmiller, (American Academy of Family Physicians), Farrah Jaquez

Background: When positive policy changes and promising development projects come to cities, inclusion in decision-making and dispersion of benefits do not reach all neighborhoods equally. In Cincinnati, neighborhoods that are not adjacent to the well-funded research universities and hospitals are often overlooked. After city residents passed a tax levy giving \$15 million annually toward universal preschool, agencies and policymakers began to organize to secure portions of the funding. Stakeholders in the two northern Cincinnati neighborhoods of Carthage and Roselawn formed Communities Acting for Kids Empowerment (CAKE), an eleven-member team including early childhood organizations, Latino-serving agencies, racially diverse churches, community organizers, and parents. Funded through Robert Wood Johnson Foundation's Interdisciplinary Research Leaders program, CAKE uses an intentionally designed process reflecting three mutually identified core values: shared decision-making, asset-based design, and real-world change. Its goals are to 1) create a network of engaged stakeholders ready for action, 2) develop a multi-level intervention with diverse community inputs, and 3) increase preschool awareness in Carthage and Roselawn. CAKE planned and carried out four community meetings (called Group Level Assessments, GLAs) with diverse community groups (a Black Baptist Church, a diverse Christian Church, a Hispanic Catholic Church, and early childhood care union members) to elicit feedback about community assets, challenges, and priorities related to early childhood well-being. The purpose of this poster is to demonstrate process of getting from community feedback to specific research questions. Research Question: How does a community-based research partnerships (CAKE) get from community input (from GLAs) to specific research aims? Significance: The primary contribution of this research is describing the process of developing a research project that truly reflects the interests of the community, which will lead to research outcomes that produce real-world change. Data/Methods: Research members of CAKE analyzed GLA data and created broad themes to present to rest of CAKE at monthly meeting. Community leaders in CAKE provided feedback, edited categories (removing some, adding others), and came together to create a final list of themes related to community assets and barriers at multiple levels. At the next monthly meeting, a "pass the buck" exercise was done to prioritize themes by level, and create a list of questions that would be used to develop more specific research aims and survey questions. Preliminary Results: A list of questions for multiple levels (community, household, individual) were developed that provided the basis for a more focused research project, while also providing survey questions for next stage of project (surveys with early childhood teachers and parents of young children). Limitations/Challenges: Developing a community-based research project is a slow process, as it takes time to build relationships, establish trust, and share decision-making. A major challenge was having too broad of initial focus (early childhood wellness).

Presenting Author: Michael Topmiller

I DON'T WANT IT BUT IT WOULD BE GOOD FOR THEM: ADDRESSING THE TENSION BETWEEN COMMUNITY GOOD AND PERSONAL INTEREST TOWARD LONG-ACTING INJECTABLE HIV THERAPY IN A MULTI-SITE STUDY Morgan M Philbin, (Columbia University Mailman School of Public Health, Department of Sociomedical Sciences), Elizabeth N Kinnard, Carrigan Parish, Oluwakemi Sosanya, Mardge Cohen, Elizabeth Golub, Adaora Adimora, Lakshmi Goparaju, Margaret Fischl, Lisa R. Metsch

Background: HIV medication is critical to support individual- and population-level health. However, current HIV medication for treatment and prevention exists almost exclusively in oral formulations that require daily adherence. Subsequently, long-acting injectable (LAI) antiretroviral therapy (ART) and pre-exposure prophylaxis (PrEP) are being developed to address this major barrier. However, little research has explored whether women living with or at risk for HIV would be interested in emerging injectable formulations. Methods: We conducted 45 in-depth interviews with HIV-positive (n=30) and HIV-negative (n=15) women at Women's Interagency HIV Study (WIHS) sites in New York, Chicago, and San Francisco. The majority were women of color (93%), unemployed (64%), and earned <\$12,000/year (71%); median age was 54. Interviews were recorded, transcribed, and analyzed using the constant comparative method. Results: Half of the HIV-negative women were familiar with PrEP and, once informed of its purpose, nearly all reported that PrEP would not be useful to them regardless of its formulation. When asked to choose between pills and monthly injectables, 11/15 women stated a preference for LAI PrEP. However, participants identified specific sub-populations for whom they thought PrEP would be most useful: 1) Youth, "People in their early 20s...they're kind of taking life for granted. They feel invincible"; 2) People with multiple sex partners "If they're going to be with somebody different than their partner, then they should take it—take two!"; 3) Women, "Women are often cautious because you never know...I think it'd be more women than men" And; 4) Homeless women, (specifically LAI): "We're living homeless and we don't know where our medication is every day...So in that kind of setting they would need to go into a doctor's office and get the injection." Among HIV-positive women, one-third preferred taking daily pills over monthly LAI ART, but still believed that LAI ART could benefit others, including those: 1) Struggling with adherence, "People who forget to take their meds. I think a person that misses many doses should have that needle"; 2) Whose pills remind them of HIV, "I think they would prefer once a month shot over the daily, because if the daily [pills] is bringing them down, that's no good"; 3) Who only take HIV medication, "If I was only on HIV meds I'd switch them out in a second. But since I'm already also taking psych meds..." and; 4) Incarcerated women, "because a lot of women do not share their status in jail because they don't want the people in jail to know." Conclusion: While many HIV-negative women felt that PrEP was not relevant for them regardless of its formulation, and a third of HIV-positive women would prefer to continue taking pills over LAI ART, both were able to identify several other sub-populations that may be more amenable to, and benefit from, LAI PrEP and ART. As these LAI formulations are developed, specific attention should be paid toward targeting women for whom they are most relevant. A user-centered and community-informed approach may improve perceived relevance and increase usage among target populations.

