



2019 Annual Meeting

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and Poster Session Abstracts

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AUTONOMIC RESPONSES TO NATURAL, PHYSICAL, AND SOCIAL FEATURES OF NEIGHBORHOOD ENVIRONMENTS Daniel A. Hackman, (University of Southern California), Eirini Anagnostou, Stephanie A. Robert, Raphael P. Weibel, Jascha Gabel, Christoph Halscher, Victor R. Schinazi

Neighborhood characteristics such as nature, deterioration and disorder, and the presence of community members may elicit differential physiological responses that contribute to stress and health. We hypothesized that neighborhood socioeconomic status and one's prior experience may influence how these characteristics are interpreted and thus the responses they elicit. Adult participants were assigned to a novel, virtual-reality experience of neighborhood disadvantage or affluence, with a constant community of human avatars, while physiological responses were monitored ($n = 34$ each condition). The percentage of the virtual scene composed of nature, deterioration / disorder, and human avatars was calculated for each minute. We examined if time-varying characteristics were associated with electrodermal and respiratory sinus arrhythmia (RSA) reactivity and whether effects were moderated by parental education as a measure of prior experience. Overall, there were no main effects of nature, deterioration/disorder, or avatars. Exposure to human avatars was associated with electrodermal reactivity, as moderated by neighborhood condition and parental education (3-way interaction: $B = -3.08$, $p = .03$). In particular, within the affluent neighborhood greater exposure to avatars was associated with greater reactivity for those with high parental education, while the opposite effect was observed for those with lower parental education. For deterioration/disorder, there was a trend-level interaction with parental education for RSA ($B = -1.18$, $p = .053$), indicative of greater RSA suppression to deterioration/disorder for participants with lower parental education, and the opposite for those with higher parental education, potentially indicative of emotion regulation versus stress. These results suggest that while specific neighborhood characteristics may be associated with physiological responses, such effects are nuanced and dependent on neighborhood context and prior experience.

Presenting Author: Daniel A. Hackman

STRUCTURAL RACISM AND OBESITY IN AFFLUENT AFRICAN AMERICAN COUNTIES COMPARED TO AFFLUENT WHITE COUNTIES Caryn N Bell, (University of Maryland, College Park), Jordan Kerr

Racism is considered a fundamental cause of racial health disparities and has been posited as an explanation for racial disparities that persist after accounting for socioeconomic status (SES). Affluent African Americans do not experience the same benefits of high SES as whites, and studies have examined the role of individual-level discrimination. However, the role of more macro-level, structural racism on race differences in health among affluent African Americans and whites is unknown. Structural racism as indicated by area-level racial inequality in SES has been linked to obesity. It is possible that these associations may vary in counties where affluent African Americans live compared to affluent white counties. The aim of this study is to compare the associations between indicators of structural racism and obesity among affluent African Americans and whites. Using data from the County Health Rankings and the American Communities Surveys, obesity was measured by the percentage of county residents with body mass index ≥ 30 kg/m² and structural racism was indicated by county-level racial inequality in median income, college graduation rates, unemployment and homeownership. Analyses adjusted for population size, racial segregation and overall SES. Counties where the African American or white median income was $\geq \$70,000$ were included. In counties where the median income for African Americans was $\geq \$70,000$, there were no associations between structural racism and obesity. In counties where the white median income was $\geq \$70,000$, high racial inequality in college graduation rates ($\beta = -1.89$, s.e.=0.66) and homeownership rates ($\beta = -0.83$, s.e.=0.28) was associated with lower rates of obesity. The results suggest that for high income may buffer the detrimental effects of structural racism in affluent African American counties. However, in affluent white counties, structural racism may be associated with better health outcomes.

Presenting Author: Caryn N Bell

AREA-LEVEL POVERTY AND ORGAN DAMAGE IN THE BLACK WOMEN'S EXPERIENCES LIVING WITH LUPUS (BEWELL) STUDY Connor D. Martz, (Department of Human Development and Family Studies, Auburn University), Kara Chung, S. Sam Lim, Cristina Drenkard, David H. Chae

Background: Neighborhood socioeconomic disadvantage have been linked with worse systemic lupus erythematosus (SLE) outcomes, and may contribute to racial disparities in SLE-related health complications as well as mortality. Prior studies have not examined contextual effects of neighborhood poverty on irreversible SLE organ damage specifically among African American women. Methods: We used data from the Black Women's Experiences Living with Lupus (BeWELL) Study (2015-2017). Participants were 433 African American women with SLE living in Atlanta, Georgia. Census tract-level poverty was assessed as the proportion of residents below the federal poverty line. Permanent and irreversible organ damage was measured using the Brief Index of Lupus Damage (BILD). Multivariable linear regression was used to estimate cross-sectional associations between tract-level poverty and log-transformed SLE organ damage. Results: Census tract-level poverty was associated with greater SLE organ damage after adjusting for participant age, years since diagnosis, and relationship status ($b=0.58$, 95% CI=0.12-1.05). Adjusting for Census tract-level racial composition, and individual-level SLE medication use, this relationship remained statistically significant ($b=0.65$ (0.16, 1.15)). Adjusting for individual-level educational attainment and household income to poverty ratio attenuated the effect of Census tract-level poverty and SLE organ damage ($b=0.42$, 95% CI=-0.08-0.93). We did not find evidence for moderation by racial residential segregation. Conclusion: Census tract-level poverty is associated with increased organ damage among African American women. Our findings contribute to a growing body of research indicating the detrimental effects of living in an impoverished area on SLE outcomes. Policies directly addressing neighborhood poverty may improve health outcomes among African American women with SLE.

Presenting Author: Connor D. Martz

NEIGHBORHOOD SOCIOECONOMIC DISADVANTAGE AND CARDIOVASCULAR DISEASE AMONG ASIAN AND PACIFIC ISLANDER MEDICARE ADVANTAGE ENROLLEES IN CALIFORNIA Lan N. Doan, (Oregon State University, College of Public Health and Human Sciences), Yumie Takata, Karen Hooker, Carolyn Mendez-Luck, Veronica L. Irvin

Background: Research has demonstrated the association between socioeconomically deprived neighborhoods and higher mortality and incidence of cardiovascular disease (CVD). However, research on neighborhood socioeconomic factors has been less studied in the growing immigrant and aging Asian American (AA), Native Hawaiian and Pacific Islander (NHPI) population. We investigated the relationship between neighborhood disadvantage and CVD in older AA, NHPI, and non-Hispanic white (NHW) adults. Methods: Our sample included 31,872 Medicare Advantage enrollees aged 65 and older in California who self-reported being AA, NHPI or NHW in the 2011-2015 Medicare Health Outcomes Survey. The current analysis included 6,759 AAs (disaggregated for 9 subgroups), 338 NHPIs, and 568 Multiracial AA/NHPIs. Beneficiary's 9-digit zip codes were linked to the US Census block group level Area Deprivation Index (ADI), a composite score for neighborhood socioeconomic disadvantage generated from 17 Census measures of socioeconomic status. We categorized neighborhoods into two groups, more disadvantaged neighborhoods (ADI above the 85th percentile) and less disadvantaged neighborhoods (ADI below the 85th percentile). Multivariable logistic regression models were fit to explore the relationship between neighborhood disadvantage and each self-reported CVD outcome (coronary artery disease, congestive heart failure, myocardial infarction, and stroke). Results: Among all participants, 11.8% had coronary artery disease, 7.2% had congestive heart failure, 8.0% had myocardial infarction, and 8.3% had stroke. About 14.9% of participants lived in more disadvantaged neighborhoods. Compared to NHWs, Other Asians living in more disadvantaged neighborhoods had significantly higher odds of having any CVD outcome [OR (95% CI) = 2.85 (1.05, 7.76)]. Discussion: Neighborhood disadvantage is an important measure that can be used to target interventions to reduce the burden of CVD in high-risk beneficiaries.

Presenting Author: Lan N. Doan

NEIGHBORHOOD AIR POLLUTION EXPOSURE AND SELF-RATED HEALTH: EXAMINING SOURCES OF EFFECT HETEROGENEITY Nicole Kravitz-Wirtz, (University of California, Davis School of Medicine), Kyle Crowder, Anjum Hajat, Victoria Sass, Bongki Woo, Hannah Lee, Savannah Larimore, Samantha Teixeira, David Takeuchi

While overall air quality has improved in the US, a large share of the population still resides in areas with unsafe concentrations of air pollution, and exposure remains unevenly distributed across residential areas. Using individual-level data from the Panel Study of Income Dynamics merged with census data on residential census tracts and census block-level, annual-average air pollution measures for 1990-2017, we find that Blacks and Latinxs are exposed, on average, to 13% and 7% higher concentrations of nitrogen dioxide, respectively, compared to Whites ($p < 0.001$), despite nationwide pollution declines that have preferentially benefited communities of color. Unequal exposure to neighborhood air pollution may result in disproportionate morbidity and mortality burdens for marginalized groups. We find significant positive associations of neighborhood air pollution exposure with both psychological distress and childhood asthma, particularly among residents of high-poverty neighborhoods. Health inequalities may also be related to differences in the effects of pollution exposure. Specifically, pollution exposure may modify the association of micro-level circumstances and contextual conditions with health, though few studies have investigated this question. We present findings from three-level mixed-effects models examining whether differential exposure to neighborhood air pollution modifies the effects of 1) individual-level characteristics, including those related to economic distress, family change, and other stressful life circumstances, and 2) adverse contextual conditions, including neighborhood deprivation, residential instability, and racial residential isolation, on individual self-rated health status, as well as socioeconomic and racial-ethnic inequities therein. Pollution exposure is measured concurrently with self-rated health, lagged by one year, and averaged over three, five, and up to ten-year periods to assess short and longer-term impacts.

Presenting Author: Nicole Kravitz-Wirtz

INTERGENERATIONAL PERSISTENCE OF SOCIOECONOMIC STATUS AND HEALTH DISPARITIES OVER THE LIFE COURSE IN THE UNITED STATES Lucie Kalousova, (Nuffield College, University of Oxford), Sarah Burgard

This study draws on past evidence of parental influence on children's adult health behaviors and connects it to the sociological literature on the intergenerational reproduction of SES. Using data collected by the PSID between 1968 and 2015, we examine, first, whether parental smoking and heavy drinking early in their children's life course correlates with the child's own smoking and heavy drinking in young adulthood, prime adulthood, and middle age. Second, we consider how the correlation varies by the child's SES attainment at each point of the life course. In the final analytic component of the paper, we use sequence analysis to construct life course SES patterns for all respondents and evaluate how is the association between parental and adult children's health behaviors modified by children's own life course SES patterns. Results show that parental influence on adult children's smoking vanes as they age but never entirely disappears. In models fully adjusted for other sociodemographic characteristics, children of smokers have eight percentage point greater probability of smoking in young adulthood, seven in prime adulthood, and five in middle age. The relationship between parents' and children's heavy alcohol use is more constant; nine percentage point increased probability across the life course. Results from diagonal reference models show that upward or downward SES mobility does not significantly modify individuals' probability of reproducing their parents' health behaviors. By the time children reached prime adulthood, the most important predictor of their health behaviors was their own SES. This study makes a unique contribution to the literature on early life influences by taking a long view of children's reproduction of parental health behaviors. It highlights the importance of jointly considering the exposure to parental behaviors and SES, measured in childhood, and child's own SES, as they develop later in life.

Presenting Author: Lucie Kalousova

UNEMPLOYMENT TRAJECTORIES AND MEN'S AND WOMEN'S HEALTH AT MIDLIFE

Adrienne Frech, (University of Missouri), Sarah Damaske

Research question and significance Critical gaps remain in our understanding of how unemployment harms men's and women's health at midlife. Socioeconomic health disparities are widest at midlife, unemployment harms health, and steady employment benefits health for men and women alike. Yet no study has identified longitudinal pathways of unemployment over time nor across gender, nor has prior research investigated the role of these pathways in structuring health disparities at midlife. We use group-based developmental trajectories to identify group-based trajectories of unemployment risk, separately by gender, in a cohort of late Baby Boomers using the National Longitudinal Survey of Youth 1979 (NLSY79). After identifying these trajectories, we use multinomial treatment models -- two-stage models to adjust for selection into group-based trajectories of unemployment -- to estimate associations between group-based trajectories of unemployment and health at midlife. We identified four women's group-based trajectories of unemployment from ages 25-49: Low (59%), Moderate increasing (13%), Moderate to low (24%), and High decreasing (4%). Men's results are available upon request. Preliminary results In our multinomial treatment models predicting health, we find that Moderate increasing, Moderate to low, and High decreasing unemployment trajectories were associated with significantly worse physical and mental health compared with women on a Low unemployment trajectory. For women on a Moderate increasing trajectory, current asthma was also significantly more likely. Our continued analyses will identify whether mechanisms at age 50, including health behaviors, wealth and family characteristics, and most recent job characteristics, may mediate these associations, and will replicate these analyses for men in the NLSY79. Future analyses will also consider change in health between the age 40 and 50 health modules available in the NLSY79.

Presenting Author: Adrienne Frech

STRUCTURAL SEXISM AND LIFE EXPECTANCY IN THE UNITED STATES Patricia Homan,
(Florida State University), Sarah Damaske

This study builds on a new line of structural sexism research by quantifying the population level toll of structural sexism on health and longevity in the United States. Similar to the emerging structural racism and health literature, a structural sexism approach looks beyond perceived individual mistreatment to investigate how discriminatory social systems affect health. Structural sexism refers to the systematic gender inequality in power and resources manifest in a given social context. Using U.S. state-level administrative data combined with individuals' state of residence and health data from The Health and Retirement Study (HRS), I measure structural sexism in state-level political, economic and cultural institutions and document how it affects health and mortality in later life. Demographic methods are used to generate multi-state life tables for men and women who live in U.S. states characterized by high (75th percentile) vs. low (25th percentile) levels of structural sexism in order to estimate 1) life expectancy at age 50, 2) the proportion of remaining life individuals can be expected to spend healthy, and 3) the proportion of remaining life individuals can be expected to spend suffering from a serious chronic condition or disability. I then estimate the years of healthy life expectancy lost in the U.S. in a given year due to structural sexism. The results show that structural sexism is associated with substantial costs to the population in terms of healthy life expectancy. Given that the U.S. currently ranks 49th in the world for gender equity, these results suggests that structural sexism may contribute to the U.S.'s life expectancy shortfall relative to other developed countries.

Presenting Author: Patricia Homan

THE LONG-TERM INFLUENCE OF RURAL ROOTS ON ADULT OBESITY AND OVERALL HEALTH Shelley Clark, (McGill University), Sarah Damaske

Recent media attention has highlighted rural-urban disparities with respect to the so-called “deaths of despair”, including drug, alcohol, and suicide related mortality in the U.S. Further research shows that compared to their urban counterparts, rural residents have long suffered from poorer health outcomes across other important health measures as well. Most previous studies examining rural-urban differences in health outcomes, however, draw comparisons based on current residential status. Yet, rural status is not necessarily fixed over the life course. In some rural counties, over 50% of individuals will leave before their 25th birthday. To date, few studies have examined the potential long-term impact of growing up in a rural areas on adult health. In this study, we will use data from the world’s longest longitudinal survey, the Panel Study of Income Dynamics, to examine differences among rural migrants (those born in a rural area who moved to cities), rural stayers (who remained behind) and urban natives with respect to two cumulative measures of health in adulthood: obesity and overall health. Preliminary analyses suggest that rural roots continue have a lasting impact on adult obesity, although these effects tend to diminish among older rural migrants who have had a longer exposure to urban contexts. Among older adults, rural stayers have significantly worse health than rural migrants. The starkest health disparities are found between rural and urban stayers, suggesting that differences in urban-rural health based on current residence may be overstated from a life-course perspective. Whether the comparatively better health of rural migrants reflects selection of healthier rural natives to urban areas or context-driven behavioral changes will be explored through fixed-effects analyses using these exceptionally rich longitudinal data with of repeated measures of health and residential location.

Presenting Author: Shelley Clark

STATE CIGARETTE TAXES, SMOKING, AND IMPLICATIONS FOR THE EDUCATIONAL GRADIENT IN MORTALITY Alicia Riley, (University of Chicago), Sarah Damaske

It is taken as a social fact that less educated people live shorter lives. But the association between educational attainment and mortality is a product of social context. In this study, I contribute to a growing body of research that suggests state policy can disrupt the extent to which educational attainment maps onto health resources, even when there is no change in social stratification by educational attainment. I draw on data from two nationally representative longitudinal surveys (The Panel Study of Income Dynamics and The National Social Life Health and Aging Project) to explore the potential for a specific state policy, cigarette tax, to reduce smoking and moderate the educational gradient in mortality. My results suggest that higher state cigarette taxes weaken the educational gradient in mortality. Higher taxes have a stronger protective effect against mortality for the low educated, particularly for men. I find modest support for the hypothesis that state cigarette taxes reduce educational disparities in mortality directly by reducing smoking. Drawing on my conceptual framework, I argue that cigarette taxes act as an indicator for progression along the Tobacco Control Transition. Thus, in addition to their direct effect on smoking, cigarette taxes differentiate states' overall progress in moving through the Tobacco Control Transition. State cigarette taxes may be especially representative of a state's policy regime, which facilitates or inhibits educational disparities in health via multiple policy domains. With this study, I highlight one way that the effects of a fundamental cause, in this case educational attainment, on health inequality are contingent on state policy.

Presenting Author: Alicia Riley

ECONOMIC SECURITY POLICY AND INFANT HEALTH: A MULTI-LEVEL ANALYSIS Megan Reynolds, (University of Utah), Ming Wen, Michael Varner

Despite the cross-national literature documenting beneficial effects of social policy generosity for population health and the fact that social policy generosity influences key mechanisms linking poverty and individual health, research on the generosity of social policies and health within the United States remains scant. What research does exist largely focuses on the extensive margin of program exposure but fails to attend to the intensive margin of program generosity. Research is further hampered by analyses that are limited to a single level, predictor, or outcome or that describe only a limited time series. We begin to fill this knowledge gap with the use of original data on generosity of the Supplemental Nutrition Assistance Program, Earned Income Tax Credit and minimum wage over the period 1997 to 2007, which we merge with rich individual-level data from the Panel Study of Income Dynamics. Using regression analyses under a potential-outcomes framework, we assess whether the generosity of economic security policy affects infant health outcomes (birth weight, gestational age, health at birth) among the population at large, the low-income population and those below the federal poverty line. Preliminary analysis suggests that increases to the generosity of economic security policies is associated with increased birth weight among the subsample of PSID respondents included in the Child Development Supplement. This research helps to build the growing area of research on the political economy of health in the domestic context and reformulate the meaning of “fundamental causes” to center on matters of politics and policy.

Presenting Author: Megan Reynolds

VARIATION IN STATE-LEVEL LAWS ON CIVIL PROTECTION ORDERS FOR ADOLESCENT VICTIMS OF INTIMATE PARTNER VIOLENCE Avanti Adhia, (Harborview Injury Prevention and Research Center, University of Washington), Jaron Goddard, Mary Keric, Frederick P. Rivara

Intimate partner violence (IPV) in adolescence is a substantial public health problem and includes physical, sexual, and emotional/psychological abuse within a dating relationship. Among U.S. high school-attending youth who dated, 7% experienced sexual violence and 8% physical violence in the past year. Exposure to IPV can put adolescents at risk for serious and long-lasting health consequences including mental health disorders, substance use, suicidal ideation, and adult victimization. One way that states address IPV is through the use of domestic violence civil protection orders (CPOs), which have been shown to be effective in reducing the risk of future IPV for adults. Given that adolescents experience similar types of abuse in their relationships as adults, they should have access to the same supports and protections, including access to civil protection orders. However, state laws vary widely in how inclusive the language is for adolescent independent access to and protection by CPOs. Using data from the legal database Westlaw and other sources, we conducted a systematic assessment of statutes across all 50 U.S. states to assess the climate and content of each state's CPO laws with respect to adolescent access to protection from abusive relationships. Results show there is considerable variability in state laws around access to CPOs for adolescents, including relationships and abusive acts that qualify for protection, requirements for parental notification, and whether minors can file on their own behalf. Specific recommendations for more inclusive, equitable and potentially protective statutes relevant to adolescent CPOs will be discussed. Improvements in legislation that reduce the barriers to legal relief and strengthen the safety net for adolescent victims can be an important part of a comprehensive solution to reducing IPV among adolescents.

Presenting Author: Avanti Adhia

FEAR OF A WHITE MINORITY: SHIFTING RACIAL DEMOGRAPHICS & SUPPORT FOR EQUITABLE HEALTH POLICIES Tyler Jimenez, (University of Missouri), Jamie Arndt

The vast public health improvements of recent decades have been stratified along racial lines. When attempting to address these disparities through policy implementations, it is vital to understand factors that influence public support. Social psychology, particularly in its theories of psychological threat and intergroup relations, is positioned to provide unique insight into the situational and dispositional factors that sway support for equitable health policies. Previous research has shown that people often respond to threatening information with increased support for politically conservative policies and positions (e.g. Craig & Richeson, 2014). This study builds on that evidence and is the first to test how perceived threats to the social system – in this case, shifting racial demographics – influence support for policies addressing racial health disparities. To examine this topic, participants (n = 317) were randomly assigned to read about either Whites becoming a minority racial group (previously shown to be perceived as threatening) or a control topic, and then asked to indicate their support for an unspecified government policy aimed at minimizing “the health gap between black and white people.” As expected, reading about Whites becoming a minority group resulted in decreased support for these policies, even when controlling for political beliefs. In other words, people across the political spectrum responded to reminders of racial demographic trends with weakened support for health equity. Researchers and policymakers alike should be cognizant of how broad societal trends, such as shifting racial demographics, are likely to influence support for equitable health policies.

Presenting Author: Tyler Jimenez

WHEN TALK IS NOT CHEAP: WHAT FACTORS PREDICT POLITICAL CAMPAIGN MESSAGING ON THE SOCIAL DETERMINANTS OF HEALTH? Sarah Gollust, (University of Minnesota School of Public Health), Chris Frenier, Erika Franklin Fowler, Laura Baum, Jeff Niederdeppe

Objective: Political candidates and interest groups make strategic decisions about what to emphasize in campaign ads. These decisions illuminate which social issues political actors deem important. While research has examined media coverage of the social determinants of health (SDH), little work has explored political communication. This study estimates the prevalence and predictors of political campaign messaging about three SDH topic areas -- employment, income inequality, and early childhood education. **Methods:** We conducted a content analysis of all English-language campaign ads aired on local broadcast, national network and national cable TV in the 2011-2012 (3,980,457 airings) and 2015-2016 (3,767,477 airings) election cycles. We combined ad airings data with publically available demographic data aggregated to the media market (e.g., from RWJF County Health Rankings). We estimated logistic regression analyses of mentions of the three topic areas on community- and ad-level characteristics (e.g, type of race, sponsor's partisanship). **Findings:** Political ads frequently reference jobs (40% of all ads aired in the 2012 cycle, 21% of 2016) but mention income inequality (11% and 4%) and early childhood education (0.3% and 0.9%) less often. Several market-level factors predicted campaign references: higher unemployment rates predicted more attention to employment, higher rates of people under 18 predicted more attention to early childhood education, and higher median income predicted less attention to income inequality. Political factors, however, were the strongest predictors: Republicans were more likely to discuss jobs, and Democrats more likely to discuss income inequality and early childhood education. **Implications:** Community-level and political characteristics contribute to variation in campaign ad discussion of SDH in the U.S. Future research should assess whether this political agenda-setting translates into policy change to improve population health.

Presenting Author: Sarah Gollust

ENDOMETRIAL CANCER ACTION NETWORK FOR AFRICAN-AMERICANS (ECANA): PARTICIPATORY METHODS TO ADVANCE HEALTH EQUITY Kemi M. Doll, (University of Washington), Bridgette Hempstead, Elizabeth Kellogg, Julianna Alson, ECANA Writing Collective

Endometrial cancer (EC) is the most common gynecologic cancer in the US. A 5-year survival rate over 80% masks a Black-White mortality gap that is larger than that of many other cancers. Lack of awareness of this health inequity, the paucity of research on its causes, the non-existence of Black women's engagement in research, and the lack of intervention studies, amount to a population health crisis. We sought to address this issue through an equity lens with grounding in participatory design and Public Health Critical Race Praxis (PHCRP). In collaboration with the founder of a cancer support organization for African-Americans, a Black woman EC survivor, and clinician researchers, we established the Endometrial Cancer Action Network for African Americans (ECANA). Initially, our primary goal was to create meaningful patient-researcher partnerships toward designing research that centers the experiences of Black people with EC. Stakeholders identified prerequisites to this aim, which are also urgent needs in the Black community to reduce the EC mortality rate: community education, relationship-building both among Black EC survivors and between survivors and researchers, along with establishing a shared framework of reproductive justice among all stakeholders. Shifting focus reflects ECANA's accountable relationship to the community most affected – a vital component of participatory design and PHCRP – and lays solid groundwork for meaningful research partnerships. ECANA is addressing the identified areas through a convening of multidisciplinary stakeholders and Black EC survivors; dissemination of a peer education tool; & a website with education, community-building opportunities, and tools for research engagement. ECANA represents a critical advancement as the first visible space for Black people with EC, the first mechanism to amplify this population's priorities toward reducing EC mortality, & the first platform for Black patient engagement in EC research.

Presenting Author: Kemi M. Doll

UNDERSTANDING INTERSECTIONALITY IN HEALTH DISPARITIES THROUGH GENETIC MODELS Ky'Era Actkins, (Meharry Medical College), Peter Straub, Nancy Cox, Lea Davis

It is well known that health disparities are multifactorial with origins that can be biological, environmental, social, or political. Their combined impact on marginalized groups has significantly lowered their quality of life, increased their difficulty of successful treatment and care, and impeded any positive long-term standards of living. These realizations have ignited the precision health initiative and the genetic research field has made substantial efforts to understand the underlying genetic and biological effects of these diseases. However, many of the current genetic models used to identify and analyze these effects often lack the data and statistical methods necessary to capture non-biological effects leading to misrepresented models and misinterpreted results. Disentangling these factors is crucial to understanding the structure of these disparities and we created a genetic model that allows us to analyze these effects independently. Using the Vanderbilt University Medical Center biobank (BioVU), a repository of DNA linked to de-identified electronic medical records, we observed that a high proportion of diseases significantly associated with African ancestry are confounded with race. We partitioned out genetic ancestry from self-reported race by including their residuals in our logistic regression model. After adjusting for genetic ancestry, race is significantly associated with “Hypertension” ($p=7.57e-05$, $OR=1.16$) and “Malaise and fatigue” ($p=2.05e-04$, $OR=1.19$) in African Americans. After adjusting for race, African genetic ancestry is significantly associated with “Other anemias” ($p=5.62e-07$, $OR=1.32$) and “Disorders resulting from impaired renal function” ($p=6.31e-06$, $OR=1.70$). This method allows us to examine the effects of genetic ancestry and race separately which will enable us to parse out our resources and efforts to each contributing cause more effectively.

Presenting Author: Ky'Era Actkins

RACE/ETHNICITY, GENDER, AND ALLOSTATIC LOAD AMONG YOUNG ADULTS IN THE UNITED STATES Liana J. Richardson, (Carolina Population Center and Department of Sociology, UNC Chapel Hill), Andrea N. Goodwin, Robert A. Hummer

The concept of allostatic load (AL) refers to wear and tear on the body due to repeated activation of the stress response. Since its introduction in 1993, the number of AL studies has grown considerably. However, few have focused on young adults, racial/ethnic comparisons that include Mexican Americans, or the interplay between race/ethnicity and gender. To fill these gaps, we use an intersectionality approach to assess how race/ethnicity and gender work together to shape AL disparities among young adults in the U.S. Our specific aims are: (1) to describe race/ethnicity-gender disparities in AL; and (2) to test whether differences in socioeconomic status and other components of the stress process explain these disparities. Data for the study come from Wave IV of the National Longitudinal Study of Adolescent to Adult Health when respondents were 24-32 years of age (N = 10,070). Consistent with previous research, we measure AL based on respondents' values for 10 metabolic, cardiovascular, and inflammatory biomarkers. "High AL" was defined as having a value above the top quartile for four or more biomarkers. Preliminary analyses reveal elevated odds of high AL among young adult African Americans and Mexican Americans relative to Whites. When race/ethnicity and gender are jointly considered, African American and Mexican American women exhibit the highest odds of high AL compared to other racial/ethnic-gender groups. These results suggests that, by the time they reach young adulthood, the cumulative physiological burden of stress on these women is already greater than it is among either young adult White women or young adult men of any race/ethnicity. Subsequent analyses will determine the role played by socioeconomic status and other components of the stress process. Thus, this study could provide important clues about the intermediate physiological dysregulation and its antecedents that underlie racial/ethnic-gender disparities in morbidity in later life.

Presenting Author: Liana J. Richardson

SEXUAL ORIENTATION AND RACIAL/ETHNIC DISPARITIES IN BIRTH WEIGHT Bethany Everett, (University of Utah), Stefanie Mollborn, Aubrey Limburg, Virginia Jenkind

Objectives: Previous research has documented increased risk for low birth weight among race/ethnic minorities as well as among sexual minority women. No research to date has examined the intersection between race and sexual identity. **Methods:** Data come from the National Longitudinal Study of Adolescent to Adult Health. We examine racial/ethnic and sexual identity disparities in the clinical cutoff for low birth weight. We use live births (n=9,016) as the unit of analysis and use multilevel generalized logistic regression to account for the clustering of pregnancies within women. The longitudinal data structure was leveraged to adjust for several preconception risk factors (e.g. age, education, preconception health behaviors, pregnancy context). **Results:** Among White women, 6.69% of pregnancies reported by heterosexual women were low birth weight compared to 4.65% of pregnancies by gay or bisexual women. Among Black and Latina women a different trend appeared: heterosexual women had lower prevalence of low birth weight (10.71% and 6.71%) than gay or bisexual women (16.83% and 7.69%). Multivariate models show that Black and Latina women have increased risk for low birth weight compared to White women, and that this risk is compounded by sexual minority status for Black and Latina women. For White sexual minority women, low birth weight risk was lower than all other groups, including White heterosexual women. Disparities were partially mediated by prenatal care, tobacco use during pregnancy, and pregnancy context. **Conclusion:** Sexual minority women of color face additional pregnancy risks not shared by White sexual minority women.

Presenting Author: Bethany Everett

INTERSECTION OF RACE, GENDER, AND EDUCATION AND ITS IMPACT ON INFLAMMATION Omolola Tanya Taiwo, (University of Maryland - College Park), Stefanie Mollborn, Aubrey Limburg, Virginia Jenkind

The objective of this study was to assess population differences in inflammation across race, gender, and education subgroups. We analyzed 193 black and 582 white Americans utilizing an analytic sample from the Midlife Development in the United States (MIDUS II) biomarker project. Hierarchical regressions comprised of three models were used to examine the relationship between eight race/gender/and education subgroups and C-Reactive Protein (CRP). In line with existing literature, results indicated that white and black women across educational levels, as well as less educated black men significantly predicted elevated CRP levels when compared to educated white men. Moreover, in the unadjusted model, less educated black women had the highest CRP levels. Contrastingly, the minimally adjusted model revealed that body-mass index (BMI) explained a small portion of differences in every other subgroup, but white women. Further, in the fully adjusted model (number of chronic conditions, medication use, self-reported health, and income), all women in the study maintained significantly elevated CRP levels, with educated white and black women having the highest coefficients. Finally, secondary analysis assessing only white and black women with high and low levels of education indicated that in the fully adjusted regression model only educated black women had significantly higher CRP levels than educated white women. In conclusion, examining race, gender, and education together revealed novel subgroup differences. Further research is needed to examine why education may not buffer elevated CRP levels among women, even when accounting for health factors and income.

Presenting Author: Omolola Tanya Taiwo

MATERNAL SOCIAL CAPITAL AND ADVERSE BIRTH OUTCOMES IN PERI-URBAN INDIA

William T. Story, (University of Iowa College of Public Health), Avita Johnson, Halkeno Tura, Redwan Bin Abdul Baten

India has some of the highest rates of preterm birth (PTB) and low birth weight infants (LBW) in the world. However, studies on adverse birth outcomes in India largely ignore the influence of the social environment. Social capital—a broad term including social relationships, networks and values that facilitate collective action for mutual benefit—has the potential to improve birth outcomes through mitigating maternal physical and psychosocial stress during pregnancy and improving access to healthcare during childbirth. This study posits that social capital is associated with lower rates of PTB and LBW in peri-urban India. After validating a new social capital instrument and integrating it into a 90-question health and demographic survey, we conducted a total of 351 interviews with women who had a child under the age of two in Bangalore district. Using Stata 15.0, we employed logistic regression analysis to examine the association between social capital and adverse birth outcomes (PTB and LBW). We found that 13.1% of children were born LBW (less than 2,500 grams) and 12.0% were preterm (born before 37 weeks of pregnancy). After controlling for confounding factors, our preliminary results demonstrate that women who trusted community leaders had lower odds of having a LBW infant (OR: 0.47, CI: 0.24-0.93) compared to those who did not trust their leaders. Further, women who reported social cohesion had lower odds of both preterm birth (OR: 0.44, CI: 0.22-0.88) and having a LBW infant (OR: 0.51, CI: 0.26-0.99) compared to those who reported no social cohesion. Other aspects of social capital—group membership, social support, collective action, and neighborhood trust—were not significantly associated with PTB or LBW. Overall, the potential protective effects of trust and social cohesion on PTB and LBW merit further research on social capital and birth outcomes in India as well as the mechanisms through which social capital influences maternal and newborn health.

Presenting Author: William T. Story

ASSORTATIVITY BY TREATMENT IN SOCIAL NETWORKS AND BIAS IN POPULATION STUDIES Paul Zivich, (University of North Carolina at Chapel Hill), Alexander Volfovsky, James Moody, Allison Aiello

Within social networks, individuals with similar characteristics tend to interact with each other to a greater degree than individuals with less similarities. This property is referred to as assortativity and is inherently a population health phenomenon. In social network research, assortativity by gender, vaccination, and other characteristics has been identified. A parameter of interest in population health research is the so-called direct effect: risk of the outcome in exposed individuals compared to unexposed individuals. While it is sometimes reasonable to assume individuals' outcomes are independent, this assumption is unreasonable for contagious outcomes, like infections and health behaviors. Through simulated outbreaks, we demonstrate bias of the estimated direct effect from increased assortativity of networks and propose an approach to correct for this bias. We simulated outbreaks for a theoretical infectious disease and vaccine on randomly generated networks and a social network from a study of university students living on campus (the eX-FLU study). In our simulations, we varied assortativity by vaccination, the protection of the vaccine to the individual, and the transmission potential of vaccinated-but-infected individuals. We compared a naïve approach that ignores network structural features to an approach which uses summary measures. As we demonstrate, the naïve approach results in biased estimates of the direct effect. The network approach results in correct estimates under the assumption of weak interference, such that only immediate contacts' treatment impacts an individuals' outcome. Our simulations demonstrate that assortativity by various characteristics and exposures, can result in misleading estimates in population health studies. We demonstrate an approach to account for network structure in population health. While our example is described in terms of vaccines, it applies more widely to any treatment on contagious outcomes.

Presenting Author: Paul Zivich

PATHWAYS OF GLOBAL CULTURAL DIFFUSION ACROSS LAY PEOPLE: MEDIA EXPOSURE AND ATTITUDES TOWARD VIOLENCE AGAINST WOMEN Jeffrey Swindle, (University of Michigan), Alexander Volfovsky, James Moody, Allison Aiello

Global cultural scripts about what constitutes a modern lifestyle and developed society are spreading across the world. Scholars find positive associations between media use and lay people's espousal of attitudes aligned with such scripts, but the specific processes of diffusion at the local level remain abstract. Building on this literature, I focus on global cultural scripts that condemn violence against women and the particular pathways of diffusion via media in Malawi. In a historical analysis covering 2000 to 2016, I document the prevalence of cultural scripts that denounce and justify violence against women across different types of media in Malawi. This informs my quantitative analysis, in which I leverage five national surveys between 2000 and 2016 and a new dataset capturing local newspaper content to test the effects of different media types on Malawians' attitudes. Specific radio programs and newspaper articles were produced with the intention of convincing people that violence against women is unjustifiable. People's exposure to such content increased their attitudinal rejection of violence against women. Conversely, other types of media normalized violence and negatively portrayed women, including many satellite television channels, foreign movies, and the country's only tabloid newspaper, and exposure to this content decreased people's rejection of violence against women. These findings demonstrate that global cultural scripts critical of violence against women are reaching and influencing lay people, and outline the specific pathways via different types of media through which such diffusion does and does not occur.

Presenting Author: Jeffrey Swindle

A STRATEGY TO SUPPORT THE DISSEMINATION OF TRANSDISCIPLINARY RESEARCH TO IMPROVE URBAN HEALTH: THE SALUD URBANA EN AMÉRICA LATINA (SALURBAL) MULTI-COUNTRY PROJECT Adriana C. Lein, (Dornsife School of Public Health, Drexel University), Claire Slesinski, Katherine Indvik, Ana Diez Roux

The dissemination of urban health evidence to policy actors can improve health and health equity on global, national and local levels. However, researchers often struggle to effectively disseminate their results as a part of research activities. The Salud Urbana en América Latina (SALURBAL) project is creating an evidence base describing how urban environments and urban policies impact health, equity, and sustainability in cities across Latin America. SALURBAL is a five-year (2017-2022) project implemented by an interdisciplinary, multi-country team from 10 institutions in 7 Latin American countries and the US. In addition to three aims focused on generating policy-relevant evidence on the drivers of urban health, equity, and sustainability, one of SALURBAL's specific aims is to engage with the scientific community, the public, and policy makers to create channels to disseminate findings and translate them into policies and interventions. To ensure build infrastructure for dissemination, SALURBAL developed and is implementing a comprehensive dissemination strategy that places a large emphasis on dissemination outside of scientific channels (conferences and peer-reviewed journals). These activities are monitored to track their implementation and reach. Activities and materials include regional research dissemination and policy-focused events; participatory workshops that have engaged nearly 90 regional stakeholders to date; digital dissemination through a website, video, a blog, a quarterly newsletter, and social media; and accessible policy, data, and evidence briefs designed for non-researchers. SALURBAL's experiences offer valuable lessons for public health researchers and research projects seeking to enhance the impact of findings through strategic engagement and dissemination.

Presenting Author: Katy Indvik

WHOLE COMMUNITIES – WHOLE HEALTH: CHANGING THE WAY SCIENCE HELPS

SOCIETY THRIVE Amanda N. Barczyk, (Dell Children's Trauma and Injury Research Center & Department of Population Health, Dell Medical School, The University of Texas at Austin), Julie Maslowsky, Lourdes Rodraguez

We have the unprecedented technological ability to study the health and well-being of children and families living in complex conditions of vulnerability due to poverty and other socioeconomic inequities. Traditionally, research studies focus on one “snapshot” of participants’ health and wellbeing making it difficult to understand complex processes such as risk and resilience. It is also the case that many groups, particularly vulnerable populations, are consistently underrepresented in these research studies. Texas provides an ideal place to study factors that influence health and well-being of vulnerable children, families, and communities given that nearly 1 in 10 children living in the U.S. resides in this state. Whole Communities – Whole Health (WCWH), an interdisciplinary grand challenge initiative at the University of Texas at Austin will combine community-engaged approaches with innovative technology to test novel research techniques. During year one of this 10-year initiative, two parallel tasks included developing a framework to engage people living in vulnerable conditions (and the organizations that serve them) throughout the research process, and testing ways to deploy new technologies (i.e. wearables, sensors, phone apps) for data collection. This presentation will provide an overview of:

- The evolution of our community engagement framework;
- Strategies to test real-time data collection using new technology and measures;
- Developing a community-informed data feedback system to ensure participants and stakeholders receive data in a timely manner; and
- Creating new ethical guidelines that ensure the safety and protection of participants in the context of vulnerability.

The goal of this presentation is to stimulate a discussion on how interdisciplinary teams can balance goals of community engagement and new technology development to advance population health science.

Presenting Author: Amanda N. Barczyk

EXAMINING ANOMALIES IN THE EDUCATION-HEALTH GRADIENT: A NEW RESEARCH DIRECTION Anna Zajacova, (University of Western Ontario), Elizabeth M. Lawrence

A Google Scholar search on the terms ‘education’ and ‘health’ yields over 4 million results. With such extensive literature on the topic, it might appear that little about the relationship remains unexamined. In reality, much remains unclear, including how and why educational attainment and health are so strongly associated among today’s U.S. adults. We argue that a promising direction is to examine anomalies in the education-health gradient. By understanding when the gradient fails, we will have an enriched perspective on why it generally holds. This approach requires an interdisciplinary perspective with a nuanced social understanding of educational attainment. Using multiple data sources with rich information on education and health (NHIS, NHANES, NLSY97, and Add Health), we show evidence for several anomalies and test potential mechanisms and explanations. For instance, adults with a high-school equivalency diploma (GED) have health comparable not to those with high school diplomas but to high school dropouts; similarly, adults with vocational associate degrees have health comparable not to their academic associate-degree peers but to those with only a high school diploma. Intriguingly, these anomalies have exceptions for some groups and health outcomes. Moreover, reporting differences, economic well-being, and student debt do not appear to provide a ready resolution to the anomalies. We will conclude by considering a range of factors that could shed light on these anomalies. The foundation of the education-health gradient is assumed to result from education as a meritocratic institution that endows individuals with human capital and credentials that can be used to garner good health. This perspective, however, be insufficient within the current context of increasing social inequalities where education’s role may also be a gatekeeper that perpetuates and formalizes inequalities across generations.

Presenting Author: Anna Zajacova

BOTH TIMING OF EDUCATIONAL ATTAINMENT AND TYPE OF EDUCATIONAL CREDENTIAL PREDICT MIDDLE AGE MEMORY Anusha M. Vable, (University of California, San Francisco), Amal Harrati, Irene H. Yen, M. Maria Glymour

Introduction: Despite extensive research linking education to adult cognitive outcomes, possible effects of non-traditional timing or credentials have received little attention. As non-traditional educational trajectories become more common, understanding whether educational trajectories differentially impact memory will provide insights into future burden of dementia risk. **Methods:** We identified education sequences using data from National Longitudinal Survey of Youth 1979 participants, followed until age 48 (N=6,685 individuals; 233,030 person-years of education data). We used sequence analysis to characterize similarity of sequences based on the number of changes necessary to convert one education sequence to another and hierarchical cluster analysis to group similar sequences. Middle age memory (average=49 years) was word recall (sum of immediate and delayed word recall) and counting (sum of serially subtracting 7 from 100 five times and backwards counting from 20 and 86), standardized for interpretability. We used linear regression to predict memory as a function of educational trajectory, adjusting for age at cognitive assessment, and childhood sociodemographic factors. **Results:** We summarized timing and final credential (high school diploma [HS], general educational development [GED], Associates Degree [AA], Bachelor's Degree, or graduate work) into 16 trajectories. Memory scores differed by final credential and timing. Most trajectories culminating in a GED predicted poorer counting than those culminating in an HS diploma (e.g., counting for those who attained a GED a few years after dropping out of HS vs. HS graduates, $b = -0.25$; 95%CI: -0.39,-0.11). Individuals who attained an AA after several years delay outperformed those who received an AA immediately after HS on the counting tasks ($b = 0.17$; 95%CI: 0.00,0.34). **Conclusions:** Both type of educational credential and timing of educational attainment were important predictors of memory in middle age.

Presenting Author: Anusha M. Vable

SOCIOECONOMIC INEQUALITIES IN CANCER MORTALITY IN BELGIUM Victoria Sass, (Vrije Universiteit Brussel (VUB)),

The relationship between socioeconomic status and morbidity and mortality is well documented in the public health literature. For most outcomes this relationship is negative aligning with a fundamental cause of disease perspective. Cancer, however, one of the leading causes of morbidity and mortality in the world, does not present as consistent of a relationship. Depending upon the site of the cancer and the cancer indicator used (i.e. incidence, survivability, or mortality) the research investigating the association between socioeconomic status and cancer outcomes is quite heterogeneous, ranging from negative over non-existent to positive. To more thoroughly understand the social patterning of cancer this research will utilize a novel set of data from Belgium which links census records, national mortality data, and a national registry of cancer diagnoses. This allows us firstly to see whether there are socioeconomic differences in site-specific mortality and its constituent components, site-specific cancer incidence and survival. Secondly, if socioeconomic differences are present, we will then determine whether this is a function of higher incidence, lower survival, or a combination of both. Particular attention will be paid to cancers with the largest inequalities and those that prior research has found to be most preventable. Belgium has the second highest all-cancer incidence in Europe and it is a leading cause of death in the country, accounting for 27% of total mortality in 2013. Coupled with this unique dataset, which allows for the consideration of inequalities between all three dimensions of cancer (incidence, survivability, and mortality), this country presents an interesting setting to investigate social differences in cancer.

Presenting Author: Victoria Sass

INFLUENCE OF INDIVIDUAL- AND NEIGHBORHOOD-LEVEL SOCIOECONOMIC FACTORS ON ODDS OF LATE COLORECTAL CANCER DIAGNOSIS AND THE LIKELIHOOD OF COLORECTAL CANCER SURVIVAL BY SEX Jamaica R Robinson, (Department of Epidemiology, University of Washington), Amanda I Phipps, Wendy E Barrington, Lianne Sheppard, Philip M Hurvitz, Polly A Newcomb

Background. Lower individual- and neighborhood-level socioeconomic status (SES) have been associated with a higher likelihood of late-stage cancer diagnosis and cancer mortality. Yet, research is limited on independent and joint influences of SES factors on colorectal cancer (CRC) outcomes and whether disparities differ by sex. This study aims to better identify windows of sex-specific SES impact for this increasingly curable disease. **Methods.** We included data from 2424 population-based CRC cases (55% women) diagnosed 1997-2007 in the Seattle-Puget Sound region. We focused on independent and joint effects of individual-level SES, measured by self-reported education, and a neighborhood SES (nSES) index constructed from 2000 US Census block group data. Logistic regression models evaluated odds of late-stage CRC diagnosis while stage-stratified extended Cox models assessed mortality post-CRC diagnosis. Separate models stratified estimates by sex. **Results.** Over a median of 5.7 years' follow-up, 976 participants died (646 of CRC). In independent effect models, lower nSES was associated with increased odds of late-stage diagnosis in all cases (OR: 1.14, 95% CI: 1.02-1.30) and in men (OR: 1.22, 95% CI: 1.02-1.48); education was related neither to late-stage diagnosis nor survival. In joint effect models, compared to women with high education/high nSES, women with low education/high nSES had poorer all-cause survival within 3 years of diagnosis (HR: 2.22, 95% CI: 1.07-4.61) and women with high education/low nSES had poorer survival within 6 years of diagnosis (HR: 1.73, 95% CI: 1.06-2.82). Disease-specific survival findings were similar. We found no association between SES factors and survival for all of follow-up. **Conclusion.** Our findings suggest that windows of SES impact on CRC outcomes differ by sex. The extent to which these inequalities reflect sex-specific modifiable access to care, or whether effects vary by other demographics (e.g., race), requires further study.

Presenting Author: Jamaica R Robinson

THE IMPACT OF ECONOMIC HARDSHIP AND WELFARE SANCTIONING ON SYNDEMIC CONDITIONS AMONG MOTHERS OVER TIME Courtney Caiola, (University of North Carolina Greensboro), Thomas P. McCoy, Shawn M. Kneipp

Few studies have examined the relationships between economic hardship and the use of related social welfare programs on the overlapping and mutually reinforcing epidemics of substance use, violence, and HIV/AIDS, known as the SAVA (Substance Abuse, Violence and HIV/AIDS) syndemic. A syndemic occurs when there are notable increases in the rate of two or more epidemics of any type in a population that mutually reinforce one another to create an excess burden of disease in a that population and are sustained by a broader set of social inequities based on race/ethnicity, class, and gender. Low-income single mothers are a vulnerable, yet understudied population of women impacted by the complex interplay of gender, race, and poverty on SAVA. Using data from the Fragile Families and Child Wellbeing Study, (n=4,898), we investigated the relationships between SAVA, Temporary Assistance for Needy Families (TANF) receipt, TANF sanctions, and economic hardship using path analysis. Analyses revealed the presence of SAVA syndemic conditions and economic hardship predicted increased SAVA in subsequent waves. TANF use was also associated with increased subsequent SAVA risk for Black mothers compared to mothers of other racial groups at different waves. Finally, the sanctioning of TANF benefits played a critical role in the relationship between TANF use and SAVA for Black mothers, where being sanctioned by the TANF program partially explained the subsequent increased SAVA risk for Black mothers, but not mothers of other racial/ethnic groups. The findings from this study extend the understanding of socioeconomic determinants of the SAVA syndemic among mothers in the United States and specifically point to the need for structural level interventions that address systemic factors like community-level economic hardship and institutional racism in the implementation and distribution of social welfare programs such as TANF, which are intended to buffer the effects of economic hardship.

Presenting Author: Courtney Caiola

A MULTI-LEVEL ANALYSIS OF THE IMPACT OF CHANGES IN COAL-FIRED POWER PLANT EMISSIONS ON ASTHMA-RELATED HEALTHCARE UTILIZATION AND SYMPTOMS IN LOUISVILLE, KENTUCKY

Joan A. Casey, (School of Public Health, University of California, Berkeley & Columbia University Mailman School of Public Health), Jason G. Su, Lucas Henneman, Corwin Zigler, Andreas M. Neophytou, Yu-Ting Chen, Sarah S. Moyer, Meredith A. Barrett

Background: U.S. energy transitions away from coal-fired electricity generation serve as natural experiments for assessing health benefits of resulting changes in air quality. Because 9% of the U.S. population has prevalent asthma, we aimed to evaluate the impact of a coal-fired power plant retirement and 3 sulfur dioxide (SO₂) emission control installations on asthma outcomes in Louisville, Kentucky. **Methods:** We characterized exposure via a land use regression model for SO₂ concentrations and a power plant emission exposure model (HyADS), which quantified the extent to which any power plant influences air quality in each U.S. ZIP code. At the ZIP code-level from 2012–2016, we evaluated associations between these two air quality measures and counts of quarterly asthma hospitalizations/emergency department (ED) visits. In a second analysis spanning 2012–2017, we quantified daily rescue inhaler use (measured spatio-temporally by digital medication sensors) among 207 AIR Louisville participants before and after an emission control installation. **Results:** During the study period, the median SO₂ concentration was 1.62 ppb (IQR: 0.94, 2.21) and the median (unitless) HyADS exposure was 6553 (IQR: 2283, 9702). In models adjusted for indicators of socioeconomic status and meteorological conditions, we observed 0.67 (95% CI: -0.10, 1.53) additional ZIP code-level quarterly asthma hospitalizations/ED visits per 1 ppb increase in SO₂ concentrations and 1.22 (95% CI: 0.52, 1.92) additional per IQR increase in HyADS exposure. A 1-IQR reduction in HyADS exposure translated into about 171 fewer annual visits county-wide. At the individual-level, the scrubber installation was associated with an immediate reduction in rescue medication use (-0.15 uses per day, 95% CI: -0.24, -0.06) and a 30% reduction over time. **Conclusion:** Air quality improvements due to coal-fired power plant retirements and scrubber installations may improve asthma outcomes.

Presenting Author: Joan A. Casey

EXAMINATION OF AIR QUALITY MEASURES AND SECONDHAND SMOKE (SHS) INCURSIONS IN TWO NYC SUBSIDIZED HOUSING SETTINGS: NEW YORK CITY HOUSING AUTHORITY (NYCHA) AND PRIVATE SECTOR BUILDINGS Elle Anastasiou, (NYU School of Medicine, Department of Population Health), Albert Tovar, Melanie Baker, Kasia Wyka, Terry Gordon, Donna Shelley, Lorna Thorpe

Objectives: The purpose of this study was to examine air quality measures and SHS incursions in select public and private sector, high-rise developments in New York City prior to the implementation of the nationwide, federal smoke-free housing policy targeting public housing authorities. **Background:** Tobacco remains the leading cause of preventable death in the United States, with 41,000 deaths attributable to secondhand smoke (SHS) exposure. As of July 30, 2018, the U.S. Department of Housing and Urban Development (HUD) passed a rule requiring all public housing authorities (PHAs) to implement smoke-free housing policies. **Methods:** We conducted a baseline telephone survey in ten selected NYCHA buildings in April-July 2018 and 11 selected private-sector buildings (herein Section 8) in August-November 2018. We invited residents from non-smoking households who completed the telephone survey to enroll their household into a longitudinal air monitoring study. Before implementation of the federal smoke-free housing policy, we measured SHS exposure for seven days in each building's common areas (hallways and stairwells) and in non-smoking households (NYCHA n=157, Section 8 n=118). **Results:** Results from baseline air monitoring sessions indicate evidence of widespread cigarette smoking in indoor common areas such as stairwells and hallways. Compared to hallways in Section-8 buildings, hallways in NYCHA buildings had significantly higher final nicotine concentrations (0.45 ug/m³ NYCHA, 0.09 ug/m³ Section 8, p=0.006) and percentages with detectable nicotine (89.5% NYCHA, 60.9% Section 8, p=0.036). The self-reported prevalence of seeing smoke in common areas such as lobbies, stairwells, hallways and elevators was higher in NYCHA buildings compared to Section-8 buildings (77.3% NYCHA, 55.6% Section 8, p <0.0001). **Conclusions:** The implementation of smoke-free policies may help in successfully reducing SHS exposure in low-income, public housing.