Presenting Author: Morgan M Philbin

THE STATE-LEVEL SEXUAL EDUCATION POLICY CLIMATE AND SEXUAL RISK BEHAVIORS AMONG A NATIONAL SAMPLE OF HIGH SCHOOL STUDENTS: FINDINGS FROM THE 2015 YOUTH RISK BEHAVIOR SURVEILLANCE SURVEY Morgan M. Philbin, (Columbia University Mailman School of Public Health), Elizabeth N. Kinnard, Nicole A. Smith, Daniel J. Feaster

Background: Research on sexual risk behaviors among high school students has focused primarily on individual-level factors, while the influence of state-level sexual education policies has received less attention. In addition, research commonly takes a 'one-policy one-outcome' approach (e.g., abstinence-only education on teen pregnancy), but the influence of the sexual education policy climate in the aggregate is less understood. We therefore examined the association between the state-level sexual education policy climate and sexual risk behaviors among a national sample of high school students. Methods: We identified state-level sexual education policies relevant to youths' sexual risk behaviors and coded them on a continuum from most inclusionary (low) to most exclusionary (high). We used exploratory factor analysis to develop a policy climate index, and confirmatory factor analysis (CFA) identified a clear factor containing five state-level sexual education policies: the promotion of heterosexual marriage, sex only within the context of marriage, the negative outcomes of teen sex, discrimination toward lesbian, gay, and bisexual (LGB) individuals/non-heterosexual sex, and the receipt of abstinence-only funding. CFA demonstrated excellent model fit with all factor loadings >0.75. We then created a sum score using these five policies. Multi-level modeling was used to examine the relationship between the state-level sexual education policy climate and three sexual health outcomes—ever had sex, number of lifetime sexual partners, and number of partners last three months; each model controlled for age, grade-level, gender, race, and sexual identity. We examined outcomes among youth in 26 states in the 2015 National-level Youth Risk Behavioral Surveillance Survey (YRBS), a population-based health survey of high school students. Results: A total of 15,624 youth participated in the 2015 National YRBS, 48.7% were female, 54.5% White, 13.6% Black, and 22.3% Hispanic; youth were evenly sampled across grades 9-12. In fully adjusted multi-level models, youth living in states with more exclusionary state-level sexual education policies (e.g., promoting the negative aspects of teen sex and homosexuality) were significantly more likely to have ever had sex compared to youth in states with more inclusionary policy climates (Coef. 0.34, 95% CI: 0.06, 0.62). Youth in states with more exclusionary sexual education policy climates also reported significantly more lifetime sexual partners (Coef. 0.03, 95% CI: 0.01, 0.05); youth in states with more exclusionary sexual education policy climates also reported more sexual partners in the last three months (Coef. 0.029, 95% CI: 0.01, 0.05). In all three of these models, being in a higher grade (p<0.001), male sex (p<0.001), and identifying as sexual minority (p<0.001) also remained independently associated with the outcomes (i.e., ever had sex, lifetime sexual partners, and sexual partners last 3 months). Conclusion: These results suggest that having an exclusionary sexual education policy climate affects high school students' sexual behaviors, even when controlling for individual-level factors. This suggests that young people's sexual health may be best served when sexual education is inclusionary and sex is discussed outside of the context of marriage and heterosexual sex. Future work should identify targets for policy change in order to help facilitate youths' healthy sexual development.

Presenting Author: Morgan M. Philbin