Presenting Author: Elle Anastasiou

COMMUNITY SOCIAL INSTITUTIONS PROTECTIVE AGAINST POOR CHILD MENTAL HEALTH IN FAMILIES AFFECTED BY THE DEEPWATER HORIZON OIL SPILL Lauren A. Clay, (D'Youville College & NYU College of Global Public Health), David M. Abramson

Social capital is recognized as health bolstering and more recently as playing a central role in disaster recovery. Social institutions may be a critical mechanism for the development of social capital as they provide opportunities for community members to interact to build networks and relationships necessary for collective action. In particular, social institutions may have a pivotal role to play in supporting children's health and welfare post-disaster. According to the Neighborhood Resources Model, social institutions such as membership organizations and schools are community resources that stimulate learning and foster a social environment to ensure healthy child development. These organizations are also increasingly being recognized for their indirect role in promoting community health. This study explores communities impacted by Hurricane Katrina and the Deepwater Horizon Oil Spill. Community social institutions were layered in a geographic information system with household data from the Women and Their Children's Health Study to explore whether the density and type of social institutions were associated with child mental health outcomes. Social institutions were mapped for three time periods: pre-2005 (Hurricane Katrina), 2005-2010 (Hurricane Katrina recovery period), and since 2010 (Deepwater Horizon Oil Spill recovery period) and household data were collected from 620 mother-child dyads in Louisiana two to four years after exposure. A logistic regression model examining the role of social institutions, household characteristics, maternal characteristics, and child-specific factors on child mental health shows that for each additional prosocial institution established in the community during recovery from Hurricane Katrina, respondents were 21 percent less likely to report a child mental health diagnosis (OR 0.79; 95% CI 0.63, 0.98). These findings highlight the importance of social institutions for communities before, during, and after disasters.

Presenting Author: Lauren A. Clay

LONGITUDINAL RACIAL DISPARITIES IN FOOD ENVIRONMENT (1990-2014) IN THE CONTINENTAL UNITED STATES Jana A. Hirsch, (Urban Health Collaborative, Dornsife School of Public Health, Drexel University), Nicolas Berger, Jeff Goldsmith, James Quinn, Kari A. Moore, Yuzhe Zhao, Gina Lovasi

Introduction: Across the US, racial disparities persist in nutrition and related health outcomes. In the last 20 years, evidence demonstrated relationships between local food environments and nutrition, as well as racial disparities in the local food environments. Recent policies have aimed to address food access by supporting healthy stores or restricting unhealthy stores, often targeting high-need areas. Objectives: Explore national disparities in food environment by neighborhood racial composition. Describe changes to racial disparities in food environments over 25 years. Methods: We measured food environment between 1990-2014 as counts of all food stores, all unhealthy food sources, healthy food stores, and supermarkets from National Establishment Time Series business data for 71,547 census tracts in the continental US. Using census variables, we classified tracts as predominantly (>60%) Non-Hispanic Black (NHB), Non-Hispanic White (NHW), Hispanic; Asian; or mixed. We used GEE Poisson models to estimate time trends in counts of food stores, with a land area offset, and change in racial disparities. Preliminary Results: Between 1990-2014, all food stores and all unhealthy food sources increased (~11%/5-yrs and ~20%/5-yrs, respectively) while healthy food and supermarkets remained relatively stable. In models adjusting for population density, predominantly NHB, Hispanic, and mixed tracts had significantly fewer food stores of all categories than predominantly NHW tracts. However, these tracts experienced larger increases per year than predominantly NHW tracts. Significance: While neighborhoods experienced increases in all food stores, most growth was from unhealthy options. National, longitudinal racial disparities align with city-specific cross-sectional research. Data suggest slight improvements in disparities over time. Funding: Work supported by NIA (1R01AG049970, 3R01AG049970-04S1), PA Dept of Health (SAP #4100072543), Drexel, and Columbia.

Presenting Author: Jana A. Hirsch

DEVELOPING “VIRTUAL NEIGHBORHOODS” TO PROMOTE EQUITY IN DIETARY**BEHAVIORS IN NEW YORK CITY** Yan Li, (The New York Academy of Medicine), Rienna G. Russo, Nan Jiang, Stella S. Yi

Background. There are striking differences in dietary patterns across different neighborhoods in New York City (NYC). The variability in diet behavior may be caused by disadvantaged neighborhood characteristics such as limited walkability to fresh produce, overabundance of fast food restaurants, and increased exposure to marketing of unhealthy foods. Using agent-based modeling, this project aims to disentangle the complex relationships between neighborhood factors and dietary behaviors and develop “virtual neighborhoods” that can be used to design targeted interventions to promote health equity across different neighborhoods in NYC.

Methods. We developed an agent-based model to simulate daily dietary behaviors of individuals. The model incorporates sociodemographic factors (e.g., age, gender, education, income) and accounts for the impact of social networks on the eating habits and beliefs for the simulated individuals. The agent-based model was further integrated with data from the geographical information system of NYC to develop “virtual neighborhoods” in which simulated individuals lived and bought different food items from stores, supermarkets, and restaurants.

Results. To demonstrate the potential use of the “virtual neighborhoods”, we assessed the impact of improving access to fruits and vegetable on the consumption pattern among residents in each of the NYC neighborhoods. We found that the intervention effect varied significantly across different neighborhoods. For example, a program that increases the number of fruit and vegetable vendors by 10% could increase the consumption of fruits and vegetables by 3.5% in South Bronx while consumption would increase only 0.9% in Upper East Side.

Conclusions. Agent-Based modeling and “virtual neighborhood” approach can provide policymakers and public health officials with a low-cost, low-risk solution to design targeted interventions to promote equity in dietary behaviors.

Presenting Author: Yan Li

THE EFFECTS OF EDUCATION ON MORTALITY: EVIDENCE FROM A REPRESENTATIVE SAMPLE OF AMERICAN TWINS, SIBLINGS, AND NEIGHBORS John Robert Warren, (University of Minnesota), Andrew Halpern-Manners, Jonas Helgertz, Evan Roberts

Does education change people's lives in a way that delays mortality? Or is education primarily a proxy for unobserved endowments that promote longevity? Most scholars conclude that the former is true, but recent evidence based on Danish twin data calls this conclusion into question. Unfortunately, these potentially field-changing findings—that obtaining additional schooling has no independent effect on survival net of other hard-to-observe characteristics—has not yet been subject to replication outside Scandinavia. We produce the first U.S.-based estimates of the effects of education on mortality using a representative panel of male twins drawn from linked complete-count Census and death records. For comparison purposes, and to shed additional light on the roles that neighborhood, family, and genetic factors play in confounding associations between education and mortality, we also produce parallel estimates of the education-mortality relationship using data on (1) unrelated males who lived in different neighborhoods during childhood; (2) unrelated males who shared the same neighborhood growing up; and (3) non-twin siblings who shared the same family environment but whose genetic endowments vary to a greater degree.

Presenting Author: John Robert Warren

POLICIES MATTER: WHAT STATES ARE DRIVING THE DECLINE IN US LIFE EXPECTANCY?

Steven H. Woolf, (Virginia Commonwealth University), Andrew Halpern-Manners, Jonas Helgertz, Evan Roberts

US life expectancy (LE) has decreased for the past 3 years, but the problem is not new: it began losing pace with OECD countries in the 1980s and fell below the OECD average in the 1990s, when mortality rates among adults ages 25-64 years began increasing. This study examined LE at birth for the US and all 50 states, obtained from the Human Mortality Database, for 1959-2016 (most recent year available) and state mortality trends among adults ages 25-64 years, obtained from CDC WONDER for 1999-2017. The Joinpoint Regression Program was used to pinpoint years when trends (slopes) changed. The recent decline in LE was isolated to certain states (e.g., Rust Belt, New England) and began as early as 2009. Four states (Ohio, Pennsylvania, Indiana, and Kentucky)—home to 11% of the US population—accounted for approximately one third of excess deaths among adults ages 25-64 years. LE trends from 1959 onward reveal striking reversals in state rankings (e.g., New York once had lower LE than Oklahoma but rose to 3rd highest in the nation by 2016; Kansas had the highest LE in 1959, but fell to 21st by 1998). State trend lines often separated in the 1990s, with conspicuous divergences between adjacent states (e.g., Colorado/Kansas, Alabama/Georgia). Cause-specific mortality trends with policy implications (e.g., firearm deaths) also diverged. Although this study did not examine causality, likely explanations for this geographic patterning include (a) compositional factors (e.g., changes in demography and state economies) and (b) policies, such as state decisions to modify public health legislation or adopt policies affecting socioeconomic status/income inequality. Although states cannot control compositional changes, policy choices could be shortening lives. Amid the gridlock in Washington, DC, states may be exerting greater control over public health. Identifying which policies are costing lives is urgent to reverse such measures and prevent their spread elsewhere.

Presenting Author: Steven H. Woolf

GEOGRAPHIC INEQUALITY IN MORTALITY COMPRESSION IN THE UNITED STATES Joseph Lariscy, (University of Memphis), Dustin Brown, Benjamin Walker

Geographic disparities in health and mortality in the United States are wide, persistent, and potentially growing. Most studies of state differences in mortality risk examine life expectancy or mortality hazard ratios to demonstrate geographic inequalities. However, changes over time in lifespan variability may reveal an additional layer of health disparities, especially inequality in mortality risk within states. Although increases in life expectancy have historically led to compression of the age-at-death distribution, this association may have been uncoupled during the second half of the twentieth century so that the age-at-death distribution is simply shifting to older ages. We use 1960–2015 U.S. Human Mortality Database to estimate lifespan variability and life expectancy among all 50 states and Washington DC. We quantify lifespan variability using both the standard deviation in age at death beyond age 10 and e^{\dagger} . Results reveal substantial differences in dispersion in the age-at-death dispersion by state. We also find varying patterns in mortality compression by state, with some states exhibiting continued compression and other states exhibiting shifting mortality (i.e., increasing life expectancy with the age-at-death distribution maintaining its shape without compression). These differences in the pace and timing of mortality compression have led to growing inequalities in lifespan variability across states. Thus, state differences in life expectancy extend to within-state differences in lifespan variability as well. We conclude by discussing how the heterogeneity in the United States' mortality profile contributes to its poor standing compared with other high-income, low-mortality countries.

Presenting Author: Joseph Lariscy

REGIONAL DIFFERENCES IN LIFE EXPECTANCY DISPARITIES BETWEEN POPULATIONS WITH AND WITHOUT TYPE 2 DIABETES IN THE UNITED STATES Emma Zang, (Duke University), Scott Lynch

Objectives. To evaluate regional disparities in the influence of diabetes on life expectancy at age 50, we estimate disparities in life expectancy at age 50 between populations with and without type 2 diabetes in the United States by birth region and current residence. **Methods.** Using data on a cohort of 17,693 persons from the Health and Retirement Survey from 1998-2014, we applied a Bayesian multistate life table method to calculate the gap in life expectancies at age 50 between diabetic and non-diabetic populations by each birth region and current region combination. **Results.** At age 50, diabetics were expected to live on average 5.9-8.5 years and 7.4-9.8 years less than their non-diabetic and healthy equivalents, respectively. The impact of diabetes on population health was the largest for people currently living in the northeast compared to those living in other regions, and was the smallest for people born in the south compared to those born in other regions. Having diabetes worsened the health consequences among population with chronic conditions by approximately 1.9-4.2 years, whereas having diabetes made little changes to the health consequences for population with ADLs. **Conclusions.** These analyses demonstrate that diabetes is a significant threat to life expectancy in the United States, impacting populations in different regions differently.

Presenting Author: Emma Zang

THE AFFORDABLE CARE ACT CONTRACEPTION MANDATE & UNINTENDED PREGNANCY IN WOMEN OF REPRODUCTIVE AGE: AN ANALYSIS OF THE NATIONAL SURVEY OF FAMILY GROWTH 2008-2015 Colleen L. MacCallum, (Michigan State University, Department of Epidemiology & Biostatistics), Claire E. Margerison

The objective of this study was to assess: (1) whether unintended pregnancy (UIP) decreased following the Affordable Care Act (ACA) contraception mandate, and (2) whether this decrease differed by race/ethnicity, insurance, or relationship status. We used data on sexually active, fecund women of reproductive age from two cycles (2006-2010, 2013-2015) of the National Survey of Family Growth (NSFG) (unweighted n=7,236). We used logistic regression analyses to determine whether odds of UIP differed between pre-mandate and post-mandate periods. We also stratified analyses by race/ethnicity, insurance, and relationship status because we hypothesized that these groups would be differentially impacted by the ACA mandate. The percentage of women experiencing an UIP decreased from 5.5% to 4.8% (p=0.37), and the percentage of pregnancies that were unintended decreased from 44.7% to 37.1% (p=0.17) between pre- and post-mandate periods. After controlling for age, race/ethnicity, insurance, income, education level, and relationship status, it was estimated that the odds of an individual experiencing an UIP in the post-mandate period was 0.83 (95% CI: 0.60, 1.15) times the odds in the pre-mandate period (p=0.26), and the odds of a pregnancy being unintended in the post-mandate period was 0.82 (95% CI: 0.52, 1.31) times the odds in the pre-mandate period (p=0.40). Stratified analyses indicated these results were consistent across racial/ethnic, insurance, and relationship status groups. These analyses suggest that, in order to reduce the burden of UIP, more effort is required to identify and address additional barriers to use of highly effective contraception and reproductive autonomy.

Presenting Author: Colleen L. MacCallum

FIREARM PURCHASES WITHOUT BACKGROUND CHECKS IN CALIFORNIA: FINDINGS FROM A 2018 STATEWIDE SURVEY Nicole Kravitz-Wirtz, (University of California, Davis School of Medicine), Rocco Pallin, Rose Kagawa, Matthew Miller, Deborah Azrael, Garen Wintemute

In 2017, more than 3,000 Californians died from firearm-related injuries, and a greater number were shot but survived. As one means for preventing such violence, federal law requires that licensed firearms dealers perform background checks on would-be purchasers to verify that they are not prohibited from possessing firearms. California and 13 other states go further, requiring background checks for virtually all acquisitions of firearms, including transactions involving private unlicensed sellers. Prior research suggests that these comprehensive background check policies are not always associated with an increase in background checks, and that they may have had little effect on population-level homicide or suicide rates. Failure to conduct required background checks may play a role in decreasing the effectiveness of background check policies, yet this remains understudied. We present state-representative estimates from a 2018 study of the prevalence of and factors associated with firearm purchases without background checks in California using data from the first detailed survey (N=2558) on firearm-related topics in the state in over 40 years. Overall, we find that nearly 1 in 5 (19%; 95% CI=11%-30%) firearm owners who purchased their most recent firearm in California after the state implemented a comprehensive background check policy reported doing so without having undergone a background check. More specifically, 7 in 10 (72%; 95% CI=35%-93%) firearm owners who purchased their most recent firearm from a private seller reported doing so without a background check, compared to 1 in 10 (10%; 95% CI=5%-21%) for firearms purchased at or from a retailer. Differences by socioeconomic characteristics of respondents and time of firearm purchase were also observed. These findings can inform policies and practices to decrease firearm transfers without background checks and ultimately, to reduce firearm-related injury and death that may be associated with such failures.

Presenting Author: Nicole Kravitz-Wirtz

ACTIVE LIVING-ORIENTED ZONING AND BMI: A TEST OF COMPLEMENTARITY AND SUBSTITUTION WITH THE RETAIL FOOD ENVIRONMENT Shannon N. Zenk, (University of Illinois at Chicago), Oksana Pugach, Coady Wing, Jamie Chriqui, Christina Laternser, Elizabeth Tarlov, Sandy J. Slater

Purpose. Public policies can be an effective population health strategy to offset impacts of obesogenic environments or take advantage of supportive environments. We tested competing hypotheses for whether active living-oriented zoning policies substitute for food environment deficiencies or complement food environment supports. **Methods.** Using a retrospective cohort design, we drew on five years of electronic health record data (2012-2016) with county-level identifiers from a large U.S. healthcare organization. We linked these data to nationwide datasets of active living-oriented zoning policies (i.e., provisions that facilitate walking and biking) and retail food environment features (i.e., number of supermarkets, fast-food restaurants, and convenience stores within 1 mile), aggregated to the county level. The sample comprised 7.4 million adults aged 20-59 and 2.8 million older adults aged 60+, nested within 286 counties. Using latent class analysis, we classified counties based on the strength of the encompassed active-living zoning. Linear regressions with person and year fixed effects and controls were estimated. **Results.** Preliminary results revealed, in adult women, greater fast food restaurant availability was positively associated with BMI, only in counties with the strongest active living-oriented zoning. In adult men, greater supermarket availability was negatively associated with BMI, only in counties with moderately strong active living-oriented zoning. Among seniors, greater supermarket availability was negatively associated with BMI in women living in counties with the strongest active living-oriented zoning. **Conclusions.** Supermarket results are consistent with the hypothesis that active living-oriented zoning complement greater supermarket access to produce lower adult body weights. Our results do not support that active living-oriented zoning can substitute for high fast food restaurant access to produce better body weight outcomes.

Presenting Author: Shannon N. Zenk

TAXING SUGARY DRINKS IN MEXICO: AN ANALYSIS OF SCIENCE, POLITICS, AND POLICY

David Washburn, (Texas A&M School of Public Health), Amy Fairchild, Emanuel Orozco, Ronald Bayer, Oscar Hernandez, Eduardo Elizondo

Mexico and the United States have the highest obesity rates of any OECD countries. To confront obesity, diabetes, and other chronic ailments, taxes on sugar-sweetened beverages (SSBs) have emerged as key policy initiatives in a global public health effort with the WHO calling for a tax of at least 20% on SSBs. Yet the taxation of SSBs has met with significant opposition due to concern regarding economic impact. Others argue that SSB taxes not only help to generate revenue for government programs but they also lead to significant cost savings. Given recent developments regarding possible relationships between US agencies (including the Centers for Disease Control and the National Institutes of Health) and industry producers/distributors of SSBs and/or alcohol, exploring how evidence is used for public health related taxation policy decisions is critical. In January of 2014, Mexico implemented a 10% tax on SSBs. Mexico's experience provides an important example of (1) the political mechanisms through which taxation on SSBs came to be and the role that evidence played in the debate, and (2) the behavioral impact across subpopulations that the law has had. To study these issues we use a mixed-methods approach, including qualitative interviews with policymakers, academics, and industry, and a quantitative analysis using 2012/2016 nutrition and health data spanning two years on either side of Mexico's SSBs tax. This paper, then, is unique in considering evidence, ethics, and politics both before and after implementation: it analyzes the extent to which such policies are justified in terms of revenue enhancement or protection from toxic threats, the degree to which questions of paternalism (justified or not) have informed such campaigns, the debate on the role of equity considerations in encountering the burden of obesity and its consequences among those at social disadvantage, and finally, the early impact this policy has had on particularly vulnerable populations.

Presenting Author: David Washburn

IMPLEMENTING A MULTI-LEVEL ELECTRONIC HEALTH RECORD AND COMMUNITY HEALTH WORKER INTERVENTION IN IMMIGRANT-SERVING PRIMARY CARE PRACTICES TO IMPROVE HYPERTENSION CONTROL AMONG SOUTH ASIAN PATIENTS Jennifer Zanowiak, (NYU School of Medicine, New York, NY), Radhika Gore, Priscilla Lopez, Anna Divney, Sahnah Lim, Lorna Thorpe

Background: Despite population-wide health efforts addressing hypertension (HTN), culturally-adapted multi-level strategies are needed for ethnic/minority communities facing HTN disparities. Objective: Project IMPACT integrates provider-level electronic health records (EHRs) interventions and patient-level community health worker (CHW) coaching to improve HTN control among South Asians in New York City. We tested IMPACT's feasibility, adoption, and impact among 14 primary care practices. Methods: Practices received EHR capacity-building support to identify hypertensive patients. Patients with uncontrolled hypertension (n=304) were enrolled and randomized to treatment or wait-list control groups after completion of a CHW-led education session on HTN control. The treatment group participated in 4 additional in-language, culturally-adapted education sessions and bi-monthly health coaching via phone. We conducted semi-structured interviews with practice staff, CHWs, and a payer organization; direct observation of clinic workflow; and practice surveys to examine implementation processes and outcomes. Results: Preliminary analysis (n=148) demonstrates among the intervention group, HTN control increased from 44.4% at baseline to 64.4% at 6-months (p=0.057), while HTN control decreased from 51.3% at baseline to 43.6% at 6-months among controls (p=0.496). Findings from the implementation study revealed that EHR capacity-building led to new organizational practices, linked to CHW actions, that formalized clinics' existing informal community knowledge and embeddedness. CHWs helped form connections between clinics, patients, and patients' social networks, thus building social ties between clinic and community, though clinic staff limitations resulted in variability in extent of CHW integration. Conclusions: We will discuss how study findings provide opportunities to translate and scale our model to address health disparities in ethnic/minority communities.

Presenting Author: Nadia Islam

SEXUAL IDENTITY TRAJECTORIES AND CIGARETTE SMOKING IN A NATIONALLY REPRESENTATIVE SAMPLE OF YOUTH AND YOUNG ADULTS Alyssa F. Harlow, (Boston University School of Public Health), Dielle Lundberg, Katy Berry, Andrew Stokes

Sexual identity transitions during a young person's sexual identity development may influence smoking risk behaviors. We aimed to assess whether youth and young adults in the United States who transition sexual identities have a higher risk of becoming current cigarette smokers than youth with stable sexual identities. This prospective cohort study used data from the nationally representative Population Assessment of Tobacco and Health (PATH) study (2013-2016) to measure sexual identity and smoking behaviors of 10,981 youth and young adults aged 14-29 years who are not current cigarette smokers at baseline. We distinguished between stable non-sexual minority identities, stable sexual-minority identities, and those who transitioned to a sexual-minority identity based on three waves of sexual identity data. Using sample weighted multivariable logistic regression, we modeled current combustible cigarette use at wave 3 as a function of sexual identity trajectories, controlling for confounders. We additionally assessed the effect of identifying as bisexual on our results. By wave 3, 8.7% of participants were current cigarette smokers. Compared to stable, non-sexual minority identities, transitioning to a sexual minority identity over follow-up was associated with more than 2 times the odds of smoking by wave 3 (OR: 2.39, 95% CI: 1.68 to 3.41), and having a stable sexual minority identity was associated with 1.5 times the odds smoking (OR:1.50, 95% CI: 1.07 to 2.11). Youth who came out as sexual minority and transitioned to a bisexual identity had the highest risk of becoming a smoker (OR: 2.91, 95% CI: 1.96 to 4.33). Compared to youth with stable identities, youth who are transitioning to a sexual minority identity may be more vulnerable to smoking risk behaviors. In our data, this association was greatest for youth who identified as bisexual. More research is needed on mechanisms underlying the association between sexual identity transitions and cigarette smoking.

Presenting Author: Alyssa F. Harlow

REFRAMING "OBESITY" RESEARCH USING A WEIGHT-NEUTRAL APPROACH Victoria Sass,
(University of Washington), Dielle Lundberg, Katy Berry, Andrew Stokes

Research on the causes and consequences of the “obesity” epidemic has been a major focus of public health over the past two decades. Much has been written about the adverse health consequences for those of a higher BMI and the implications for both individual- and population-level health. However, the framing of much of this research still falls within a fat-phobic paradigm which continues to stigmatize and pathologize those living in larger bodies. As a result, the public health literature focusing on the association between higher BMI and poor health outcomes is limiting and largely neglects the mental health consequences of society’s emphasis on thin bodies. What current public health research fails to incorporate into its analysis on health and BMI is the stigma associated with living in a larger body and the often overlooked incidence of eating disorders stemming from a narrowly defined (literally and figuratively) conception of good health. Drawing on research from the Health at Every Size, Intuitive Eating, and Radical Self-Love movements, this paper seeks to broaden public health’s understanding about the connection between poor physical health outcomes, health behaviors, mental health, and the stigmatization of larger bodies. Within a weight-neutral framework, public health research will be better able to elucidate the connection between negative health outcomes and higher BMI while properly situating this association within a broader context that takes into account histories of body dysmorphia, eating disorders, food insecurity, and other mental/physical health comorbidities. Recentring the conversation on health behaviors, independent of BMI, this paper seeks to incorporate the theoretical advances made by the aforementioned research disciplines to explicate the ways society, including public health, has failed to comprehend the mechanisms behind many adverse health conditions largely attributed to higher body weights.

Presenting Author: Victoria Sass

WHAT WE ACTUALLY EAT IN AMERICA: DISPARITIES IN TYPES OF DIETS CONSUMED IN THE UNITED STATES Shawna Guttman, (University of Colorado, Denver), Patrick Krueger

Introduction: We inductively identify types of diets consumed in the United States, using a broad slate of foods solicited in a dietary recall. Existing research undermines our ability to understand the actual diets consumed and health disparities, by focusing on single foods (eg, sugar-sweetened beverages), rarely consumed diets (eg, paleo diet) or diets as concepts (eg, haute cuisine). We advance prior research by (1) identifying types of diets consumed in the United States, and (2) test hypotheses about how race/ethnic disparities vary across education levels. **Methods:** We use 2-day, 24-hour dietary recall data from the 2003-14 waves of the National Health & Nutrition Examination Survey for adults, 25yrs and older (n=25,109). We take ~10,000 food codes used in the data, combine them to create ~300 foods or groups of similar foods that are well populated by data. We use latent class analysis to inductively identify types of diets. We also examine how types of diets vary across race-ethnicity (i.e., Mexican Americans, blacks, & whites), and education levels. **Results:** Preliminary analyses identify a three-class model. Class 1 is marked by high levels of soda, white bread & canned vegetables; Class 2 is marked by high levels of diet soda and moderate levels of white bread and canned vegetables; and Class 3 is marked by high levels of raw fruits, vegetables, & brown rice. Diets differ significantly across race-ethnicity - blacks are most likely to be in Class 1, Mexican Americans are most likely to be in Class 2, and whites are most likely to be in Class 3. Black-white disparities in diet widen with education, but Mexican American-white disparities narrow with education. Further analysis will consider models that allow for more diets. **Discussion:** Our inductive approach identifies diets that are not well represented in the literature. Better understanding of diets can offer insight into how to close race-ethnic and education disparities in diets.

Presenting Author: Shawna Guttman

STATE-LEVEL LEGISLATION, REPRODUCTIVE AUTONOMY, AND OUTCOMES: EVIDENCE FROM A SCOPING SYSTEMATIC REVIEW OF THE LITERATURE Andrew S. Bossick, (University of Washington, School of Public Health, Department of Health Services), Jennifer Brown, Ami Hanna, Canada Parrish, Jodie G. Katon

Background: Reproductive health (RH) policy varies across the US and has a variable impact on women's access and utilization of important reproductive health services (e.g. prenatal care), reproductive autonomy, and health outcomes. Aim: To systematically review the impact of state level RH legislation on RH access, utilization, and outcomes. Methods: Standard search terms developed in consultation with a research librarian were used to search PubMed in August 2018. Original research conducted in the US and tested associations of state level policies on reproductive health outcomes was included. Studies that were qualitative/mixed-methods, did not use the state as the unit of analysis (e.g. reported only national trends), pre-dated the Affordable Care Act, or included minors, were excluded. Reference lists of review articles and opinion pieces were searched for relevant articles. After dual review inclusion agreement was 100%. Results: Search results returned 1,529 articles. 54 (3.53%) met inclusion for full review. After dual review, 8 (14.8%) were selected for inclusion. Two included all 50 states and Washington DC, one included two states, and the remaining studies included single states. Most studies (n=5, 62.5%) focused solely on abortion policy. Mandatory waiting periods for abortion services, two-visit requirements, and targeted regulation of abortion providers laws were associated with negative RH outcomes. Outcomes included prenatal care, preterm birth and low birthweight, and rates of C-section. Other topics included family planning funding and a composite score of policies related to reproductive autonomy. Conclusions: Policies have a considerable impact on the RH care women have access to and receive, and related outcomes, but research is limited. Our review found that most studies were abortion focused, indicating that more research is needed that rigorously and holistically evaluates the relationship between RH autonomy and health outcomes.

Presenting Author: Andrew S. Bossick

UNDERSTANDING SEXUAL AND REPRODUCTIVE HEALTH DISPARITIES ACROSS THE LIFE COURSE AMONG BLACK WOMEN LIVING THROUGH JIM CROW LaShawnDa Pittman, (University of Washington), Kemi Doll, Julianna Alson

Significance: Black women's sexual and reproductive health over the life course, is marked by uniquely poor outcomes compared to all other racial and ethnic groups in the US (Eichelberger, K.Y., et al. 2016). Such poor outcomes can be found across historical time periods. This paper uses a life course perspective to examine upstream contextual factors contributing to sexual and reproductive health disparities among Black women living through Jim Crow racial segregation. Research questions: What is it about residing in a Jim Crow polity (Krieger et al. 2013) and with unequal/uncertain civil rights (Prather et al. 2018) that contributes to Black women's sexual and reproductive health disparities? What are Black women's healthcare experiences across the life course and how do they contribute to their health disparities? What protective factors supported Black women's sexual and reproductive health outcomes during the Jim Crow era? Data/methods: We use Dedoose cloud-based mixed methods software to analyze oral histories from the Duke University's Behind the Veil Oral History Project and Harvard University's Black Women's Oral History Project. Preliminary results: 1) Black women living through Jim Crow segregation experienced sexual and reproductive disparities across the life course because of the nature and structure of the health/medical care available to them. 2) Childrearing increased women's vulnerability to the stressors associated with institutional racism by bringing women in direct confrontation with police and whites enforcing the Jim Crow system. 3) Generational poverty made women susceptible to sexual and reproductive health disparities by overworking them, limiting their access to education, and contributing to their housing and food insecurity. We discuss the implication of these findings for understanding racial disparities in sexual & reproductive health not only across the life course but also within specific historical time periods.

Presenting Author: LaShawnDa Pittman

VICARIOUS POLICE CONTACT, RACE, AND HEALTH LIFESTYLES AMONG URBAN ADOLESCENTS Michael McFarland, (Florida State University), Cheryl McFarland

Modern policing is carried out under the proactive policing model, in which officers actively engage large numbers of citizens through stops and searches to disrupt situations interpreted to be indicative of the presence of crime. Advocates of the proactive policing model argue that stopping, searching, and detaining people represents a minor nuisance for those who are innocent of a crime, implying that the costs of inconveniencing people are worth any crime reduction benefits. A key question, therefore, is whether police contact is generally benign or instead has more pernicious consequences for population health. Vicarious police contact is particularly important because of the sheer number of people affected (Geller 2018). Available evidence suggest vicarious contact is linked to a host of worse physical and mental health outcomes, particularly when contact is perceived as unfair. Less is known about the ways such contact is related to health lifestyles. This research utilizes a longitudinal sample from the Fragile Families and Child Well Being Study (FFCWS) along with latent class and propensity score weighting modeling approaches to ask: (1) do discrete health lifestyles manifest among young urban adolescents; (2) how is vicarious contact with police related to health lifestyles; (3) how do these associations vary by race; and (4) does perceived procedural injustice mediate the police contact/health lifestyle relationship. Preliminary analysis suggest: (a) the presence of four health lifestyles (i.e. low-risk, high-risk, moderate-risk active, moderate-risk inactive); (b) vicarious police contact is associated with a lower probability of being in the low-risk lifestyle among blacks, Hispanics, and multiracial respondents but not among whites or Asians; (c) these associations are explained by perceived procedural injustice during these encounters.

Presenting Author: Michael McFarland

IMMIGRATION RAIDS AND THEIR SPILLOVER EFFECTS ON MENTAL HEALTH IN THE U.S.

Brittany N. Morey, (University of California, Riverside), Tanya Nieri, Cecilia Ayan, San Juanita Garcia, Christian Guerra, Ana Yeli Ruiz, Bruce G. Link

Background: Immigration raids are a form of structural racism. Prior work has shown that immigration raids by U.S. Immigration and Customs Enforcement (ICE) cause greater stress and worse stress-related birth outcomes for Hispanics living in those communities where the raids occurred. We conduct the first nationwide study of the effects of immigration raids on mental health within states. We test whether ICE raid arrests have spillover effects on broader populations of immigrants and their descendants in the states where they occur, even if they are not directly affected. **Methods:** Data on immigration raids were collected from the ICE news website. We combined state-level raid data with individual-level data from the nationally-representative U.S. Behavioral Risk Factor Surveillance System (BRFSS) from 2011-2017. Using difference-in-difference models, we examined whether the number of ICE raid arrests occurring in the 3 months prior to BRFSS interview within the state of residence were associated with individuals' self-reported poor mental health, adjusting for age, sex, and education. We assessed whether the effects on mental health were specific to Hispanic Americans. **Results:** From 2011-2017, 71 ICE raids occurred across all 50 states, resulting in over 40,000 arrests. Among Hispanics (n=259,577), we expect the number of ICE arrests that occurred in the state of residence in the past 3 months to be associated with a higher number of poor mental health days in the past month. We expect to see no similar association for non-Hispanics (n=3,057,789). **Discussion:** This study informs us of whether ICE raids have spillover effects on poor mental health in states, and if so, whether Hispanics are more affected than non-Hispanics. The forcible removal and separation of people due to ethnicity, race, and/or legal status may ultimately result in disadvantaging a racial or ethnic group, leading to health disparities.

Presenting Author: Brittany N. Morey

RURAL HOSPITALS AS ANCHORING INSTITUTIONS: INNOVATING TO IMPROVE POPULATION HEALTH OUTCOMES Heather Whetsell, (SIU School of Medicine, Department of Population Science and Policy)

Hospitals and health systems are known for providing health care services that diagnosis and treat illnesses. However, health care systems can also bolster the economy and quality of communities. These activities are critical to improving population health outcomes, especially in rural areas. Anchoring institutions support the development and maintenance of social capital while serving to represent the collective identity of the community. The passage of the Patient Protection and Affordable Care Act in 2010 increased the responsibility of hospitals to provide community benefit. Hospitals across the country have leveraged their role as anchor institutions to make a sizable impact in the communities they serve. Much of this innovation is occurring in rural areas where hospitals are responding to worsening economies and health outcomes. Southern Illinois University School of Medicine's Department of Population Science and Policy (PSP) partners with rural hospitals across its 66 county service region to use design and implementation science to help hospitals be more effective anchor institutions. Our process aims to better understand community culture, build interdisciplinary coalitions, and acquire quantitative and qualitative data to improve health. In Hillsboro, Illinois, PSP partners with Hillsboro Area Hospital to improve education outcomes by designing an intervention within its child development center. In Lincoln, Illinois, PSP is working with Abraham Lincoln Memorial Hospital's Community Health Collaborative to tackle poverty by designing an apprenticeship program to provide at-risk youth with employment pathways. Rural hospitals in Illinois are having a tremendous impact in the health of their community by accepting their role as anchor institutions and using community benefit dollars to improve health outcomes. Our hope is that population health practitioners can use this session to adapt our processes to help their rural hospitals become social anchors.

Presenting Author: Sameer Vohra

BUILDING A REGIONAL INFRASTRUCTURE TO IMPROVE RURAL POPULATION HEALTH OUTCOMES Heather Whetsell, (SIU School of Medicine, Department of Population Science and Policy)

Southern Illinois University School of Medicine (SIU SOM) serves a 66 county, mostly rural service region, in central and southern Illinois. 22 of the 25 counties with the poorest health outcomes in Illinois reside in this service region. In an effort to advance its social mission, SIU SOM launched an initiative in population science and policy in 2016 to create innovative solutions to improve health. First, as an Office of Population Science and Policy and then in July 2018 as a Department of Population Science and Policy (PSP), SIU SOM embarked on a process to build a regional infrastructure to research and improve population health outcomes across central and southern Illinois. PSP was founded to take an approach to health care that bridges data, health care delivery and social and environmental determinants of health. PSP's research and data-driven process works with community partners to identify health priorities, actualize interventions and create and amend policies to achieve improved, sustainable health outcomes. Typical partners include hospitals and healthcare systems, school districts, nonprofits, police departments and the justice system. PSP is organized around three divisions (Human and Community Development, Health System Science and Epidemiology and Biostatistics) with personnel that help our team better understand the region's needs, work with communities to build capacity to create programs that will lead to health outcome improvement, and create policies that institutionalize sustainable change. PSP's processes are built upon appropriate public health epidemiology, evaluation and implementation science, and collective impact that provides communities the greatest opportunity for health outcome improvement success and sustainability. Our hope is that this session will provide population health practitioners with a greater understanding of our SIU SOM's process to build the infrastructure to research and improve population health outcomes.

Presenting Author: Heather Whetsell

UNHEALTHY ALCOHOL USE IN RURAL AND URBAN PARENTS Kara Bensley, (University of California, Berkeley), Heather Whetsell

Background: Unhealthy alcohol and drug use increases risk of child maltreatment and child welfare involvement. Most research about child welfare focuses on urban families, and little is known about rural parental substance use and child welfare, including the prevalence of unhealthy alcohol use specifically among rural and urban parents. **Methods:** National data from 2016 Behavioral Risk Factor Surveillance System Random Child Selection Module were used, comparing alcohol use across parents in rural (outside of metropolitan statistical area) and urban (in metropolitan statistical area) counties using chi-square tests. Three alcohol use measures were used: any use, and among drinkers, heavy alcohol use (>14 drinks/week for men or >7 drinks/week for women), and binge drinking (≥ 5 drinks for men or ≥ 4 drinks for women on an occasion) in the past 30 days. Comparisons were stratified by gender (men and women). **Results:** There were 18,801 parents in this study, with 57.5% (n=10,812) reporting any alcohol use. Rural parents were less likely to consume any alcohol (52.4% of rural relative to 60.6% of urban, $p < 0.001$). Among drinkers, rural parents were more likely to report heavy alcohol consumption (9.8% of rural relative to 8.1% of urban, $p = 0.005$) and binge drinking (30.7% of rural relative to 25.6% of urban, $p < 0.001$). Stratified by gender, rural fathers were more likely to report heavy alcohol use and binge drinking than urban fathers ($p < 0.001$ for both), and rural mothers were more likely to report binge drinking than urban mothers ($p < 0.001$), with no differences in reported heavy alcohol use ($p = 0.912$). **Conclusions:** Both abstinence and unhealthy alcohol use is more common in rural parents than urban parents, for both men and women. This highlights the need for more research to better understand reasons for urban/rural differences in unhealthy alcohol use among parents, and how this may be associated with involvement of rural families in the child welfare system.

Presenting Author: Kara Bensley

UNDERSERVED, UNDERFUNDED: THE IMPACT OF MINDFUL MEDICAL EQUIPMENT RECOVERY ON HEALTHCARE ACCESS IN UNDERSERVED COMMUNITIES. Ethan McGann, (Eastern Virginia Medical School), Chase LaRue, Amanda Severn, Alex Schmitt, Ellen Dowling, Alexandra Leader

Significance: Waste in the US healthcare system is well documented - \$765 billion a year is spent on unused and readily recoverable equipment. The rise of free clinics in the safety-net system alongside the financial strains faced by these providers allows mindful medical equipment recovery to play a significant role in increasing equitable access to care for underserved populations. Free clinics allot on average \$82.80 per visit before overhead and operational costs are considered. Therefore, it is imperative to creatively address the needs of such operations to facilitate the provision of sustainable, high-quality healthcare. EVMS REMEDY is a student-run, medical recovery operation that addresses the issues of medical waste and health equity through mindful, ethical, and needs-based distribution of recovered medical supplies while promoting a reproducible model to be adopted by other institutions. Data/Methods: New and reusable medical supplies are collected and redistributed through longitudinal community partnerships and the ethical guidelines set forth by Partnership for Quality Medical Donations (PQMD). Since inception in 2017, EVMS REMEDY has mindfully donated 1,345 pounds of medical supplies to 11+ local and international communities. Using quantitative measures, REMEDY examines the effects of recovered supplies on patient care and healthcare cost savings. Preliminary Results: Preliminary results consist of two main components: (1) reducing waste expenditures for our donating community partners, and (2) impact of donations on local and global partners. Methods to monetize the cost savings of recycling vs. disposal of medical supplies, as well as the value of donated supplies, are being designed to further evaluate the economic impact of the REMEDY initiative.

Presenting Author: Ethan McGann

POPULATIONS POTENTIALLY AFFECTED BY SUGAR-SWEETENED BEVERAGE PORTION SIZE LAWS Natalie Smith, (University of North Carolina, Chapel Hill), Anna Grummon, Leah Frerichs

Sugar-sweetened beverage (SSB) intake is a major contributor to obesity. Consumption is higher among racial/ethnic minorities and those of lower socioeconomic status, likely contributing to disparities in obesity. To reduce SSB consumption, lawmakers have proposed portion size laws that would prohibit selling SSBs in unsealed containers larger than 16oz. Portion size laws could affect consumers' beverage choices, but it is unclear who would be most affected by this policy. We examined groups most likely to be affected to inform ongoing policy debates and provide insight on the policy's potential impact on disparities. We used the first day of diet data from adults (18-65 years, n=3,167) in the 2015-16 National Health and Nutrition Examination Survey. We categorized adults as "likely affected" by a portion size law if they consumed >16oz of SSBs in a single eating occasion, and "unaffected" otherwise. We used logistic regression to test if the probability of being affected differed by five demographic characteristics: age (35 years), sex, race/ethnicity (non-Hispanic white, non-Hispanic Black, Hispanic), education (no college degree, college degree), and income (185% of Federal Poverty Line). One in four adults reported consuming >16oz of SSBs in at least one eating occasion. The predicted probability of consuming >16oz of SSBs was: 5.5 percentage points higher for younger vs. older adults (p=0.0053), 9.7 percentage points higher for males vs. females (p=0.0003), and 9.9 percentage points higher for adults of lower vs. higher education (p=0.0003). No significant differences by race/ethnicity or income were found. Preliminary results suggest that capping the allowable portion size of SSBs for sale at 16oz could have larger impacts on males, younger adults, and those with lower educational attainment. Future work should examine the impact of portion size laws on obesity and related chronic conditions across population groups.

Presenting Author: Natalie Smith

THE ILLINOIS RURAL HEALTH SUMMIT: CREATING POLICY BLUEPRINTS TO IMPROVE RURAL HEALTH OUTCOMES Heather Whetsell, (SIU School of Medicine, Department of Population Science and Policy)

Disparities exist in the livelihood and opportunities available for people living in Illinois's 62 non-metropolitan counties. More uninsured adults live in rural areas, causing hospitals to close and/or cut vital services such as obstetrics care or mental health services. This lack of access to care combined with challenging social determinants of health result in a much sicker rural and underserved Illinois compared to its urban counterpart. In effort to improve Illinois's rural population health outcomes, 50 stakeholders across academia, government, health care, public health, and philanthropy met in August 2018 to begin building social and policy blueprints to improve health. This Rural Health Summit, organized by Southern Illinois University (SIU) School of Medicine's Department of Population Science and Policy, SIU's Paul Simon Public Policy Institute, University of Illinois School of Public Health, SIU School of Medicine Center for Rural Health and Social Service Development, and the Illinois Department of Public Health, was Illinois's first rural health policy convening in nearly 15 years. The Summit was uniquely designed to be action-oriented concentrating on traditional health issues such as mental health and opioids, rural nutrition and fitness, and building a health care workforce, as well as more social and economic issues including health and housing, economic development and health, children's growth and development, and caring for the aging population. The Rural Health Summit organizers and participants have used the convening as a catalyst. The initial policy brief titled, *The State of Rural Health in Illinois: Great Challenges and a Path Forward*, was released late last year with local, state, and national media attention. Our hope is that population health practitioners will learn from our process and findings to begin forming their own convening and coalitions to improve rural health policy and health outcomes for their rural residents.

Presenting Author: Sameer Vohra

**HOW IS POPULATION HEALTH ORGANIZED: FIELD-LEVEL STRUCTURE AND DYNAMICS
1990-2017** jimi adams, (University of Colorado Denver), Heather Whetsell

This presentation will examine how the organizational structure and dynamics of the population health field have evolved over the last three decades. It draws on parts of an theoretical framework developed elsewhere that addresses many-disciplined fields, focusing particularly on the (1) multi-dimensional nature of boundary construction and spanning within a field, and (2) the life course dynamics of those boundary processes. I then draw on a corpus of approximately 12,000 published articles to analyze how bibliographic networks within the field, identifying which among the theorized organizational trajectories most readily account of the field's observed structure and dynamics. I will also address how this relates to what research has learned within the field, and assess the relative importance of explicit institutional initiatives in generating those patterns.

Presenting Author: jimi adams

INSIGHTS FROM BIG DATA TO SUPPORT POPULATION HEALTH AND SOCIAL NEEDS Joshua Vest, (Indiana University), Suranga N. Kasthurirathne

The increasing availability of electronic patient and population-level data sources present considerable potential for increased use of analytics in addressing health challenges and improving service delivery. More and more data are available from electronic health records, health information exchange systems, and public health sources. As an effective example of this potential, previous work with machine learning algorithms that leveraged clinical, behavioral and aggregate geocoded datasets, reflective of social determinants of health (SDoH) needs, successfully identified patients in need of referrals to various social services (behavioral health, dietitian and social work). These decision models have been integrated into the clinical workflows of nine federally qualified health center clinics serving an urban, safety-net population. Current work has pushed the application of these datasets and machine learning further by (a) leveraging a wider, more granular range of patient and population-level datasets, (b) adopting advanced machine learning methodologies, and (c) incorporating elements of temporality. New models include additional clinical and behavioral data elements, novel measures created to reflect social risks, and new geocoded datasets indicating social and environmental contexts. Incorporation of features from these datasets contributed to substantial performance improvement. Patient need for referral is now displayed within a proprietary electronic health record. Experience with these efforts has resulted in several key insights on how to leverage novel datasets in the areas of measurement, technical requirements, modeling, and practice workflows.

Presenting Author: Joshua Vest

PLAUSIBLE EFFECT SIZES FOR SOCIAL INTERVENTIONS Ellicott C. Matthay, (Center for Health and Community, University of California, San Francisco), M. Maria Glymour

Population health researchers designing studies of social interventions need to approximate plausible effect sizes to inform sample size calculations and other study design decisions. Standardized mean differences (SMD) of 0.2, 0.5, and 0.8 are often cited as “small”, “medium”, and “large”, respectively, but it is unknown whether these benchmarks apply to research on interventions seeking to shift social determinants of health, or how they correspond to other measures of effect. We considered 5 scientifically-supported social interventions of varying intensity, population scope, outcomes, and effect sizes to benchmark what impacts may be possible. For illustrative cases, we show the correspondence among the SMD, correlations, percent variance explained, odds ratios, relative risks, risk differences, and population attributable fractions to commonly cited benchmarks for “small”, “medium”, and “large” effect sizes, and the sample sizes needed for 80-90% power to detect effects of these magnitudes. We examined home-visiting programs in pregnancy and early childhood, compulsory schooling laws, smoke-free air policies, mass media campaigns for tobacco use prevention, and quitlines for smoking cessation. The largest effect size was a 0.54 SMD reduction in secondhand smoke exposure associated with smoke-free air policies, corresponding to a “medium” effect size. Even intensive, high-touch, multi-year interventions for high-need populations, such as the Nurse-Family Partnership, did not reach criteria for a “large” effect size. Plausible effect sizes for social interventions, although comparable to those of biomedical interventions, may be smaller than common guidelines suggest. Studies of social interventions may require larger sample sizes than researchers expect. Investing in adequately powered research on social interventions can be valuable even for small effect sizes if they can be implemented broadly at low cost.

Presenting Author: Ellicott C. Matthay

AN ENVIRONMENT WIDE ASSOCIATION STUDY OF CHILD IQ IN A WELL-CHARACTERIZED PREGNANCY COHORT Kaja Z. LeWinn, (University of California, San Francisco), Nicole Bush

Background: Children develop in complex environments, characterized by myriad exposures that may influence cognitive development; however, these exposures are often examined independently, reflecting disciplinary perspectives. An integrated approach, considering a range of exposures, is needed to address social disparities in child cognitive performance. Method: In mother-child dyads from the CANDLE study (N=1503; Memphis, TN), we examine associations between 186 pre- and post-natal exposures and child Full Scale IQ (IQ) at age 4-6 in an Environment Wide Association Analysis (EWAS). In the variable selection phase, we used multivariable regression, minimally adjusted for non-modifiable characteristics and False Discovery Rate corrected, to estimate associations between each exposure and FSIQ. To improve causal inference, we estimated models for significant exposures from the selection phase adjusted for maternal IQ, child birth year, age, sex, maternal and paternal age at birth, socioeconomic status, breastfeeding, maternal race and birthweight. Results: Our analytic sample included 1055 children with a measure of FSIQ; 62% of mothers were African American; 59% had a high school education or less. The selection phase identified 29 significant exposures. In fully-adjusted models, positive associations with IQ were observed for parental education, breastfeeding, maternal reading score, parental involvement, observed maternal ability to foster cognitive growth, breastfeeding, and neighborhood educational opportunity. Negative associations were observed for enrollment in reduced-price meal programs and parenting stress. Conclusions: We identified several novel, modifiable characteristics associated with IQ using an environment wide approach. Together, significant exposures from fully adjusted models account for 13-points in average IQ scores (nearly one standard deviation); targeting these exposures for intervention may improve child cognitive performance.

Presenting Author: Kaja Z. LeWinn

CHRONIC PAIN AS A POWERFUL SUMMARY MEASURE OF POPULATION HEALTH. Anna Zajacova, (University of Western Ontario), Zachary Zimmer, Hanna Grol-Prokopczyk

Chronic pain is one of the most disabling, common, and costly problems in population health, yet it has received surprisingly little attention in population health research. We argue that chronic pain can and should be conceptualized as a powerful holistic measure of population health and well-being. To support this argument, we 1) present a brief overview of types and causes of pain; 2) highlight the psychometric properties of pain; 3) emphasize the connection between pain and other health measures including disability and mortality; 4) show the socioeconomic gradients in pain. Drawing from NHIS, HRS, and SHARE data, we present psychometric properties of chronic pain including high reliability and criterion (concurrent and predictive) validity. Pain helps us understand a population's physical and mental health as it strongly correlates with both physical conditions such as arthritis and mental-health conditions such as depression and anxiety. Pain is also directly implicated in the disablement process, as recognized in the ICF framework. We also show that pain predicts mortality even net of other standard indicators of population health such as SRH, indicating that it carries important independent information and is thus a meaningful complement to SRH or other global measures of health. Another aspect of chronic pain that highlights its importance to population health is its strong negative association with SES. The socioeconomic correlates of pain, which include economic well-being, suggest that chronic pain may be considered a population-level marker of 'despair.' Finally, in the context of the ongoing opioid crisis in the US and Canada, pain has additional direct policy implications that are absent for self-rated health. Chronic pain should thus be considered a central measure in our arsenal of population-health measures.

Presenting Author: Anna Zajacova

MINORITIES, INEQUALITY OF OPPORTUNITIES, AND MORTALITY IN EARLY ADULTHOOD

Emma Zang, (Duke University), Zachary Zimmer, Hanna Grol-Prokopczyk

The striking increase in mortality rates of middle-aged non-Hispanic Whites in the past two decades has stimulated extensive policy and scholarly discussion. To date, however, little work has examined the role of environments with low levels of upward mobility in shaping mortality patterns. Living in a place with low levels of upward mobility may negatively affect health through negative emotions generated by people's perceptions of how likely efforts and merits are to pay off. This effect may differ for Whites and ethnic minorities because they have different life experiences, which shape their opinions on inequality and how they react to it. This paper is the first to analyze racial disparities in the consequences of living in environments with lower levels of upward mobility on early-adulthood mortality in the United States. Using upward mobility and mortality data for birth cohorts 1980-1988 in 3,138 counties of the United States, I adopt a life course perspective and quantify the impact of living in counties with lower levels of upward mobility on county-level mortality in early adulthood for non-Hispanic Whites, non-Hispanic Blacks, and Hispanics. To estimate the impact of inequality of opportunities on county-level mortality in early adulthood, I use fixed effects models to exploit variation in mortality rates within counties and within ages. Preliminary results show that living in counties with unequal opportunities predicts higher mortality in early adulthood. Furthermore, non-Hispanic Whites are affected by unequal environments more strongly compared to minorities. It is possible that the American Creed ideology may be more deeply engrained in working-class Whites compared with working-class minorities, causing them to be more sensitive to perceptions of unequal opportunities, which may in turn harm their health.

Presenting Author: Emma Zang

COUNTY INCOME INEQUALITY, PUBLIC HEALTH EXPENDITURES, AND POPULATION HEALTH OUTCOMES: AN EVALUATION OF CALIFORNIA COUNTIES ACROSS MULTIPLE HEALTH DOMAINS, 2009-2016. Elizabeth Bogumil, (UC Riverside), Christian Guerra, Richard Carpiano

Background: US county public health departments serve critical roles for health promotion and disease prevention efforts. But how effective are their expenditures in contributing to the population health profiles of their jurisdictions? Such county-level studies, though few in number, are generally limited to discrete sets of health outcomes, and treat socioeconomic context as control variables, despite extensive research linking socioeconomic context to (a) public service funding and (b) community health profiles. Our study adds to these policy-relevant discussions by focusing on California over the 8-year period of 2009-2016. We evaluate the impact of county-specific spending for seven health outcomes across three disease domains reflecting different life course-patterned health risks: healthy lifestyles (diabetes, heart disease, and stroke mortality), infectious diseases [gonorrhea, syphilis, chlamydia, and human immunodeficiency (HIV) case prevalence], and environmental health (asthma hospitalizations). Our evaluation focuses on direct effects of county expenditures, while also examining how spending may serve as a key mechanism through which county income inequality may undermine population health. Methods: Our ongoing analyses combine California county-level data from several state and federal sources for 57 of 58 counties during 2009-2016. First, using a modeling approach accounting for county- and year-specific fixed effects, we test the contribution of 1-year lagged county-level public health spending per capita, net of within-county demographic and medical service factors. Second, we test how lagged county income inequality is associated with such spending and indirectly impacts health outcomes. Results: Analyses currently underway. Discussion: Our presentation will contribute to improved understanding of how (a) county public health spending policies impact different health outcomes, and (b) income inequality may operate to impact population health.

Presenting Author: Elizabeth Bogumil

GENTRIFICATION AND ASSOCIATED HEALTH OUTCOMES IN ENGLAND FROM 2004-2010

Nrupen A. Bhavsar, (Duke University School of Medicine), Laura Richman

Gentrification may impact health positively by increasing available resources in a neighborhood or negatively by breaking social cohesion, impacting proximal and distal health outcomes. We aim to define gentrification using changes in domains of the Index of Multiple Deprivation (IMD) at the level of the Lower Layer Super Output Areas (LSOA) in England from 2004-2010. Using this definition, we quantify the impact of gentrification on LSOA level health metrics. The study data was obtained from the UK's Ministry of Housing, Communities, & Local Government. We used all IMD domains (income, employment, education/skills/training, crime, barriers to housing/services, and living environment), except the health domain, from 2004 and 2010 to define LSOA deprivation. The health domain of the IMD was the outcome and was defined with the following subdomains: years of potential life lost, comparative illness and disability ratio, acute morbidity, and mood/anxiety disorders. Higher scores represent greater deprivation and worse health. The IMD for each LSOA was standardized to the mean IMD of England using z-scores. LSOAs were eligible to be gentrified if they had a positive z-score in 2004 and were considered to gentrify if they had a negative change in the transformed IMD from 2004 to 2010. We used difference in difference models with generalized estimating equations to quantify the change in health between 2004-2010 among LSOAs that did and did not gentrify. Of the 32,482 LSOAs, 14307 were eligible to be gentrified. Of these, 7257 gentrified from 2004-2010. The baseline mean health score for LSOAs that did not and did gentrify was 0.64 and 0.85. LSOAs that gentrified had a significantly better health as compared to LSOAs that did not gentrify ($p < 0.001$). We will discuss the implications of our findings for understanding how gentrification impacts health and on innovative methods for assessing longitudinal changes in neighborhoods and health.

Presenting Author: Nrupen A. Bhavsar

FROM RISKY PLACES TO COMPLEX EXPERIENCES OF PLACE AND HEALTH IN GENTRIFYING WEST OAKLAND, CALIFORNIA Melody Tulier, (Yale University), Mathilda McLennan Farrell

Background: Rates of preventable mortality (such as HIV/AIDS, syphilis, malnutrition, unintentional injuries) have fluctuated in Alameda County, CA between 2005 – 2013. In West Oakland, two adjacent census tracts have disparate rates of preventable death – one tract has the highest preventable mortality rate in Alameda County while the other has about an average preventable mortality rate but have similar socio-economic profiles. Through this research, we seek to identify mechanisms contributing to disparate rates of preventable mortality and elucidate the heterogeneous effects of gentrification across subpopulation. Methods: We conducted 30 in-depth interviews with long-term residents that have lived in two adjacent census tracts in Alameda County for at least eight years. This research design allows us to explore the individual and neighborhood attributes that can account for these differences in preventable mortality and examine for whom and to what extent experiences in a gentrifying neighborhood potentially differentially influence residential health. Results: Three main themes (or mechanisms) contributing to differential preventable mortality rates were community resources, social support, and inclusion/exclusion. Generally, residents in the tract with an average preventable mortality rate experienced thriving community resources, sources of social support, and inclusion within the community. In contrast, residents in the tract with the highest preventable mortality rate in the county discussed the closing of key community resources and feelings of isolation, exclusion, and loss of power. Conclusions: This study indicates the importance of embracing the heterogeneity of low-income neighborhoods and residential experiences, multiple scales of influence shaping neighborhoods, and the importance of understanding the life course of both individuals and neighborhoods.

Presenting Author: Melody Tulier

THE ROLE OF NEIGHBORHOOD AMONG DISPLACED POPULATIONS: A LONG-TERM KATRINA RECOVERY STUDY OF WOMEN David Abramson, (New York University College of Global Public Health), Mark VanLandingham, Mary Waters, Sarah Friedman

Researchers have long argued that “place matters” when it comes to population health, although analyses are often confounded by race and class differences. Studying disaster-displaced populations presents one opportunity of exploring this association, particularly when survivors relocate to neighborhoods quite distinct from their pre-event communities. This analysis takes advantage of three observational cohorts of over 2,300 Hurricane Katrina-exposed individuals in order to explore associations between social, institutional, economic, and environmental characteristics of place and women’s health. The cohorts include the Resilience in Survivors of Katrina cohort, composed of predominantly African American women enrolled in a community college study in New Orleans just prior to Katrina; the Gulf Coast Child and Family Health study cohort, composed of individuals displaced into temporary housing after Katrina; and the KATIVA NOLA cohort, composed of first-generation Vietnamese-Americans who lived in an area heavily flooded by Katrina. Altogether, these three cohorts make up the Katrina@10 study, an NIH-funded center of disparities research which recently completed a round of interviews thirteen years after the hurricane. The women in the Katrina@10 project’s three longitudinal cohorts, many of whom have been displaced far from their pre-Katrina neighborhoods, have been exposed to a range of stressors over their lives; moreover, over half of the women have been diagnosed with a chronic health condition, including hypertension, diabetes, asthma, stroke, heart-related, or cancer, a chronic disease burden significantly higher than the general population. This analysis will assess the impacts of environmental factors, such as housing density, urbanicity, and sprawl; economic factors, such as income disparities; and social and institutional factors, such as the density and proximity of pro-social civic institutions, on women’s health.

Presenting Author: David Abramson

CORRELATIONS BETWEEN BIOLOGICAL AND SELF-REPORTED STRESS MEASURES IN MEDICAID-ENROLLED ADOLESCENTS Donald L Chi, (University of Washington), Mark VanLandingham, Mary Waters, Sarah Friedman

Objective. Stress is an important potential predictor of poor oral health but can be measured in different ways. The study objective was to evaluate stress heterogeneity by examining correlations between biological and self-reported stress in a population of low-income adolescents **Methods.** As part of an observational study on neighborhoods and oral health, 335 Medicaid-enrolled adolescents ages 11 to 18 years were recruited from 72 neighborhoods in three Oregon counties. Adolescents were identified from Medicaid files and recruited for a single visit study. Biological stress was measured through hair cortisol concentration. Participants completed four self-reported stress measures: the 26-item Stressful Life Events Questionnaire (SLEQ), 10-item Perceived Stress Scale (PSS), 16-item Stress Index (SI), and the 20-item Things I Have Heard and Seen Scale (TIHHSS). The Pearson correlation coefficient (r) was used to assess bivariate relationships between: 1) biological and the four self-reported stress measures; and 2) each of the self-reported stress measures ($\alpha=0.05$). **Results.** The mean age of study participants was 15.3 ± 1.3 years and mean hair cortisol concentration was 20.3 ± 112.4 pg/mg. Hair cortisol concentration was not significantly associated with any measures of self-reported stress. The four measures of self-reported stress were significantly and positively associated with each other (r for SLEQ and PSS: 0.43; r for PSS and SI: 0.24; r for SI and TIHHSS: 0.43). **Conclusions.** Among Medicaid-enrolled adolescents, biological and self-reported stress measures are not interchangeable and may capture different aspects of stress. Future studies exploring links between stress and adolescent oral health should specify the relevant aspects of stress.

Presenting Author: Donald L Chi

THE ROLE OF SUBJECTIVE SOCIAL STATUS IN SHAPING ADOLESCENT MENTAL HEALTH

Nafeesa Andrabi, (UNC Chapel Hill), Mark VanLandingham, Mary Waters, Sarah Friedman

In the US, the association between objective social status (OSS) and health is patterned with lower OSS being strongly associated with poorer health outcomes. However, the OSS gradient in health is somewhat inconsistent during adolescence, perhaps because most analyses that assess the status–health gradient among adolescents use parental measures of OSS, which do not tap the adolescent's emerging self-concept of social stratification. In more recent efforts to capture the multidimensionality of SES, subjective social status (SSS), an individual's perceived standing in a social hierarchy, has been examined as a related but distinct construct from OSS. This study examines the extent to which SSS predicts changes in depressive symptoms in a population-based cohort of California adolescents. Two unique dimensions of SSS – school-based and societal-based—are considered. Results demonstrate that both school SSS and societal SSS are significantly associated with depressive symptom trajectories beyond measures of OSS that include parental education, median neighborhood income, and an indicator of students' receipt of free and reduced lunch. This study is novel in that it explores how multiple dimensions of subjective status may be strong predictors in adolescent mental health outcomes across time, even when taking into account conventional measures of objective status. There are also important public health implications. Depression in the US continues to rise, particularly among adolescents, with long term consequences on the socioemotional development of youth. Subjective elements of status may be more malleable than objective dimensions of status. Understanding the mechanisms through which SSS transmits psychopathology risk may provide additional tools for mental health interventions early in the life course.

Presenting Author: Nafeesa Andrabi

THE IMPACT OF NEIGHBORHOOD SAFETY ON SOCIAL EMOTIONAL DEVELOPMENT: A CASE STUDY AMONG CHILDREN IN AN EARLY CHILDHOOD SCHOOL Stephanie Tokarz, (Tulane University School of Public Health and Tropical Medicine), Melissa Goldin Evans, Thea Lange, Maeve Wallace, Katherine P. Theall

In the US, over 50% of children have been exposed to violence within their homes, schools or communities. Exposure to community violence is associated with a range of negative behavioral outcomes among school-age children and adolescents; yet, there is limited evidence in the preschool setting. We examined the association between objective and parent-perceived neighborhood safety on behavioral concerns of children aged 3-5 who were enrolled at an early childhood school in New Orleans and living in neighborhoods with rates of violence among the highest in the country. Analysis consisted of 182 parent-child pairs enrolled from 2014-16. Outcome measures of child social emotional well-being were collected by teachers in the classroom setting. A parent questionnaire collected data on residential address and how safe they felt in their neighborhood. Addresses were geocoded and linked by Census tract number to data on violent crime rates (per 1,000 tract residents) provided by the police department. Log-Poisson models estimated associations between perceived and objective measures of neighborhood safety, adjusting for child sex and age, parent education and employment status, and family structure. Compared to children in neighborhoods parents perceived as safe, children in those perceived as unsafe had a 78% greater risk for behavioral concerns (RR=1.78, 95% CI=1.11, 2.84). This association remained significant after adjusting for the violent crime rate of the neighborhood. Interestingly, there was no difference in the violent crime rate between neighborhoods that parents perceived as safe vs. unsafe ($p=0.10$), and there were no associations between child outcomes and violent crime rate alone. These findings indicate parental perception may exert a strong influence on early childhood behavioral outcomes, independent of the objective safety of their neighborhood. Policies aimed at caregivers should focus on the contextual factors that may promote early child development.

Presenting Author: Stephanie Tokarz

THE IMPACT OF GRANDMOTHER INVOLVEMENT ON CHILD GROWTH AND**DEVELOPMENT IN RURAL PAKISTAN** Esther Chung, (University of North Carolina at Chapel Hill), Ashley Hagaman, Katherine LeMasters, Nafeesa Andrabi, Victoria Baranov, Lisa M. Bates, John A. Gallis, Karen O'Donnell, Atif Rahman, Siham Sikander, Elizabeth L. Turner, Joanna Maselko

Objective: Child interventions have primarily focused on the mother-child relationship, but grandmothers are often critical in childcare. Prior research is mixed on how grandmother involvement impacts child outcomes. We characterized maternally-reported grandmother caregiving activities and examined the role of grandmother involvement on child growth and development cross-sectionally and longitudinally using the Bachpan cohort in rural Pakistan. Methods: Grandmother involvement was based on maternal report at 3 and 12 months postpartum of 20 items related to daily instrumental and non-instrumental caregiving. A summed score was created and categorized into non-involved, low, and high. Outcomes included 12- and 24-month child growth, Bayley Scales of Infant and Toddler Development at 12 months and Ages and Stages Questionnaire-Socioemotional at 24 months. We used adjusted linear mixed models to estimate mean differences (MD). Results: Children with highly involved grandmothers at 3 months (vs. non-involved) had higher 12-month weight-for-length z-score (MD=0.33, 95% CI: 0.07, 0.59); however, 12-month grandmother involvement was associated with lower 24-month weight-for-length z-score (MD= -0.21, 95% CI: -0.42, -0.01). Twelve-month high grandmother involvement (vs. non-involved) was associated with improved cognitive, fine motor, and socioemotional development (MD=0.48, 95% CI: 0.10, 0.87; MD=0.42, 95% CI: 0.09, 0.76; MD=-15.52, 95% CI: -25.27, -5.76). Conclusion: Early grandmother involvement has positive impacts on child weight, but this association becomes negative in later childhood. Grandmother involvement is positively associated with cognition, fine motor, and socioemotional development. Understanding how grandmothers affect child outcomes across the lifecourse is necessary to help inform how to best incorporate grandmothers into caregiver interventions.

Presenting Author: Esther Chung

ASSOCIATIONS BETWEEN BREASTFEEDING DURATION AND OVERWEIGHT/OBESE AMONG CHILDREN AGED 4-10: A FOCUS ON RACIAL/ETHNIC MINORITY CHILDREN IN CALIFORNIA Christian Vazquez, (The University of Texas at Austin, Steve Hicks School of Social Work), Catherine Cubbin

Research on the association between breastfeeding and childhood obesity and research on racial/ethnic differences in breastfeeding both show inconsistencies in the literature. The current study examines: 1) whether immigrant Hispanic women have higher rates of breastfeeding compared to non-Hispanic women, and 2) whether children who were breastfed longer are less likely to be overweight/obese among all groups, and particularly among children born to immigrant Hispanic women. The study builds on prior literature using representative data (Geographic Research On Wellbeing study (GROW, 2012-2013)) and focusing on an age group that has not been well studied. The final sample includes 2,675 mother/child dyads. Logistic regression was used to investigate the odds of child obesity (\rightarrow 95th%) and child overweight (\rightarrow 85th%) in a series of models: unadjusted, demographic, socioeconomic status, and full model. Interactions between race/ethnicity and breastfeeding duration were also examined. African-American (9.54%) and white (32.8%) women had the lowest and highest rates of ever breastfeeding, respectively. White women breastfed the longest (10.52 months) and U.S.-born Hispanic women breastfed the shortest (7.05 months), on average. Children of African-American or Hispanic mothers had the highest rates of being overweight/obese (26-27%), followed by children of white mothers (20%). No differences were found between breastfeeding duration and child's weight status, nor was there a significant interaction between mother's race/ethnicity and breastfeeding duration on child's weight status; however, mother's own weight status was a significant driver of child's weight status. Interventions targeting the whole family's health behaviors, as opposed to just the child's behaviors (e.g., increasing child's physical activity levels), may have better outcomes not only for the child but the entire family.

Presenting Author: Christian Vazquez

SYSTEM FAILURE: THE SPATIAL DISTRIBUTION AND CORRELATES OF BLACK-WHITE SEPTIC MORTALITY DISPARITIES IN THE US Adam Lippert, (University of Colorado Denver), Alexis Mitsuhashi

Mortality resulting from severe sepsis is caused by complex processes involving many risk factors including acute infectious and noninfectious insults (e.g., invasive surgical procedures). If left untreated severe sepsis often leads to death. Concerningly, the septic mortality rate has doubled within the US population in recent years, from 21.9 per 100,000 in 1979 to 43.9 in 2000. It is now the 10th leading cause of death among blacks but impacts whites less frequently. Research on septic mortality has tended to focus on hospital procedures for managing severe sepsis. This is an important oversight given the increasing prevalence of septic mortality and hints of a connection to common social determinants of population health disparities. Understanding the spatial patterning of septic mortality in the US would help identify “hotspots” of highly impacted clusters and better direct resources to underserved areas. Further, spatially-explicit analyses can now be used to assess how measures of area-level disadvantage and health care access explain racial disparities in septic mortality. These approaches are familiar to population scientists, as demographers have shown that the quantity and quality of health services are not distributed randomly or evenly across administrative units, nor are mortality rates. Following this research, our study yields two key findings: (1) we map and illustrate the spatial distribution of septic mortality across US counties and show that the modal county is one where the septic mortality rate for whites is low, while for blacks it is medium; (2) using spatial lag regression, we show that the clustering of high septic mortality rates in counties with higher proportions of blacks is partially explained by socioeconomic inequalities and unequal access to health care. We will discuss the implications of our findings and recommendations for future research on understudied causes of death affecting marginalized groups in society.

Presenting Author: Adam Lippert

STRUCTURAL FACTORS, SYNDEMIC FACTORS, AND SOCIAL SERVICES AS BARRIERS TO HIV PREVENTION AMONG WOMEN OF COLOR: A LONGITUDINAL QUALITATIVE EXPLORATION Liesl A Nydegger, (University of Texas at Austin), Kasey Claborn

Women of color who experience structural barriers, housing and economic instability, and syndemic factors are at high risk for HIV. Syndemic factors are health and social factors (i.e., substance use, intimate partner violence (IPV), and sexual risk behaviors) that are mutually enhancing, contribute to HIV risk, and are exacerbated by structural factors. Women of color are more likely to experience housing instability, particularly mothers. Pre-exposure prophylaxis (PrEP) can curb the HIV epidemic among at-risk women, yet few women have adopted PrEP. This longitudinal qualitative study explores the structural and syndemic factors related to PrEP adoption among high-risk Black and Latina mothers. Participants complete 3 semi-structured interviews over 3 months. Currently, 6 Black and 1 Latina mother are enrolled. Recruitment is ongoing and study completion is expected in May 2019. Preliminary results revealed that most participants were interested in PrEP, yet barriers to access were due to resources, social services, or IPV. Two participants tried to make appointments at a low-income clinic and were unable due to being uninsured. Other participants self-medicated with alcohol or marijuana due to mental health problems and inaccessible mental health services, affordable housing, or financial insecurity. A potential PrEP intervention participants desired involved support groups, HIV, PrEP, and sexual health education, health fairs, and job training and resources, and to address transportation, insurance, and HIV stigma. Our work to date suggests that policies must be implemented to provide housing/shelters for IPV survivors so they can leave their abusers, an increase in housing vouchers and housing that accepts vouchers, comprehensive child-friendly shelters that include mental health and substance use services, and social support programs. Structural and social services for Black and Latina women who experience health disparities must be addressed nationwide.

Presenting Author: Liesl Nydegger

STRATEGIES FOR LOCAL, NATIONAL AND INTERNATIONAL DISSEMINATION OF THE COMPREHENSIVE CARE PHYSICIAN (CCP) AND COMPREHENSIVE CARE, COMMUNITY AND CULTURE PROGRAM (C4P) MODELS David Meltzer, (The University of Chicago), Emily Perish, Andrew Schram

High health care costs and poor outcomes are concentrated in a small fraction of the population among which hospitalization is common. Social determinants of health and fragmented medical care and social service delivery contribute to these problems. To defragment medical care, we created the Comprehensive Care Physician (CCP) Program and studied its effects through a randomized trial. CCP offers patients inpatient and outpatient care from the same physician. Findings show large improvements in patient satisfaction and mental health, and decreased hospitalization and costs. To address social barriers to engagement care, we created the Comprehensive Care, Community and Culture Program (C4P). C4P adds to CCP: 1) systematic screening of unmet social needs, 2) access to a community health worker and 3) community-based arts and culture programming. Findings show social needs are highly concentrated in patients with many needs and have helped us refine C4P by developing pragmatic interventions that address common clusters of unmet social needs. Our positive findings have motivated us to execute strategies to disseminate CCP/C4P. Locally, we have collaborated with community hospitals and Federally Qualified Health Centers to implement CCP. Nationally, we have helped implement CCP at Kaiser Permanente and Vanderbilt and engaged payers, including Medicare, which recently recommended that HHS consider a Physician-Focused Payment Model to encourage CCP/C4P adoption. Internationally, the UK National Health Service, National University Singapore and Manipal University India are exploring CCP models. Finally, we are developing an “implementation playbook” to identify strategies to implement CCP in varying clinical contexts, addressing the relationship to existing primary and specialty care, patient empanelment, clinical staffing, financial modeling, and evaluation. We are creating a non-for-profit to help health care organizations use the playbook to implement CCP.

Presenting Author: David Meltzer

IMPROVING CHILD AND FAMILY HEALTH AND WELL-BEING THROUGH MEDICAL-LEGAL PARTNERSHIPS Sascha Murillo, (Yale School of Medicine), Jenny Arianna Aji, Alice Rosenthal, Ada Fenick, Danya Keene

Medical-Legal Partnership (MLP) is a model of integrating medical and legal care to address prevalent health-harming legal needs among socioeconomically marginalized populations. MLPs are able to address social determinants of health (education, employment, housing, access to public benefits) and as such have potential to improve population health and ameliorate health disparities. Emerging research has documented positive effects of MLPs on both legal and health outcomes. However, less is known about the processes and mechanisms through which these outcomes are produced. In this qualitative study, we examined one pediatric MLP in New Haven, CT. We conducted semi-structured interviews with parents who had received legal services through this MLP. Our interviews aimed to better characterize how families experience and respond to MLP services, and to understand how MLP services shape child health and family well-being. We purposively constructed our sample to reflect the diversity of legal issues addressed (housing, education, immigration) and legal interventions utilized (letter writing, representation in court, administrative advocacy). We analyzed the data using inductive coding and memo writing. Our findings suggest that MLPs confer many benefits to families beyond addressing the health-harming legal need. By being embedded in the healthcare system, MLPs shape clinical encounters, and often help families build stronger relationships with pediatric providers. MLPs also equip parents with knowledge and skills that shape the ways in which they interact with other institutions, allowing them to advocate for themselves and for others in areas such as housing and education. Finally, MLPs not only directly impact child health, but the well-being of parents by alleviating stress. Our findings have implications for MLP design and implementation, health care transformation, and addressing population health disparities.

Presenting Author: Sascha Murillo

IMPACTS OF THE ORLANDO PULSE NIGHTCLUB SHOOTING ON MENTAL HEALTH OF SEXUAL MINORITY POPULATIONS Gilbert Gonzales, (Vanderbilt University School of Medicine), Kyle Gavulic

Background: On June 12th, 2016, the deadliest targeted violence against LGBT individuals (predominantly gay and bisexual men) occurred at the Pulse Nightclub in Orlando, FL. This study used nationally representative and population-based data to examine the impacts of the Orlando Pulse Nightclub Shooting on sexual minority adults compared to heterosexual adults. **Methods:** This study used data on non-elderly adults (n=65,505) from the 2015-2017 National Health Interview Survey. A difference-in-differences approach was used to compare changes in psychological distress, frequent anxiety, and frequent depression between sexual minority and heterosexual adults. All regression models controlled for demographic and socioeconomic characteristics. The coefficient of interest was the Post-Shooting x Sexual Minority interaction term, reflecting the net change in mental health outcomes among sexual minorities after the Orlando Shooting versus prior to the shooting, minus the underlying trend for heterosexual adults. **Results:** Compared to heterosexual men, gay and bisexual men experienced a 7.8 (95 % CI, 1.1 to 14.4; P=0.02) percentage point increase in severe psychological distress immediately following the Orlando Shooting, in addition to a 14.2 (95% CI, 4.7 to 23.7; P=0.003) percentage point increase in frequent depression, and a 6.2 (95 % CI, 0.7 to 13.4; P=0.03) percentage point increase in frequent anxiety. This trend was not found among sexual minority women. **Conclusion:** The Orlando Pulse Nightclub Shooting had the greatest impact on the psychological distress, anxiety, and depression among gay and bisexual men across the United States. Our study should serve to inform sexual minority-specific psychological first aid and as a call to include sexual minorities in non-discrimination and hate crime legal protections across the country. Additionally, our results should motivate future research on the impact of traumatic community-wide events on targeted populations.

Presenting Author: Kyle Gavulic

PSYCHIATRIC EMERGENCIES FOLLOWING THE GREAT RECESSION: AN EXAMINATION OF AGE-SPECIFIC RESPONSES Parvati Singh, (Program in Public Health, University of California, Irvine), Kyle Gavulic

Research examining mental health following economic downturns finds both pro-cyclic and counter-cyclic associations. Pro-cyclic associations between economic decline and the risk of mental illness, particularly among low socioeconomic status (SES) groups, presumably arise from increased stress and reduced economic/social resources among working-age adults. By contrast, evidence of counter-cyclic associations suggests that psychiatric-related disorders may decline among children and the elderly during economic downturns, due to increased investments in caregiving by other family members. Given these countervailing findings, I test whether psychiatric-related emergency department visits (PREDVs) vary differentially by age-group and SES, following ambient macroeconomic decline (e.g., drop in employment), in the context of the 2008 recession. I use repeated cross-sectional time series data for 14.5 million PREDVs over six years (2006-2011) to test whether monthly decline in aggregate employment in a Metropolitan Statistical Area corresponds with (i) reduction in PREDVs for children (age < 64 years), (ii) increase in PREDVs for working-age adults (18-64 years), and (iii) whether relations vary by SES (defined as public vs. private insurance). Regression methods control for area-level fixed effects, year and month effects, and area-specific linear time trends. Results indicate a decrease in PREDVs for all age groups within the first 3 months after employment decline [coeff.= -0.44 (age64); $p < 0.01$]. However, stratification by insurance status shows an increase in PREDVs among publicly insured (low SES) children [coeff.= 0.25, $p < 0.01$] and working age adults [coeff.= 0.73, $p < 0.05$]. Trends in population mental health following economic downturns may arise from different underlying age and SES responses. Findings may serve to develop targeted policies for low SES groups following macroeconomic downturns.

Presenting Author: Parvati Singh

EXPLAINING THE BLACK-WHITE DEPRESSION PARADOX: INTERROGATING MULTIPLE ARTICULATIONS OF THE ENVIRONMENTAL AFFORDANCES MODEL John R. Pamplin II, (Columbia University Mailman School of Public Health), Katrina L. Kezios, Eleanor Hayes-Larson, Katherine M. Keyes, Pam Factor-Litvak, Ezra S. Susser, Dana March Palmer, Bruce Link, Lisa M. Bates

Black Americans experience major depressive episodes at rates equal to or less than those of White Americans, despite higher rates of chronic physical illness and greater exposure to stress, both correlates of depression. A prominent yet debated explanation for this paradox is the Environmental Affordances (EA) model, which posits that Blacks cope with stressors by engaging in unhealthy behaviors (UBs), which protect from the psychological effects of stress but increase risk for physical illness. The EA model is at times described as mediation: stress causes engagement in UBs (e.g., smoking, alcohol use, comfort eating) which may reduce the biologic stress response and resulting psychological impact; Blacks' high stress exposure may thereby paradoxically protect against depression through this pathway. In other cases, the EA model has been described as modification: the effect of stress on depression is modified by UBs and/or race. We propose a more biologically plausible "mediation and modification" model that posits race is a modifier of the effect of stress on UBs on the pathway to depression. We test this model and those described above in data from 307 white and 252 black participants age 45-52 recruited from a birth cohort study. In adjusted models, Blacks had 0.61 (95% CI 0.35, 1.07) and 1.5 (95% CI 0.9, 2.2) times the odds of depression and stress respectively, compared to Whites. Stress did not mediate the effect of race on depression, and race did not consistently modify the effect of stress on unhealthy behaviors (e.g., for cigarette use: $OR_{crude}=3.0$ 95% CI 1.9, 4.8; $OR_{white}=2.9$ 95% CI 1.4, 5.9; $OR_{black}=2.9$ 95% CI 1.5, 5.4). Further, while smoking was associated with lower odds of depression ($OR=0.7$ 95% CI 0.3, 1.4), alcohol consumption and BMI were not. We failed to find consistent support for any articulation of the EA model, and suggest future studies examine the role of other phenomena in producing the paradox, such as racial socialization.

Presenting Author: John R. Pamplin II

LARGE CIGARETTE TAX INCREASES AND MENTAL HEALTH CHANGES AMONG US**SMOKERS** Lucie Kalousova, (Nuffield College, University of Oxford), Katrina L. Kezios, Eleanor Hayes-Larson, Katherine M. Keyes, Pam Factor-Litvak, Ezra S. Susser, Dana March Palmer, Bruce Link, Lisa M. Bates

Tobacco control has led to large population health benefits in the United States. Primarily as a result of rising state cigarette taxes, the percentage of smokers in the US population has been dropping steadily since the latter part of the twentieth century. Yet, despite this success, many smokers have remained especially among the socioeconomically disadvantaged, who face higher structural barriers to cessation. This paper moves beyond the existing literature on the cessation benefits of cigarette taxes and evaluates their effect on mental health outcomes among the remaining smokers. I hypothesize that a large increase in tobacco tax is associated with worsened mental health and social connectedness among the remaining smokers. I draw on qualitative research on public health stigma and anticipate the adverse effects to be the greatest among the lowest income smokers, who experience the largest increase in financial burden, and among highly educated smokers, who likely experience the greatest increase in smoking's stigma. Using BRFSS data, I implement difference in differences models to examine change in the number of poor mental health days, life satisfaction, and social connectedness of smokers shortly after a large cigarette tax increase has been implemented in their state of residence. Results show that a large increase in tax was associated with an increase in the mean number of poor mental health days among smokers who reported some mental health issues last month. The measured increase was largest among more educated smokers. I found no changes in social connectedness or life satisfaction. The mental health effect did not vary by income, suggesting that the potential negative effect on the mental health of smokers primarily operates via increasing stigma and not by increasing financial hardship. The paper argues for greater research and policy attention to the potential secondary effects of strong tobacco control policies on current smokers.

Presenting Author: Lucie Kalousova

CONTRIBUTION OF CHANGES IN KNOWN RISK FACTORS TO TEMPORAL TRENDS IN INCIDENT DEMENTIA AND SURVIVAL BY SEX AND RACE ACROSS SEQUENTIAL BIRTH COHORTS IN THE HEALTH AND RETIREMENT STUDY Jordan Weiss, (University of Pennsylvania), Katrina L. Kezios, Eleanor Hayes-Larson, Katherine M. Keyes, Pam Factor-Litvak, Ezra S. Susser, Dana March Palmer, Bruce Link, Lisa M. Bates

Background: A central question surrounding population aging is whether gains in life expectancy are accompanied by temporal changes in age-specific risks of age-associated diseases, such as Alzheimer's disease and related dementias (ADRD). This study examines the contribution of known risk factors to changes in life expectancy with and without cognitive impairment in the Health and Retirement Study (HRS). Methods: 9,380 participants aged 50+ years and ADRD-free at baseline were followed up over 10 years, with cognitive assessments occurring every 2 years. Weibull-based multistate illness-death models were used to estimate incidence rates and life expectancy with and without ADRD as functions of known ADRD risk factors, including hypertension, heart disease, and diabetes. Results: Unadjusted life expectancy at age 65 for ADRD-free participants was 19.4 (95%CI: 19.1, 19.7) years, of which 16.8 (95%CI: 16.5, 17.1) years were estimated to be ADRD-free; participants classified with ADRD over the survey period had an estimated life expectancy of 10.8 (95%CI: 10.2, 11.6) years at age 65. Participants aged 65 years with diabetes at baseline had estimated life expectancy and ADRD-free life expectancy of 16.1 (95%CI: 15.6, 16.6) years and 13.8 (95%CI: 13.4, 14.2) years, compared to and 20.1(95%CI: 19.8, 20.4) and 17.5 (95%CI: 17.2, 17.8) years among those without diabetes, respectively. Conclusion: Participants with diabetes at baseline had shorter overall and ADRD-free life expectancy. The incidence of diabetes increased across sequential birth cohorts while the incidence of ADRD declined which has implications for the future prevalence of these diseases.

Presenting Author: Jordan Weiss

WHO CARES: AN EXPLORATORY STUDY OF INFORMAL CAREGIVERS' HEALTH PROMOTIONS BEHAVIORS RELATED TO THE FALL RISK AMONG COMMUNITY-**DWELLING OLDER ADULTS WITH DEMENTIA** Yuanjin Zhou, (University of Washington, Seattle, School of Social Work), Katrina L. Kezios, Eleanor Hayes-Larson, Katherine M. Keyes, Pam Factor-Litvak, Ezra S. Susser, Dana March Palmer, Bruce Link, Lisa M. Bates

Background: Community-dwelling older adults with dementia (OADs) are disproportionately impacted by fall risk, while there is a lack of effective fall risk-related programs developed for OADs. Previous studies suggest that OADs' informal caregivers (ICGs) may adopt health promotions behaviors related to OADs' fall risk, which are rarely examined at the population level. **Methods:** Using a U.S. sample of 456 dyads of community-dwelling OADs and their primary caregivers from the 2015 National Aging Trends Study and National Study of Caregiving, this study examined the prevalence of four ICGs' health promotion behaviors related to OADs' fall risk and the factors may shape these behaviors. Four outcomes are home safety modification, exercise support, help with getting mobility devices, and OADs' diet support. Factors examined are OADs' and ICGs' sociodemographic characteristics, health conditions, and the context of caregiving, including length and schedule of helping, relationship to OADs, and using paid help. **Results:** ICGs' home safety modification (52%) and help with getting mobility devices (54%) are positively associated with OADs' physical function impairments, but negatively associated with OADs' depression. ICGs who provided diet support (38%) are more likely to be younger, female, and taking care of OADs with more chronic illnesses. ICGs' exercise support (41%) are positively associated with ICGs' self-rated health. Using paid help is positively associated with all four outcomes. **Discussion:** ICGs' health promotion behaviors for OADs are related to their overall capacities in managing OADs' physical/mental health. These behaviors may be impacted by ICGs' age, health conditions, gender roles, and using paid help. Improved knowledge of the multi-level determinants of ICGs' health promotion behaviors for OADs could guide the development of intervention and policy to integrate social and health services for OADs and ICGs.

Presenting Author: Yuanjin Zhou

BARRIERS AND FACILITATORS TO POSITIVE CONCUSSION SAFETY BEHAVIORS BY HISPANIC YOUTH SOCCER COACHES Sara PD Chrisman, (Seattle Children's Research Institute and University of Washington), Emily Kroshus, Nathalia Jimenz

Background: Concussion is common in youth soccer, and youth with concussion may require support from a medical provider to return to full function in school and sport. Our previous work suggests that Hispanic youth are underrepresented in concussion clinics, which could lead to disparities in long-term health for youth whose injuries are left untreated. The goal of this study was to identify barriers and facilitators to concussion identification and removal of athlete from play by Hispanic youth coaches. **Methods:** We conducted qualitative interviews with 12 Hispanic youth soccer coaches. All interviews were digitally recorded in Spanish, transcribed, translated and coded to identify emergent themes centered around the Theory of Planned Behavior. **Results:** Coaches had knowledge of concussion signs and symptoms. However, there was variation in coach normative beliefs regarding whether they were responsible for identifying athlete injury, with some stating "We are the front lines," and others, "I am not qualified to do that." Another prominent theme was concern about the perceived behavioral efficacy of removing an athlete from play, with coaches fearing that even if they removed an athlete from play, parents might not bring them to care due to structural barriers (e.g., time, insurance). **Conclusion:** Normative beliefs regarding responsibility for injury identification may be a key barrier for youth coaches removing an athlete from play for suspected concussion. Perceived behavioral efficacy (e.g., whether they believe parents will be able to take youth to care) may also influence likelihood of removing an athlete from play.

Presenting Author: Sara PD Chrisman

ANALYSIS OF SELF-REPORTED AND COTININE-VERIFIED SMOKING PREVALENCE RATES OF MALE AND FEMALE SMOKERS IN KOREA Seung Kwon Hong, (SCHOOL OF MEDICINE THE CATHOLIC UNIV. OF KOREA, INCHEON ST.MARY'S HOSPITAL),

The current anti-smoking policies in Korea are heavily relying on the self-reported smoking prevalence data from the Korean NHANES. However, due to the traditional Korean culture that imposes conservative standards on female smokers, a self-reporting method may not be an accurate measure of female smoking prevalence in Korea. This study investigated smoking prevalence rates of Koreans from 2008 to 2014 to examine a possible under-representation of self-reported female smokers. A total of 17,868 Koreans, including 8,235 men and 9,633 women, participated in both the NHANES from 2008 to 2014 and a follow-up urinary test to have their cotinin levels measured. The participants were classified as a smoker or non-smoker based on the survey, where the nonsmoker group included both never-smokers and ex-smokers. Additionally, the urinary cotinin concentration of 50ng/ml was used as a cut-off to distinguish smokers from non-smokers. The concordance rates of self-reported and cotinin-verified smokers found a significant gender difference. The female concordance rates of self-reports and cotinin test results were significantly and consistently lower than those of males. 94.95% of male and 54.82% of female in 2014. As for a non-smoking trend, the results showed a decrease in the percentages of smokers in both genders. From 2008 to 2014, female smoking rates dropped from 13.99% to 7.86% and males from 49.94% to 42.04%. The gender gap found in the concordance rate raises the red flag to validity of self-reporting of female smokers. The self-reported smoking prevalence in Korean women may be underestimated and should take into account a large number of hidden female smokers due to social and cultural denigration inflicted on women in Korean society. Nonetheless, this study recommends further research on biochemical verifications to validate the results of national tobacco surveys and sociocultural discussions for an accurate understanding of smoking behaviors by gender.

Presenting Author: Hong, Seung Kwon

RISK FACTORS FOR SMOKING DURING PREGNANCY: DOES MARITAL STATUS MODERATE THE EFFECT OF CHILDHOOD ADVERSITY? Stacy Tiemeyer, (Oklahoma State University), Karina Schreffler

Although the rates of smoking during pregnancy has declined considerably over time from a 34% in 1965 (Hongxia et al. 2018; Cnattingius, 2004), 7.2% of US women continued to smoke during pregnancy in 2016 (Drake, Driscoll & Mathews, 2018). Smoking continues to pose considerable risks to maternal and child health. A meta-analysis found smoking to be associated with elevated risk of placenta previa, ectopic pregnancy, abruption placenta, and preterm premature rupture of the membrane (Castles et al., 1999). Furthermore, smoking increases risk of preterm birth, stillbirth, neonatal mortality, and sudden infant death syndrome (Cnattingius, 2004). Predictors of smoking during pregnancy includes age, marital status and childhood adversity (Harville et al., 2010). Childhood adversity is also associated with a lower probability of being married (Anderson, 2017). The effects of ACEs on maternal health are well documented, and more recently researchers have begun to explore compensatory factors (Morris et al., 2014). Marriage itself is considered a protective factor for adults, particularly during pregnancy (Raatikainen, Heiskanen, & Heinonen, 2005). The purpose of this study was to examine whether marital status moderated the effect of ACEs on the likelihood of smoking during pregnancy. Data for the current study come from a longitudinal clinic-based cohort study conducted in 2016-2017 of 177 pregnant women (aged 15-40) recruited from two perinatal clinics in Tulsa. The participating clinics serve a racially diverse, socioeconomically disadvantaged and medically-underserved patient population. We find that higher ACEs scores significantly predict a higher probability of smoking during pregnancy, particularly for single women relative to married and cohabiting women (Probability for single women = .80 with an ACE score of 10, compared to a probability of nearly 0 for married women with an ACE score of 10).

Presenting Author: Stacy Tiemeyer

BEDTIMES AND TELEVISION VIEWERSHIP IN THE STREAMING ERA Jess M. Meyer,
(Northwestern University (UNC-Chapel Hill as of April 1, 2019)), Karina Schreffler

Prior research suggests television programming schedules affect sleep timing. Many online streaming services were introduced in recent decades, changing how—and likely, when—people watch television, but much remains to be understood regarding potential implications of this change for sleep behavior. Nighttime television viewership in particular might affect when people go to bed. In turn, bedtime changes can impact sleep duration, which can have consequences for health and well-being. In the present study, I analyze time diaries from a sample of adults 18 to 64 years old in the American Time Use Survey to investigate whether television viewership timing and bedtimes changed between 2003 and 2016, a period during which several online video streaming services began operation. Preliminary results suggest that people stopped watching television earlier at night in the mid-2010's compared to the early 2000's, on both weekdays and weekends/holidays. Bedtimes were also earlier in the mid-2010's compared to the early 2000's, on both weekdays and weekends/holidays. In addition, in models controlling for the time at which people stopped watching television, several of these bedtime differences diminish in magnitude and statistical significance. These findings are potentially consistent with the idea that earlier termination of television viewing accounts for the earlier bed times observed in recent years. However, these results only establish an associational—not causal—link between television viewership and sleep schedules. Moreover, television viewership timing might have changed for a variety of reasons and not only due to the availability of streaming platforms. Moreover, these results are important to place within the time-diary context, in which bedtime is not equivalent to actual sleep onset. Additional research is needed to understand better the implications of online television streaming for sleep duration, as well as other sleep dimensions.

Presenting Author: Jess M. Meyer

PATHWAYS TO PREP USE: THE ROLE OF RESOURCES IN MOVING GAY AND BISEXUAL MEN PAST BARRIERS AND BEYOND WILLINGNESS Brandon Moore, (The Ohio State University),

The HIV prevention landscape changed dramatically in 2012 when the U.S. Food and Drug Administration (FDA) approved a biomedical HIV prevention strategy called HIV Pre-exposure Prophylaxis (PrEP). Previous research on PrEP has specifically explored potential barriers to the medication's widespread uptake and the general willingness of sexual and gender minorities (especially gay and bisexual men [GBM]) to use the medication. However, little research to date has offered insight into how GBM are able to overcome these barriers and translate their willingness to use PrEP into actual usage. This project looks to fill this gap by asking the question, "What kinds of resources are important for gay and bisexual men to be able to get on PrEP?" Forty in-depth interviews with GBM from a large city in the U.S. Midwest region (20 PrEP users and 20 non-users) are drawn on to investigate how these men started using PrEP or not. Preliminary results indicate that there are two pathways with different types of resources that can be drawn upon to overcome barriers and/or facilitate PrEP usage. To start using the medication individuals can draw on either their cultural health capital or social support network. Cultural health capital includes things like having a medical provider a GBM feels they can talk to about same-sex behaviors and PrEP, an ability to do their own research on the medication, and an ability to be their own advocate in explaining their need for a PrEP prescription in the patient-provider relationship. In the absence of such capital (or in addition to this capital), a GBM can draw on their social support system (knowing PrEP users, being encouraged by someone to use PrEP, ability to talk to friends about PrEP etc.) to help them start using PrEP. Therefore, a lack of cultural health capital and/or social support might be why there are still a large number of at-risk GBM not using PrEP.

Presenting Author: Brandon Moore

MATERNAL DEPRESSION IN RURAL PAKISTAN: THE PROTECTIVE ASSOCIATIONS WITH CULTURAL POSTPARTUM PRACTICES Katherine LeMasters, (Department of Epidemiology, Gillings School of Global Public Health, University of North Carolina at Chapel Hill; Carolina Population Center), Nafeesa Andrabi, Lauren Zalla, Ashley Hagaman, Esther O. Chung, John A. Gallis, Elizabeth L. Turner, Sonia Bhalotra, Siham Sikander, Joanna Maselko

Background: Traditional postpartum practices are intended to provide care to mothers, but there is mixed evidence concerning their impact on postpartum depression (PPD). It remains unknown if there is a unique impact of postpartum practices on PPD separately from other types of social support, or if practices differentially affect those with existing prenatal depression. This study aims to understand if chilla (چله), a traditional postpartum practice in Pakistan defined by receiving relief from household work, additional familial support, and supplemental food for up to 40 days postpartum, (1) protects against PPD independent of other support and (2) whether this relationship varies by prenatal depression status. **Methods:** Data come from the Bachpan cohort study in rural Pakistan. Chilla participation and social support (Multidimensional Scale of Perceived Social Support) were assessed at three months postpartum. Women were assessed for major depressive episodes (MDE) with the Structured Clinical Interview, DSM-5 and for depression symptom severity with the Patient Health Questionnaire (PHQ-9) in their third trimester and at six months postpartum. Adjusted linear mixed models were used to assess the relationship between chilla participation and PPD. **Findings:** Eighty-nine percent of women (N=786) participated in chilla. In adjusted models, chilla participation was inversely related to MDE (OR=0.56;95%CI=0.31,1.03) and symptom severity (Mean Difference (MD)=-1.54;95%CI: -2.94,-0.14). Chilla participation was associated with lower odds of MDE (OR=0.44;95%CI=0.20,0.97) among those not prenatally depressed and with lower symptom severity among those prenatally depressed (MD=-2.05;95%CI:-3.81,-0.49). **Interpretation:** Chilla is inversely associated with MDE and symptom severity at six months postpartum. Interventions aimed at preventing and treating PPD should consider the potential benefits of chilla and similar traditional postpartum practices.

Presenting Author: katherine lemasters

EARLY PARENTAL DEATH, ETHNIC MINORITY STATUS, AND RISK OF PSYCHOSIS IN A SIX-COUNTRY CASE-CONTROL STUDY Supriya Misra, (Harvard T.H. Chan School of Public Health), Bizu Gelaye, Karestan C. Koenen, David R. Williams, Christina P.C. Borba, Craig Morgan

Despite robust evidence for higher risk of psychosis among ethnic minorities, mechanisms underlying this excess risk remain unknown. Available evidence supports greater social adversities such as discrimination and economic disadvantage. Preliminary data also suggest early parental loss, although findings have been limited and mixed to date. It is postulated that structural racism contributes to earlier and more frequent parental deaths among ethnic minorities, functioning as a unique social adversity for this group. The European Network of National Schizophrenia Networks studying Gene-Environment Interactions case-control sample of 1,072 cases (35.7% ethnic minorities) and 1,477 controls (21.3% ethnic minorities) from 16 catchment sites in six countries was used to investigate the association between early parental death, type of death, and number of deaths with psychosis, and differences by ethnic minority status. 8.5% of participants experienced early parental death, twice as common among ethnic minorities (13.5% vs. 6.6% in ethnic majority, $p < .001$). 0.8% experienced multiple parental deaths, seven times as common among ethnic minorities (2.2% vs. 0.3%, $p < .001$). In fully adjusted multivariable mixed-effects logistic regression models, early parental death was associated with 1.54-fold greater odds of psychosis (95% CI: 1.23, 1.92). Persons who experienced maternal death had 2.27-fold greater odds (95% CI: 1.18, 4.37), those who experienced paternal death had 1.14-fold greater odds (95% CI: 0.79, 1.64), and those who experienced multiple deaths had 4.42-fold greater odds (95% CI: 2.57, 7.60) of psychosis. In stratified analyses, most associations looked similar for ethnic minorities and the ethnic majority except ethnic minorities who experienced multiple deaths had 9.22-fold greater odds of psychosis (95% CI: 3.03, 28.02). Future studies should further investigate if early parental death contributes to excess risk of psychosis among ethnic minorities.

Presenting Author: Supriya Misra

"PAIN IN MY HEART": UNDERSTANDING PERINATAL DEPRESSION AMONG WOMEN

LIVING WITH HIV IN MALAWI Katherine Lemasters, (Department of Epidemiology, Gillings School of Global Public Health, University of North Carolina at Chapel Hill; Carolina Population Center), Jose Dussault, Angela Bengston, Bradley Gaynes, Vivian Go, Mina Hosseinipour, Kazione Kuseliwa, Anna Kutengale, Samantha Meltzer-Brody, Dalitso Midiani, Brian Pence, Steve Mphonda, Michael Udedi

Background: Among pregnant and postpartum women, perinatal depression (PND) is very common. For women with HIV, PND can interfere with engagement in HIV care, antiretroviral medication adherence, and clinical outcomes. The study aims to understand the experiences of perinatal depression (PND), specifically its determinants and manifestations, among women living with HIV in Malawi. **Methods:** We completed PND screening with HIV-positive women presenting for pre- and postnatal care at five clinics in Lilongwe District, Malawi using the Edinburgh Postnatal Depression Scale. We conducted in-depth interviews with the first 4-5 women per site found to have PND (n=24 total). Women were classified as having PND if they scored >10 on the Edinburgh Postnatal Depression Scale. Data were analyzed using hybrid of data-driven coding, concept-driven coding, and narrative analysis. **Results:** Out of 73 women screened, 24 (33%) had PND and over half (58%) of those with PND endorsed suicidal thoughts. Most (67%) received their HIV diagnosis >2 years ago. Most received an unexpected HIV diagnosis during antenatal care, which was a key contributor to their developing PND. Women discussed a double burden of living with HIV and PND and a concern that their depression would be lifelong, as their HIV status is. This dual diagnosis was often accompanied by overwhelming worry and experienced stigmatization surrounding both diagnoses. **Conclusions:** These findings highlight the need to recognize the mental health implications of routine screening for HIV during antenatal care and the need for routine screening and treatment for PND among women living with HIV. Culturally appropriate mental health interventions to address PND are needed in settings with a high HIV burden. This formative research will guide our adaptation and enhancement of an evidence-based depression counseling intervention to address depression and HIV care engagement for HIV-infected women during the perinatal period.

Presenting Author: Katherine LeMasters

THE FORGOTTEN ONES: WORKING-AGE ADULTS WITH SERIOUS MENTAL ILLNESS IN NURSING HOMES Yiyang Yuan, (University of Massachusetts Medical School), Hye Sung Min, Kate L. Lapane, Christine M. Ulbricht

The number of working-age adults in nursing homes (NHs) has been growing. For those with serious mental illness (SMI), NHs may be inappropriately replacing community-based and specialty psychiatric care. We aimed to describe the demographic characteristics, burden of psychiatric comorbidities, and receipt of mental health care of working-age NH residents by SMI status and to compare these characteristics between long- and short-stay working-age NH residents with SMI. We used Minimum Data Set (MDS) 3.0, a comprehensive assessment mandated for U.S. Medicare/Medicaid-certified NHs with validated measures of diagnoses and symptoms, function, medication and non-pharmacological treatment. SMI was broadly defined to include schizophrenia, other psychotic disorder, bipolar disorder, depression and anxiety disorders. Long-stay was defined as residing in a NH for >100 days. We identified 1,889,345 working-age adults (aged 22-64) newly admitted to NHs (2011-16), 53% of whom had SMI. The proportions of women (55% SMI vs. 44% non-SMI) and non-Hispanic White (75% SMI vs. 60% non-SMI) residents were higher among those with SMI compared to those without SMI. About 21% of residents with SMI stayed in the NH for >100 days, which was 7% higher than those without. The most prevalent psychiatric diagnosis in residents with SMI was depression (68%), followed by anxiety disorder (44%), bipolar disorder (13%) and schizophrenia (13%). Diagnosis of schizophrenia was twice as high in long-stay (24%) vs. short-stay (11%) residents with SMI. About 40% of residents with SMI had 2 or more psychiatric comorbidities. Receipt of psychotropic medication at admission was common for those with SMI, with 69% receiving antidepressants, 39% antianxiety medication, and 30% antipsychotics. Only 2% of those with SMI received psychotherapy. Future work is needed to understand and address the potential unmet needs of these residents to improve their quality of life and likelihood of returning to the community.

Presenting Author: Yiyang Yuan

ESTIMATING THE STOCHASTIC UNCERTAINTY UNDERLYING SAMPLE-BASED ESTIMATES OF INFANT MORTALITY IN THE PHILIPPINES David A. Swanson, (University of Washington), Augustine Kposowa, Jack Baker

Infant mortality is an important population health statistic that is often used to make health policy decisions. Unfortunately, these data are not available for all populations. A method is presented for accounting for the stochastic uncertainty found in infant mortality rates (IMRs) estimated from sample surveys. The method is described, tested for validity, and illustrated in a case study using 2013 sample-based estimates of IMRs for 17 sample regions in the Philippines. Our method is founded on the fact that there are two sources of variation in sample-based estimates of IMRs: (1) sample size and (2) the variation of infant deaths in the population from which the sample is taken. As the sample size decreases, the uncertainty due to sampling increases, all else equal; as the size of the population decreases, the stochastic uncertainty inherent in the IMR increases, all else equal. Stochastic uncertainty reflects the fact that even where the underlying IMR is constant in a small population over time, empirical observations of it can fluctuate from year to year even if it is measured from a complete count of the events of interest. As such, the approach we describe in regard to revising sample-based IMR estimates is aimed at taking into account the stochastic uncertainty while preserving the information concerning the uncertainty due to sampling. In applying the method to the Philippines, we find that the sample-based IMR estimates perform well in terms of accounting for stochastic uncertainty.

Presenting Author: Rachael Piltch-Loeb

RELIABILITY AND TRAJECTORIES OF SELF-REPORTED HEALTH MEASURES Iliya Gutin,
(University of North Carolina-Chapel Hill), Ken Bollen, Carolyn Halpern, Kathie Harris

Self-rated health (SRH) is one of the most widely-available and commonly used measures of health in survey research, yet its measurement properties remain poorly understood. Most studies assume negligible measurement error in the extent to which SRH reflects individuals' latent health status, often using SRH as a focal independent variable or to help control for health selection. However, leaving this assumption untested may bias the estimates associated with both SRH and the outcome of interest, especially when relying on proxy-reported SRH or studying longitudinal changes in SRH. In order to better understand measurement error associated with SRH, our study uses preliminary data from all five waves of the National Longitudinal Survey of Adolescent to Adult Health (N=1753 [with anticipated N≈10,000 by Oct. 2019]) – spanning over 22 years of data collection from adolescence into early adulthood – to estimate the reliability of self-rated health within individuals, relative to others' assessments of their health, and over time. Based on structural equation modeling with latent variables, our results challenge three critical assumptions about the modeling of SRH in extant literature, and especially research on early life: (1) children's perceptions of their health are not interchangeable with parental assessments of SRH, as child and parental perceptions of respondents' health represent distinct latent constructs; (2) overall reliability for SRH is relatively moderate (~0.5) and consistent over time; and (3) respondents' SRH is best characterized by a longitudinal trajectory that allows for individual variation in both intercepts and slopes as well as a lagged effect of SRH from one point to the next. Consequently, we argue that accounting for measurement error and identifying the appropriate measurement models is critical for both evaluating and augmenting existing theory and practice on SRH as a measure of general health status.

Presenting Author: Iliya Gutin

AN INTERDISCIPLINARY APPROACH TO LONGITUDINAL HEALTH POLICY TRACKING AND ANALYSIS: A CASE-STUDY IN ASSISTED LIVING CARE Lindsey Smith, (Oregon Health & Science University), Christian Nguyen, Paula Carder, Laken Harrel, Seamus Taylor, Brian Kaskie, Kali Thomas

BACKGROUND: State governments assume primary authority for the development and implementation of policies that shape population health. One example is the regulation of assisted living residences (ALR). The numbers of ALRs have increased as states have shifted away from expensive institutional care and grappled with the challenges of an aging population. State regulations may affect resident outcomes, including health service use, length of stay, and place of death, yet no research to date has examined this association. Using an interdisciplinary approach, our team created a comprehensive database of states' ALR regulations and amendments made between 2006 and 2018. This presentation will describe the study process, its efficiencies, and the applicability of our results to population health research. **METHODS:** Our study drew upon health services research (HSR), health policy analysis (HPA), public health legal research (PHLR), computational social science (CSS), qualitative methodologies, and gerontology. We utilized HSR to organize our study questions and define our conceptual framework, and HPA methods to collect over 20,000 current and historic policy documents. We organized and prioritized regulations with CSS techniques, then completed a qualitative coding process to narrow the scope of regulations tracked longitudinally. Regulations and regulatory changes were analyzed using a question coding based analysis adapted from legal epidemiology. The resulting dataset, will be analyzed using various qualitative approaches, including content, thematic, and discourse. **DISCUSSION:** The combination of methods and theories allowed our team to efficiently collect and analyze policies and policy changes from all 50 states and DC for the 12-year study window. This longitudinal database of state policy changes can now be used to assess the impact on care using a secondary dataset of Medicare claims linked to ALRs in all states.

Presenting Author: Lindsey Smith

REASSESSING MIGRATION AND HEALTH: ANALYSIS USING US COUNTY LEVEL DATA Sneha Lamba, (Johns Hopkins Bloomberg School of Public Health), Y. Natalia Alfonso, Beth Resnick, David Bishai

The central idea in rational models of human migration is that individuals weigh the costs and benefits of their location options and migrate when benefits outweigh costs. We contend that the survival benefits of a location can be captured through life expectancy which are offset by costs such as unemployment, urbanization (or its lack), poor education and taxation. All things being equal, we would expect out-migration from locations with low average life expectancies and in-migration into locations with high average life expectancies. We use US county level data from 1994-2010 to test the rational model of human migration. Internal Revenue Services releases data on T_{ij} where T is the number of tax returns with an address change from county “i” to county “j”. In addition to being able to compute the absolute number of migrants moving to (out of) a county, this data provides detailed information on the source and destination counties of migrants. Thus, we are able to compute the net person-years of life expectancy gained (lost) due to migration each year. We find over the time period considered, on an average, while positive, net gains in life expectancy from migration have reduced, whereas migrants experienced increasing net income gains from their movements. We then test our hypotheses by estimating regression models both with and without lagged predictors (to capture possible non-immediate effects). Overall, we find no association between average life expectancy at the county level and out-migration or in-migration rates. Stratifying our data in terms of urbanization, education, income levels and racial composition of populations, we find a positive association between life expectancy and in-migration exists only in the highest quantiles of income, urbanization and college education. Our findings provide an important lens through which we can view and understand the contribution of migration to widening health gaps in health outcomes between counties.

Presenting Author: Sneha Lamba

POPULATION MOBILITY AND HIV AMONG MINORITY MEN WHO HAVE SEX WITH MEN IN SOUTHERN CALIFORNIA Susan Cassels, (University of California Santa Barbara), Y. Natalia Alfonso, Beth Resnick, David Bishai

Urban, non-white men who have sex with men (MSM) remain at especially high risk for HIV in the United States, even when HIV incidence among other populations is falling. Partly in response to persistent racial/ethnic disparities in HIV, and the findings that individual behavior does not predict higher incidence among racial minority MSM, the role of geographic mobility, substance use and sexual network characteristics, and neighborhood exposures have been recognized as critical factors. Using data from twenty semi-structured, in-depth interviews with African-American and Latinx MSM living in Los Angeles (recruited from a larger NIDA-funded cohort of MSM called the mSTUDY), we examined how mobility, neighborhood, and activity space characteristics could determine reduced engagement in HIV prevention and care. Guided by grounded theory, we used a data-reduction process in which emergent themes were identified and coded to yield a set of core themes. Four preliminary key themes emerged from our analyses. First, social barriers associated with mobility may reduce HIV prevention and care. For example, pre-exposure prophylaxis prescription requires disclosure of sex with other men, and shame may deter homeless MSM from accessing services. Second, documentation status and fear of deportation reduced engagement in care services, and there was a low awareness of services available to undocumented men. Third, structural barriers, such as urban sprawl and disjointed chain of services reduced engagement in HIV care. Many men mentioned competing priorities as well, as doctor's appointments were secondary to immediate safety, food, and stable housing. Lastly, education emerged as a key barrier to care for highly mobile MSM, including social distance and language barriers between care providers and MSM. Our work suggests a need for more cultural competency among clinic staff, an increase of peer education efforts, and MSM inclusion in project management.

Presenting Author: Susan Cassels

LIFE EXPECTANCY ACROSS LATIN AMERICAN CITIES: THE SALURBAL STUDY Usama Bilal, (Drexel University), Amelia Augusta Friche, Phillip Hessel, Carolina Perez Ferrer, Alejandra Vives, Maria Fatima Pina, Janeth Tenorio, Jaime Miranda, Harrison Quick, Ana Diez-Roux

Objective: To describe variability in life expectancy across Latin American cities and to investigate associations of life expectancy with city environmental features. **Methods:** We used data from the Salud Urbana en America Latina (SALURBAL) project, from 363 cities in 9 Countries (Argentina, Brazil, Chile, Colombia, Costa Rica, El Salvador, Mexico, Panama, and Peru), for the period 2010-2016. Cities were defined as urban agglomerations of more than 100,000 people. We used vital registration mortality records and population projections and corrected for lack of complete coverage of deaths using death distribution methods at the city level. We estimated age-sex specific mortality rates using a Bayesian model, and calculated life expectancy at birth and at ages 20, 40 and 60. We then estimated the association between life expectancy and city-level social and built environment variables, obtained from population censuses and satellite imagery. **Results:** Life expectancy in cities of Brazil, Colombia, Mexico, and Peru was highly heterogeneous, with a range of almost 20 years for both men and women. Argentina and Chile had a narrower variability in life expectancy at birth, although this was wider at older ages. Improved levels of water access, sewage, overcrowding, and educational attainment were associated with higher life expectancy. A one SD increase in a composite social environment index was associated with a 1.1 (95% CI 0.8 to 1.4) and 0.9 (95% CI 0.6 to 1.2) years increase in life expectancy. Cities with higher population growth had a higher life expectancy, but other built environment variables (size, density, and fragmentation) were not associated with life expectancy. **Conclusion:** The wide heterogeneity in life expectancy across cities of Latin American countries points to the importance of city-level factors in determining life expectancy, with a special focus on the role of sanitation, socioeconomic variables, and population growth.

Presenting Author: Usama Bilal

EFFECT OF PARTNER EDUCATION ON THE MORTALITY OF MARRIED AND COHABITATING WOMEN Sandte Stanley, (Washington State University), Justin Denney

Protection from mortality risk gained through marriage is more pronounced than protection gained through cohabitating. Recently, women have outpaced men in educational attainment leading to potentially problematic discrepancies in the gender dynamic where women are dependent on their partners. Women who are more educated than their partners (especially if cohabitating) could potentially lead to negative health consequences. In particular, gaps in educational attainment between partners constrain potential homogamous partnering options and potentially increase the risk of mortality when taking marital status into account. National Health Interview Survey Linked Mortality Files for years 1999 to 2009 were merged with prospective mortality follow-up data through December 2011 to estimate the effect of partner's relative educational attainment on women's mortality using Cox-proportional hazards modeling. Results reveal the relative risk of death for women with more education relative to their partner is higher compared to women who have the same education as their partner. No significant findings were related to relationship type. Being married offers no protective effects from mortality for women who have higher educational attainment than their partner. Understanding the dynamics of educational attainment between partners assists in better framing how concepts such as the marital health advantage apply to women's health.

Presenting Author: Sandte Stanley

EXPLORING THE RELATIONSHIP BETWEEN COUNTY-LEVEL SOCIAL CAPITAL AND DEATHS OF DESPAIR Julia Kay Wolf, (West Virginia University), Jeralynn S. Cossman

For approximately two decades, mortality rates among white non-Hispanic men and women age 45-54 in the United States have been increasing despite previously decreasing for years (Case and Deaton 2015). These troubling changes have largely been driven by drug overdoses, suicides, and alcohol poisoning and related liver mortality, thus earning the term “deaths of despair” (Case and Deaton 2017). As deaths characterized by hopelessness, social explanations have been put forth and examined at the individual level. In an attempt to discover influential contextual forces behind these deaths, we explore the association between county-level measures of them and lagged county-level measures of social capital created by Rupasingha, Goetz, and Freshwater (2006). Preliminary analyses suggest that increases in their social capital index (2005) are associated with decreases in age-adjusted deaths of despair (2013-2017). We plan to examine how these associations may vary by gender and age over time. References Case, Anne and Angus Deaton. 2015. “Rising Morbidity and Mortality in Midlife among White Non-Hispanic Americans in the 21st Century.” *Proceedings of the National Academy of Sciences* 112(49):15078–83. Case, Anne and Angus Deaton. 2017. “Mortality and Morbidity in the 21st Century.” *Brookings Papers on Economic Activity* 2017:397–476. Rupasingha, A., S. J. Goetz, and D. Freshwater. 2006. “The Production of Social Capital in US Counties.” *Journal of Socio-Economics* 35:83–10.

Presenting Author: Jeralynn S. Cossman

THE OPIOID EPIDEMIC AND SUICIDE MORTALITY TRENDS AMONG WHITE AMERICANS

Daniel H. Simon, (University of Colorado-Boulder), Ryan K. Masters

The extent to which recent suicide trends among white Americans are associated with the opioid epidemic remains unknown. Prior work has either considered suicide trends via the “deaths of despair” perspective or estimated the causal effects of the Great Recession. Instead, we explore both explanations in analyzing trends in US white men’s and women’s suicide mortality by method (intentional self-poisoning vs. non-intentional self-poisoning) between 1990-2015. Examining the links between rising availability of opioids and increased suicide mortality is important as opioid use can increase suicide ideation and may provide a more lethal method for suicide. Thus, we estimate year-specific rates of suicide by method using Poisson rate models fitted separately to US non-Hispanic white men and women ages 25-64. These analyses were first fitted to national-level data in order to establish the trends in suicide rates by method, and to observe the timing of suicide increases. Time and State fixed effects regression models were then fitted to US States to estimate the State-level average effect of changes in States’ drug environments and economic conditions. Results indicate that rates of suicide from intentional poisonings among US white men have been stable since 1990 and account for about 11% of all suicides. However, trends in suicide rates among white women between 1990 and 2015 exhibit very different patterns. Among suicides that did not involve intentional poisonings, we observe no significant patterns until the onset of the housing and financial crises in 2006. For women’s suicides from intentional poisoning, we document a linear increase after 1996, coinciding with the FDA-approval of Oxycontin and rising availability of prescription opioids. Overall, this study reveals that between 1996-2006, increases in US white women’s suicide rates were due to rising rates of intentional poisonings, which likely reflected the increasing lethality of the method.

Presenting Author: Daniel H. Simon

ORGANIZED LABOR AND DISTRESS IN EUROPE: MAKING POWER EXPLICIT IN THE POLITICAL ECONOMY OF HEALTH Megan Reynolds, (University of Utah), Veerle Buffel

Political sociologists have offered rich insights into how institutions affect stratification processes such as class, gender and racial inequality. Medical sociologists, on the other hand, have long emphasized the importance of stratification for health and health inequalities at the individual level. The bridging of these areas has contributed to a flurry of research attending to the macro-level factors that impact health. This study contributes to the growing scholarship in this area by investigating the influence of key political and labor market institutions on infant mortality rates in the United States. We do so using the framework of power resources, a theory which has, to date, been only sparsely applied to the study of health. We draw upon publicly available data as well novel measures capturing the extent of working-class power (i.e.- labor union density, legislative percent Democrat, legislative percent women). Our analyses include pooled time series models of the 50 US states between over a period of two decades. Exploiting spatio-temporal variation across state-years, we use two-way fixed effects regression models to examine the influence of power resources on infant mortality rates. Our analyses account for a variety of time-varying state-level factors that may be correlated with our predictors and outcome. Our preliminary results suggest that with each 1% increase in labor union density, Senate Democrats, or House democrats, a state's health ranking improves by 1/20th to 1/4 of a rank. Our study highlights the pertinence of power resources theory to the subject of health and encourages its further application to this relatively new domain.

Presenting Author: Megan Reynolds

POWER RESOURCES AND INFANT MORTALITY ACROSS THE 50 UNITED STATES Megan Reynolds, (University of Utah), Patricia Homan

Political sociologists have offered rich insights into how institutions affect stratification processes such as class, gender and racial inequality. Medical sociologists, on the other hand, have long emphasized the importance of stratification for health and health inequalities at the individual level. The bridging of these areas has contributed to a flurry of research attending to the macro-level factors that impact health. This study contributes to the growing scholarship in this area by investigating the influence of key political and labor market institutions on infant mortality rates in the United States. We do so using the framework of power resources, a theory which has, to date, been only sparsely applied to the study of health. We draw upon publicly available data as well as original data capturing the extent of economic security (i.e.- EITC, minimum wage, Supplemental Nutrition Assistance Program) and working-class power (i.e.- labor union density, legislative percent Democrat, legislative percent women). Our analyses include pooled time series models of the 50 US states between 1997 to 2012. Exploiting spatio-temporal variation across state-years, we use two-way fixed effects regression models to examine the influence of power resources on infant mortality rates. Our analyses account for a variety of time-varying state-level factors that may be correlated with our predictors and outcome. Our preliminary results suggest that as our index of power resources increases from its sample minimum to maximum, the infant mortality decreases 1.25 infants per 1,000. Our study highlights the pertinence of power resources theory to the subject of health and complements the existing emphasis in medical sociology on the “fundamental”, distal causes of health.

Presenting Author: Megan Reynolds

JUVENILE JUSTICE IN THE ERA OF CANNABIS LEGALIZATION: DOES EXPOSURE TO THE CANNABIS INDUSTRY MATTER? Caislin Firth, (Epidemiology Department, School of Public Health, University of Washington), Patricia Homan

Introduction: The impacts of adult legalization of cannabis on juvenile justice have received little attention in North America. Proponents argue that legalization would greatly decrease the number of marijuana-related arrests. In Oregon, youth are exposed to the retail cannabis industry, yet marijuana remains an illegal substance that is subject to criminal penalties. We used Oregon juvenile marijuana arrests (2012–2018) to assess the impacts of adult legalization on juvenile justice trends by exposure to cannabis producers and retailers. Methods: We conducted an interrupted time series analysis to assess whether exposure to legal cannabis producers and retailers modified the effects of statewide legalization on marijuana-related juvenile justice arrests. Negative binomial regression models were fit to examine monthly marijuana arrest rates over time, adjusting for race/ethnicity, gender, age, changes in cannabis use, and county-level contextual effects. Preliminary results: Statewide, the rate of marijuana-related juvenile justice arrests increased after adult legalization of cannabis despite cannabis use among youth not increasing after legalization. By 2018, exposure to commercialized cannabis growers and retailers varied greatly across the state of Oregon. Preliminary results suggest that counties with more access to cannabis retailers were not associated with increases in marijuana juvenile arrests. Though, rates of marijuana juvenile arrests increased in areas with more commercial cannabis producers. Conclusion: Our results indicate that the impacts of adult cannabis legalization on marijuana juvenile arrests were not homogenous across the state of Oregon. The emergence of cannabis producers within the state—and not cannabis retailers—may have increased underage access to cannabis. Monitoring local access to the cannabis industry will be crucial to understanding illicit underage access to cannabis and changes in juvenile justice arrests.

Presenting Author: Caislin Firth

THE INFLUENCE OF LIBRARIES ON POPULATION HEALTH: TRENDS IN HEALTH LITERACY AMONG VULNERABLE POPULATIONS Lynette Hammond Gerido, (Florida State University School of Information), Curtis S. Tenney, Zoe Leonarczyk

This study investigates libraries as a critical and underutilized source of health information. It is essential that consumers have easily available, accurate, and timely information. It is equally critical that consumers be able to use this health information to make informed choices and successfully navigate complex health care systems. According to the U.S. Department of Health and Human Services health literacy is “the degree to which individuals have the capacity to obtain, process, and understand basic health information needed to make appropriate health decisions.” Libraries are uniquely positioned to support health literacy by providing equitable public access to reputable health information to improve population health outcomes. Public access to information is not equal among diverse health populations. Gender, income, occupation, and education may contribute to disparities in health literacy. In this study, we use nationally representative population data to explore characteristics and trends amongst consumers who are first looking for health information in libraries. We analyze the National Cancer Institute’s Health Information National Trends Survey (HINTS) survey to 1) describe survey respondents’ social determinants of health such as: race/ethnicity, education, income, access, employment, military service, and history of cancer diagnosis; and 2) identify health literacy trends. We find that libraries serve both diverse and vulnerable populations. Specifically, women, active duty service members, those who are unemployed or lower income show trends in choosing the library first when looking for health information. These findings reinforce the role of libraries in providing outreach programming to vulnerable populations and veterans. Future research should explore the causality of this trend to broaden the reach of public libraries as a reliable and accessible source of health information both domestically and abroad.

Presenting Author: Lynette Hammond Gerido

APPLYING PLACE-BASED THEORY AND APPROACHES TO TEACH A MASTERS OF PUBLIC HEALTH PROGRAM AND IMPLEMENT PUBLIC HEALTH INITIATIVES IN WESTERN NORTH CAROLINA

Sarah Thach, (UNC Gillings School's MPH Program in Asheville & Mountain Area Health Education Center), Ameena Batada, Caitlin Turbyfill, Elisabeth Wallace

Using a place-based approach as a framework for reducing health disparities and promoting optimal health is gaining traction in medicine and public health. This approach starts by understanding the histories, traditions, spirituality, education, economy, geography, health care access and community orientation that influence structures, environments, and health behaviors. The UNC Gillings School of Global Public Health in Chapel Hill and UNC Asheville are co-creating a Master of Public Health degree in Western North Carolina (WNC) that emphasizes place-based approaches to public health. This model brings Gillings faculty research expertise to the WNC region, draws on UNCA faculty's relationships with local communities, and incorporates the local Area Health Education Center's expertise in innovative physician training and interprofessional education. The program teaches public health principles in the context of WNC communities. Students engage meaningfully with WNC organizations and communities to address regional needs by learning and leading community-based participatory research and action efforts and developing multi-pronged solutions to reduce disparities and promote systems transformation. Competencies and skills acquired in this program can be applied anywhere, and graduates who remain in WNC will have cultivated deeper connections to local organizations and communities. Faculty's research and interventions in WNC will enhance their understanding of WNC strengths and needs, leverage resources for intervention, and create more effective solutions. Leveraging academic institutions as a base for the place-based initiatives allows longer term research and partnerships, which are useful for measuring substantive change in complex multi-sectoral work. This session will review place-based theories of education, anthropology, sociology, and economic development, and explain how these theories are incorporated into the MPH curriculum design.

Presenting Author: Tamarie Macon

A STUDENT-LED COMMUNITY-CAMPUS PARTNERSHIP TO ASSESS POPULATION HEALTH ASSETS AND THREATS IN A LOW-INCOME NEIGHBORHOOD IMPACTED BY NATURAL DISASTER Monica Hernandez, (University of Texas Medical Branch at Galveston), Josh Dorrell

Aim This paper will describe the implementation of a community-based needs and assets assessment conducted among individuals from a low-income population living in Galveston, Texas. **Significance** The Old Central/Carver Park neighborhood in Galveston spans about twenty city blocks and is predominately populated by persons from lower income and ethnic minority (mostly African-American and Hispanic) backgrounds. In 2008, this area was impacted by Hurricane Ike, where over 80% of structures were either destroyed or damaged. Galveston Urban Ministries (GUM) began focusing its efforts in this neighborhood to transform the area by engaging, equipping and empowering residents. GUM provides a wide variety of programs; however, they had not yet conducted a broader assessment of the needs and assets in the area from the lens of this specific neighborhood. **Data & Methods** This project seeks to demonstrate the utility of a campus-community process for collecting resident perceptions of the neighborhood in terms of pathogenic threats and salutogenic resources, and the spatial distribution of these determinants of population health. GUM and students from the local academic health center asked residents to describe the strengths, weaknesses, assets, and threats within their neighborhood. They then participated in a tabletop mapping activity spatially represent where resources and threats were located, concentrated, or (in terms of missing assets) desired. **Preliminary Results** Initial results suggest that inquiring about both assets and threats to the neighborhood's population health provided not only assessment data, but also opportunities to creatively develop potential intervention strategies that leverage existing resources, while also helping to prioritize issues based not only on the severity of the issues facing the population, but also what resources are available to address these issues. Lessons-learned about this process are also noted and will be shared.

Presenting Author: Monica Hernandez

ASSOCIATION BETWEEN MEASURES OF GEOGRAPHIC AREA INEQUITY AND MAJOR SURGICAL INPATIENT OUTCOMES Sara Crawford, (Center for Populations Health Research, Cleveland Clinic), Jesse Schold

Introduction: To compare the association between several measures of geographic area inequity and major surgical inpatient procedure outcomes. **Methods:** Hospital discharges (n=1,573,740) after major surgery in Arizona, Florida, Iowa, Michigan, New Jersey, New York, North Carolina and Vermont using the HCUP State Inpatient Database from 2010-2012. We extracted county-, zip code-, census block group- and census tract-level measures of geographic area inequity and community distress. We evaluated associations between geographic area inequity and surgical outcomes using linear, logistic and Poisson regression with generalized estimating equations to account for clustering by hospital. Surgical outcomes included inpatient mortality, length of stay, hospital costs, discharge status, and 30-day readmission. **Results:** After adjusting for patient, hospital, and discharge factors, odds of inpatient mortality significantly increased as geographic distress increased across all measures of geographic inequity. Odds of routine discharge increased and the odds of 30-day all-cause readmission decreased with geographic distress for select measures of geographic inequity. **Conclusions:** Surgical patients living in areas of higher geographic distress are significantly more likely to die after major surgery independent of demographic characteristics and comorbid conditions captured in traditional administrative data. When patients survive the surgery and inpatient stay, they are more likely to have a routine discharge and less likely to be readmitted. Medical providers should be aware of the potential impact that residence can have on patient outcomes. Further exploration is needed to understand the source of these associations and develop interventions and effective policies to address them.

Presenting Author: Rocio Lopez

EFFECTIVE RESEARCH TRANSLATION FOR URBAN HEALTH IN LATIN AMERICA: THE 2018 SALURBAL KNOWLEDGE-TO-POLICY FORUM Katherine Indvik, (United Nations University, International Institute for Global Health), Jose Siri, Ana Diez Roux, Usama Bilal, Daniel Rodriguez, Olga Lucia Sarmiento, Adriana Lein

Effective knowledge to policy translation for urban health requires sustained multisectoral and multidisciplinary exchange and collaboration. The scientific community plays a critical role in promoting research co-design, ensuring that investigations respond to policymakers' needs and priorities, and communicating evidence with accessible timing, format, and focus. The Salud Urbana en América Latina (SALURBAL) urban health research project studies how urban environments and policies impact health, health equity, and sustainability among and within Latin American cities. The interdisciplinary, multi-country team implements "Knowledge-to-Policy" (KtP) Forums and other engagement activities increase the policy relevance of project results and promote effective policy translation. SALURBAL's first KtP Forum in Mexico City convened 22 policy actors and 11 SALURBAL researchers. Participating institutions included local government agencies, national ministries, urban design firms, local and regional civil society organizations, and the Pan American Health Organization. The Forum centered on three participatory activities. First, participants were invited to provide feedback for improving SALURBAL's policy relevance. Next, after a presentation on the core principles of research to policy translation, participants identified key barriers to KtP translation and examples of effective KtP for urban health in the region. Finally, small groups developed strategies for overcoming barriers and promoting KtP translation for urban health in Latin America. Forum outputs led to a set of recommendations for the project and other urban health research efforts across the region, which informed a set of SALURBAL commitments to improving research translation and policy engagement. The SALURBAL experience of applying the methods and principles of knowledge to policy translation offers lessons for other public health researchers and projects.

Presenting Author: Katherine Indvik

CRITICAL DEFINITIONS FOR POPULATION HEALTH IN AN ERA OF ‘GLOCALIZATION:’ GLOBALIZATION, COMPLEXITY AND THE LANCET COMMISSION’S RECOMMENDATIONS ON GLOBAL MENTAL HEALTH Margaret Walkover, (University of Hawaii-Manoa), Jose Siri, Ana Diez Roux, Usama Bilal, Daniel Rodriguez, Olga Lucia Sarmiento, Adriana Lein

Public health challenges are often misclassified as problems of individual behavior or access to services - when the causal architecture is actually informed by structural inequities. The 2019 IAPHS conference addresses ‘glocalization,’ the impact of globalization on the health of local populations. Compelling interdisciplinary dialogue requires clear definitions of anchor concepts. This presentation uses a set of recommendations, completed in October 2018 by the Lancet Commission on Global Mental Health and Sustainable Development, to explicate definitions of globalization and complexity - two terms that lend clarity to population health conversations taking place within a global context. After offering an overview of the term globalization, globality will be defined as a social condition, catalyzed by the emergence of information technology and characterized by flows of capital, technology, culture and populations. The current impact of globalization on the preconditions for regional and local population health will be illustrated by reviewing first, how technology is designed to reflexively integrate individualization into culture; and second, how corporate value chains impact economic and cultural inequities within the global north and south. The Lancet commission’s population mental health framework, and its recommendations to support sustainable development, equity and human rights will be used to nuance our understanding of globalization while illustrating basic principles of complex adaptive systems. Examples will illustrate how complexity underwrites population health and globalization. The current pattern of prioritizing individualized interventions within conventional forms of population health and corporate forms of globalization will be demonstrated. The presentation will conclude with practical strategies for influencing the behavior of non-linear and complex networks emerging through the process of globalization and population health.

Presenting Author: Margaret Walkover

STRUCTURAL DETERMINANTS OF INTERACTIONS BETWEEN YOUNG PEOPLE AND THE CRIMINAL JUSTICE SYSTEM: A LOOK AT POPULATION DISTRIBUTIONS AND HEALTH CONSEQUENCES Catherine Duarte, (Division of Epidemiology, UC Berkeley School of Public Health), Leslie Salas-Hernandez, Joseph Griffin

The criminalization of young people has been an increasing feature of US policy and practices. As a result, the domains in which young people engage the criminal justice system have continued to expand, encompassing (1) their communities, (2) their schools, and (3) their homes. Importantly, exposure to the justice system in these three domains disproportionately impacts structurally marginalized young people including youth of color, youth experiencing economic disenfranchisement, and youth with disabilities, among others. Several explanations for these disproportionate distributions have been put forth as well as efforts to understand what their consequences may be. To engage that conversation, we offer a critical analysis of the academic and grey literature on the structural determinants of these distributions, including policy decisions at the federal, state, and local levels. We then explore health outcomes to which they have been linked among young people. To frame this work, we apply the ecosocial theory of disease distribution, which posits that our societal and ecological contexts become biologically embodied, producing accordingly patterned population rates and distributions of health. Informed by existing education, criminology, and public health literature as well as a review of work being done in community, we present a conceptual framework to guide future research aimed at better understanding the multiple domains in which young people are exposed to the justice system and the ways in which this may become embodied as ill health. Development of this framework is motivated by aligning the efforts of researchers, public health practitioners, community organizers and activists, policymakers, and community members committed to understanding and intervening on this adverse exposure. We conclude by identifying opportunities for intervention to address these structural determinants and the inequitable distributions of adverse health outcomes they may shape.

Presenting Author: Catherine Duarte

THE IMPACT OF POLICY CHANGES ON HPV VACCINE COMPLETION: A NATURAL**EXPERIMENT** Summer Sherburne Hawkins, (Boston College), Krisztina Horvath, Jessica Cohen, Lydia E. Pace, Christopher F. Baum

In September 2010, the Affordable Care Act (ACA) required private plans to cover the human papillomavirus (HPV) vaccine. The Advisory Committee on Immunization Practices (ACIP) recommended that females receive the vaccine in 2006 and males in October 2011. Medicaid expansion and Marketplace insurance occurred in January 2014. This study examined the impact of the ACA, ACIP recommendation, and health insurance reforms on completion of the 3-dose HPV series by sex and insurance status. We used 2009-2015 All Payer Claims Databases from New Hampshire, Maine, and Massachusetts with medical claims for enrollees in private and public plans. We identified 9-26-year-olds with one HPV vaccination dose and defined completion as receiving 3 doses within 1 year. We conducted a difference-in-differences probit regression model with three policy indicators interacted with sex and insurance type; we included age, state, and year fixed effects. Among males and females who initiated HPV vaccination, 27.1% and 30.9% completed the series. Among males, the ACA had no effect on HPV vaccine completion. The ACIP recommendation decreased completion for those with public plans only (-0.037;-0.57,-0.018). In contrast, health insurance expansion increased vaccine completion for males with private (0.036;0.027,0.046) and public (0.010;0.000,0.019) plans. Among females, the ACA increased HPV vaccine completion for those with private (0.044;0.026,0.062) and public (0.067;0.044,0.090) plans. The ACIP recommendation increased completion among females with private plans only (0.027;0.017,0.037). Similarly, health insurance expansion increased vaccine completion for females with private (0.087;0.077,0.097) and public (0.048;0.038,0.058) plans. Despite low HPV vaccine completion overall, the ACA modestly increased completion among females, but not males. ACA-related health insurance reforms were associated with further increases in completion among privately- and publicly-insured males and females.

Presenting Author: Summer Sherburne Hawkins

PHYSICAL ACTIVITY DISPARITIES AMONG HISPANIC ADOLESCENTS BY PARENT NATIVITY STATUS: THE ROLE OF SOCIAL SUPPORT, FAMILY STRUCTURE, AND ECONOMIC HARDSHIP Christian Vazquez, (The University of Texas at Austin, Steve Hicks School of Social Work), Brittany Schuler

In this cross-sectional study, we examine disparities in physical activity (PA) rates, a determinant of obesity risk, by exploring the impact of household economic hardship and the social roles of family/friends in relation to adolescent physical activity levels. We assess whether such hardship and supports on physical activity are different by parental nativity status (Hispanic adolescents of foreign- and native-born caregivers compared to whites). The sample included 1,927 white and Hispanic 15-year-olds of foreign- and native-born caregivers from the Fragile Families and Child Wellbeing Study. Days spent in physical activity in the past week was regressed on economic hardship and each family support factor: family/friend encouragement for PA, married/cohabiting caregivers, resident grandparent, controlling for age, education, and child sex. We examined main effects for economic hardship and family support factors, and interaction effects with parent-nativity status. Results indicate disproportionately higher PA levels for white compared to Hispanic adolescents of foreign-born caregivers ($B = -0.41$, $SE = 0.19$, $p = .03$), those with more family/friend encouragement ($B = 0.81$, $SE = 0.10$, $p < .001$), and cohabiting households ($B = 0.28$, $SE = 0.14$, $p = .04$); support and hardship factors did not vary by nativity status. Researchers and practitioners should address differences among ethnic/generational subgroups and family/friend supports that may improve adolescent PA levels, particularly among Hispanic adolescent subgroups. Physical activity levels continue to be dismal especially for racial/ethnic minority groups, which puts them at further risk of consequences of physical inactivity, including life-long complications associated with being an obese adolescent.

Presenting Author: Christian Vazquez

THE INVISIBLE MINORITY - INTERDISCIPLINARY GLOBAL AND LOCAL PERSPECTIVES FOR EQUITY, HEALTH EQUITY, SOCIAL JUSTICE, AND ORGANIZATIONAL CHANGE

Bernice B. Rumala, (Institute for Healthcare Improvement (IHI); Fmr. Senior Consultant, United Nations), Brittany Schuler

“I am here but not seen, I am speaking but not heard” In this session, Dr. Bernice B. Rumala will address the larger themes of equity, health equity, health impacts of discrimination, organizational change, and social justice towards interdisciplinary micro and macro solutions for change. Dr. Rumala will also highlight global and local parallels between her experiences in Iraq as a former senior consultant for the United Nations, during the height of the war on ISIS, and the United States. A social determinants of equity framework will be used in exploring equity, health equity, social justice, policy, practices, individual level and institutional level interventions. Additionally, implicit biases, explicit biases, phobias, and racism will be addressed as part of the equity framework. At the end of the session, attendees will have a clearer understanding of the challenges and their role for individual level and systems-based change. The target audience for this session includes but is not limited to the general public, academic institutions, community-based organizations, businesses, law enforcement, students, faculty, staff, formal and Informal leaders in the non-profit and for-profit sectors.

Presenting Author: Bernice B. Rumala

RACIAL/ETHNIC DIFFERENCES IN THE SOCIOECONOMIC CORRELATES OF DEPRESSION AMONG U.S.-BORN YOUNG ADULTS Alexis Christine Dennis, (University of North Carolina at Chapel Hill), Brittany Schuler

Depression prevalence is generally lower among higher socioeconomic status (SES) individuals. This relationship is not necessarily the same across racial/ethnic minority groups. Conventional operationalization of SES entails including one or more measures of educational attainment, income, or occupation. Yet, the relationship between some aspects of the socioeconomic lives of young adults (e.g., wealth transfers) and depression in adulthood are under-explored in the literature. Our understanding of whether various SES dimensions differentially relate to depression across racial/ethnic groups is also important, given how opportunities to access socioeconomic resources vary across racial/ethnic subpopulations. I use a sample of white (n=8,331), black (n=3,623), and Latinx (n=2,154) adults from the National Longitudinal Study of Adolescent to Adult Health (Add Health) to address these gaps. To date, I have estimated a structural equation model of the relationship between SES indicators and depressive symptoms at Wave IV of Add Health when respondents are approximately age 28. I will re-estimate this model when the full Add Health Wave V sample is released this summer using depression at Wave V when respondents are approximately age 38. Preliminary results suggest SES correlates of depression differ across racial/ethnic groups. Among whites, income, no down payment assistance from parents, and hours worked are associated with fewer depressive symptoms, while debt, financial support to parents, financial support from parents, and material deprivation are associated with more symptoms. Among blacks, years of education, no down payment assistance from parents, and hours worked are associated with more depressive symptoms; material deprivation is associated with fewer symptoms. Among Latinx young adults, education is associated with fewer depressive symptoms; no down payment assistance from parents and material deprivation are associated with more symptoms.

Presenting Author: Alexis Christine Dennis

DISPARITIES IN ACCESS TO PEDIATRIC CONCUSSION CARE Sara PD Chrisman, (Seattle Children's Research Institute and University of Washington), Michelle Nemetz Copley, Emily Kroshus, Nathalia Jimenez

Our goal was to compare the population of youth seen for sports-related concussion at a children's hospital to youth seen in the same clinic for orthopedic injury (fracture), to determine whether disparities in access to pediatric concussion care exist by race, ethnicity or socioeconomic status. We also examined the use of a Spanish language interpreter, theorizing that limited English proficiency (LEP) might be a primary barrier to care. We used logistic regression to analyze 2010-15 administrative data from a tertiary children's hospital, comparing the odds of being in the group seen for concussion to the odds of being in the group seen for orthopedic injury (OI), based on demographic characteristics (age, sex, race, ethnicity, insurance type, and interpreter usage). Concussion diagnosis and fracture were identified using ICD-9 codes. Subjects seen for concussion had greater odds of being 14-18 years old compared to 11-13 years (OR 3.64, 95%CI: 3.39-3.91), female compared to male (OR 2.65, 95%CI: 2.48-2.84), white compared to non-white (OR 1.12 95%CI 1.03-1.21), be seen without an interpreter (OR 2.29 95%CI 1.90-2.77) and have private insurance (OR 1.85 95%CI 1.70-2.01). In the bivariate model, non-Hispanic youth were more likely to be seen for concussion than Hispanic youth (OR 1.20 95%CI 1.08-1.33), but the direction of the association was reversed in the full model (OR 0.67 95%CI 0.59-0.76) suggesting that the significance in the bivariate model was explained by other variables, such as insurance status and interpreter usage. In conclusion, we found that youth seen for concussion at a pediatric subspecialty clinic were more likely to be older, female, white, have private insurance and not need an interpreter compared to those seen in the same clinic for orthopedic injury. The reason for this disparity needs to be further explored, but it is likely the result of compounded factors, including limited access to concussion education and referral barriers.

Presenting Author: Sara PD Chrisman

INTERNALIZED RACISM AND HEALTH IN LATIN AMERICA Savannah Larimore, (University of Washington), Maria Vignau Loria, Thiago Marques, Francisca Gomez Baeza

Internalized racism, defined as the “acceptance by members of the stigmatized races of negative messages about their own abilities and intrinsic worth,” has been theorized to influence health status and disparities among racial and ethnic groups in the US. Previous research has shown that internalized racism has direct and indirect effects on physical, mental, and emotional well-being. However, this body of research has been primarily limited to analyses of African American health outcomes or as a means to explain black-white gaps in health in the US. As such, it has yet to be determined if these same processes of internalized racism manifest in other countries with different ethno-racial hierarchies. The present analysis takes advantage of data from the Project on Ethnicity and Race in Latin America (PERLA) and asks two related questions. First, are there differences in anti-minority sentiment across racial and ethnic groups in Peru, Colombia, Mexico, and Brazil and if so, do these negative beliefs produce differential patterns of health among racial minorities in these countries? In our analysis, we operationalize anti-minority sentiment using the question, “How much do you agree or disagree with the following statements? [Indigenous/Black] people should marry whites to ‘improve the race’”? We use self-rated health as an indicator of health status and well-being. Our results suggest that anti-minority sentiment is common, although there are some differences across countries. Logistic regression analyses show that anti-minority sentiment is detrimental to health for racial minorities in all four countries, but that these effects are particularly pronounced for individuals who identify as black and live in Colombia or Brazil. The results from our analysis further challenge mestizaje and racial democracy ideologies that are prevalent in Latin America and suggest that anti-minority sentiment in these countries is consequential for population health.

Presenting Author: Savannah Larimore

EVALUATION OF PATIENT RACE/ETHNICITY REPORTING IN THE OSHPD PRIMARY CARE CLINIC DATA, 2001-2017 Tami Swenson, (Des Moines University), Melisa Chandradijaya

Objective: To evaluate reporting rates of missing and other/unknown race/ethnicity data by primary care clinics in a statewide annual utilization surveillance system from 2001 to 2017. **Background:** The ability to monitor healthcare utilization may be hindered by inaccuracies in race, ethnicity, and language (REL) data collected in electronic health records. The quality of the race/ethnicity data reported in the California Office of Statewide Health Planning and Development (OSHPD) data varies over time and between clinics. Unknown and missing race/ethnicity data may affect the inferences that can be drawn for monitoring access and utilization issues affecting population health equity and healthcare disparities. **Design:** OSHPD Primary Care Clinic Annual Utilization files from 2001 to 2017 are used to examine variation in reporting rates of race/ethnicity data. Fixed effects panel models are used to evaluate the reporting rates and associated explanatory measures of clinic ownership patterns, patient sociodemographic characteristics, procedure volumes, staffing levels, organization financial variables, and geographical measures of clinic service areas. **Preliminary Findings:** From 2001 to 2017, the average reporting rate of unknown race is 14.7% (annual averages range from 10% in 2005 to 27% in 2002). Of the 1388 primary care clinics in CA reporting in 2017, the average unknown race reporting rate is 17.5%. The fixed effects regression models show clinics owned by parent companies with larger primary care networks have an associated 1.6% reduction (95% CI: -3.1% - -0.2%) in their rate of unknown race reporting, which supports the hypothesis that larger healthcare systems are better able to achieve efficiencies of scale to reduce administrative burdens of reporting and data collection. **Conclusion:** The findings from this study highlight system-level measures affecting REL reporting rates by primary care clinics in CA, and the limitations they have for population health.

Presenting Author: Tami Swenson

NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES Maya Wright, (University of North Carolina at Chapel Hill), Helen B. Chin, Kristen R. Moore, Kristen Upson, Donna Baird

Background: Uterine fibroids are very common benign smooth-muscle tumors. Black women are at an increased risk of developing fibroids, but the cause is unclear. Douching and perineal talc use are common lifestyle exposures among Black women, and may be risk factors for fibroid development. **Methods:** The Study of Environment, Lifestyle and Fibroids (SELF) is a prospective cohort study of young African American women aged 23 to 35 in the metropolitan Detroit area (n=1,693) without prior diagnoses of fibroids and intact uteri. The two exposures were defined as greater than 10 self-reported douching events to date (yes/no) and any perineal talc use (ever/never). Prevalent fibroids were measured at baseline using transvaginal ultrasound. We used log binomial regression to estimate prevalence ratios (PR) and 95% confidence intervals (CI) for fibroid prevalence (yes/no) and multinomial logistic regression to estimate odds ratios and CI for total fibroid volume, categorized as no fibroids, \geq median total volume in this cohort (1.88cm³) and $<$ median total volume. **Results:** Forty-three percent of women reported ever douching, 15% reported ever perineal talc use, and 9% reported using both. Fibroid prevalence was 23%. Women who douched were no more likely than women who did not to have prevalent fibroids (PR 1.05; CI=0.89,1.23), nor have fibroid volumes $<$ 1.88cm³ or \geq 1.88cm³ when compared to no fibroids (OR $<$ 1.88cm³:1.04; CI= 0.66,1.42; OR \geq 1.88cm³:1.06; CI=0.77,1.44). Women who used perineal talc had marginally increased prevalence of fibroids (PR 1.19; CI=0.97,1.46). Perineal talc use was also marginally associated with fibroid volumes \geq 1.88cm³ (OR 1.39; CI=0.93 ,2.09) but not volumes $<$ 1.88cm³ (OR 1.04; CI=0.66,1.42) when compared to women without fibroids. **Conclusions:** Our results suggest perineal talc may be a uterine irritant that could increase the risk of fibroids. Continued research is needed exploring behavioral exposures and their effects on fibroid development.

Presenting Author: Maya Wright

SELF-RATED HEALTH BY SEXUAL ORIENTATION AND SEXUAL ATTRACTION OF MEN AND NON-PREGNANT WOMEN AGE 25-45, 2011-2015 NSFG Julia Kay Wolf, (West Virginia University), Helen B. Chin, Kristen R. Moore, Kristen Upton, Donna Baird

Ample research examining the lesbian, gay, and bisexual (LGB) community has found associations between their sexual minority status and poorer health when compared to their heterosexual counterparts. This paper contributes to that literature by using the 2011-2015 data from the National Survey of Family Growth (NSFG), allowing for analyses of a nationally representative sample of United States adults. I have analyzed the general self-rated health of non-pregnant, females age 25-45 using logistic regression to show how self-rated health differs for them by sexual orientation identity and by more detailed categories of sexual attraction. Those who identify as homosexual/gay/lesbian do not differ in their self-rated health from heterosexual women before or after controlling for demographic characteristics, resources, or other health indicators. However, bisexual women do show significantly lower odds of reporting excellent/very good/good health (vs. fair/poor health) compared to heterosexual women even when controlling for those factors. Analyses by sexual attraction show that those attracted equally to males and females as well as those attracted to mostly females, when compared to those only attracted to males, share the same results as bisexuals compared to heterosexuals. Analyses on male respondents will be conducted to examine how these findings may vary by gender. Overall, the results of this study will contribute to the expanding literature on LGB men and women's health by examining two components of sexual orientation—identity and attraction—and showing nuances in how these characteristics can influence self-rated health.

Presenting Author: Julia Kay Wolf

IMPROVING SCREENING AND TREATMENT OF FOOD INSECURITY AT LAC+USC THROUGH AN EDUCATIONAL INTERVENTION FOR INPATIENT MEDICINE SERVICE TEAMS Senxi Du, (USC Keck School of Medicine), Stefan Nguyen, Andrew Young

Background: Food insecurity is a significant social determinant of health (SDH) associated with chronic disease and increased admissions, length of stay, and healthcare costs. At our institution, self-report data reflect limited provider understanding of the health impacts of food insecurity. We aim to improve awareness and practices surrounding food insecurity on the inpatient care team. Methods: We obtained food insecurity prevalence data for patients (n=154) admitted to the medicine service over two-weeks in Feb 2019, via the Hunger Vital Signs screen as part of routine intake by care coordinators. Care coordinators (n=6) have been surveyed and internal medicine residents (n=165) will be surveyed to understand screening and referral practices of LAC+USC inpatient care teams. In Apr 2019, care teams will receive educational interventions, followed by post-intervention assessments at one and three months. Pre- and post-intervention assessments will be compared for significance. Results: 36% of our patient population experience food insecurity, and 56% of food-insecure patients are homeless. Patients were primarily referred to social work (73%) and the LAC+USC Wellness Center (80%) for food resources. Data collected at this point indicate 67% of team members rate their food insecurity knowledge below average. No team members reported routinely asking patients about food insecurity. Remaining survey and educational intervention assessment data will be obtained in Apr 2019. Conclusions: At three-times the national rate, food insecurity is extremely prevalent among patients on the LAC+USC medicine service. Providers may assume this affects only the severely disadvantaged, but nearly 50% of food insecure patients are not homeless. Significant opportunities remain to enhance food insecurity knowledge and screening practices at LAC+USC. Our intervention seeks to better address SDH in care delivery, thereby promoting lasting improvements in patient health.

Presenting Author: Senxi Du

AN APPLICATION OF NIMHD'S RESEARCH FRAMEWORK TO IDENTIFY RESEARCH GAPS AND OPPORTUNITIES IN NIH'S PORTFOLIO OF UNINTENTIONAL INJURY RESEARCH AMONG RACIAL AND ETHNIC MINORITY CHILDREN AND ADOLESCENTS Maria Isabel Roldos, (National Institute on Minority Health and Health Disparities _ NIMHD), Thomas Moehlman, Tilda Farhat

Question: What research is needed to facilitate the development of guidelines to prevent unintentional injury among minority children and adolescents? Background: Unintentional injuries (UI) among children and adolescents pose a significant health and economic burden. UI injuries caused by burns, drowning, falls, poisoning and road traffic are the leading causes of morbidity and mortality among children in the U.S., and account for an estimated \$94 billion dollars in lifetime medical and work-loss costs each year. Close to 22,200 children are seen every day in an emergency department due to an unintentional injury. Racial and ethnic minority children are at even greater risk for UI. The mortality rate for traffic accidents is more than 3x greater in American Indian and more than 2x greater in African American children than Whites. Purpose: The purpose of this analysis is to identify research gaps and opportunities to reduce the UI health burden among racial and ethnic minorities using NIMHD's research framework. Methods: A portfolio analysis of all NIH grants relating to UI among children between 2011- 2018, and reviews of scientific literature identified gap areas. Grants focused on racial and ethnic minorities were further analyzed using the NIMHD research framework. Results: Application of the NIMHD research framework suggests a current emphasis on research at the individual level of influence within the behavioral and socio-cultural environment domains. Analyses of the health outcomes of UI suggest a current emphasis on outcomes at the family/organization and community levels. Gaps primarily exist at the societal level and in the health care system domain. This suggests that more societal-level research is needed to build the scientific evidence to inform policies to prevent UI. The health care system also represents an untapped research area that could be leveraged to improve UI outcomes.

Presenting Author: Maria Isabel Roldos

CAREGIVER AND MEDICAL TEAM INTERACTIONS AND CAREGIVER WELL-BEING AND PERCEPTIONS OF THE CAREGIVING EXPERIENCE Brenda Gellner, (University of Washington, Seattle), Thomas Moehlman, Tilda Farhat

Doctors are highly professionalized street-level bureaucrats, who regularly interact with individuals on Medicare and Medicaid requiring caregiving assistance. They exercise wide discretion in decisions about citizens with whom they interact. Motivated by a need to understand the implications of their discretion in frontline interactions with informal caregivers, this project examines the relationship between the frequency and quality of these interactions and caregiver emotional well-being and perceptions of the caregiving experience. This analysis utilizes cross-sectional data from the third wave of the National Study of Caregiving (2017). Physician discretion is measured both as the frequency of interactions (e.g. whether and how often caregiver speaks or emails medical providers in last year, consistency of medical providers) and the quality of interactions (e.g. how helpful communication with medical providers is to caregiving, difficulty of communicating with medical providers, whether medical provider listens to caregiver, whether medical provider asks if caregiver understands care recipient's health treatments, whether medical provider asks if caregiver needs help managing care recipient's health treatments). I hypothesize that less frequent and lower quality communication is associated with worse emotional well-being (e.g. self-reported emotional health) and perceptions of the caregiving experience (e.g. whether caregiver enjoys being with care recipient, how much caregiver thinks their care recipient appreciates what they do, whether care recipient argues with caregiver or gets on caregiver's nerves, difficulty in providing various care tasks). This study also explores how interactions with medical teams vary by caregiver demographic characteristics (race/ethnicity, gender, relationship to care recipient, age), and how caregiver emotional well-being and perceptions of the caregiving experience vary by caregiver demographic characteristics.

Presenting Author: Brenda Gellner

LATENT CLASSES OF CHILDHOOD MALTREATMENT AND THE DEVELOPMENT OF SEXUAL RISK BEHAVIOR IN HISPANIC AND BLACK ADOLESCENT GIRLS

Li Niu, (Department of Psychology, Fordham University), Joshua L. Brown, Lindsay Till Hoyt, Anthony Salandy, Nicolas F. Schlecht, Robert D. Burk, Angela Diaz

Most studies linking childhood maltreatment with adolescent sexual risk behaviors (SRB) are cross-sectional and only examine a single type of abuse or neglect. However, different forms of trauma often co-occur. The current study used latent class analysis to identify maltreatment subgroups and growth curve models to predict the development of SRB from subgroup membership among Hispanic and Black adolescent girls. Data included 882 sexually-active girls (60% Hispanic, 37% Black) enrolled in an ongoing HPV4 vaccine surveillance study in NYC. Participants aged 12 to 19 were recruited in 2007 and followed every six months until age 25. Childhood exposure to abuse (sexual, physical and emotional) and neglect (physical and emotional) was assessed using the 28-item Childhood Trauma Questionnaire. SRB was measured at each visit using the sum of seven dichotomized items (i.e., condom use, number of sexual partners, sex under the influence of alcohol, forced sex, sex in exchange for money, older partner, partner with STI). Participants' age, race/ethnicity, education, and poverty were included as covariates. We identified four distinct subgroups: a low-risk group (G1; 74%), a group high on emotional abuse and neglect (G2; 14%), a physically abused group with co-occurring emotional abuse and neglect (G3; 4%), and a sexually abused group with all other types of maltreatment (G4; 7%). Girls high on emotional abuse and neglect, alone or with physical abuse (G2 and G3), displayed higher SRB at age 19 than the low-risk group, $b = 0.46$, $p < .001$ and $b = .62$, $p < .001$. Girls experiencing sexual abuse and all other types of maltreatment (G4) showed higher SRB at age 19 ($b = 1.37$, $p < .001$) and greater SRB over time than the low-risk group ($b = 0.17$, $p < .001$). Findings suggest all patterns of early maltreatment increase risk for SRB, but understanding heterogeneity within maltreated populations could aid prevention efforts in promoting healthy sexual development.

Presenting Author: Li Niu

SEXUAL MINORITY HEALTH BEHAVIORS AND POTENTIAL BENEFITS OF SAME SEX MARRIAGE Caleb Cooley, (Washington State University), Joshua L. Brown, Lindsay Till Hoyt, Anthony Salandy, Nicolas F. Schlecht, Robert D. Burk, Angela Diaz

Sexual minorities experience higher rates of negative health behaviors, yet little is known about the mechanisms which contribute to these experiences. Marriage has been shown to provide protective health benefits for those who opt in to the institution. Much of the previous research has primarily focused on marriage between different-sex couples, or estimated same-sex cohabitation. This study utilizes nationally representative secondary data from the National Health Interview Survey, to investigate the potential mediating influence of marriage on the elevated occurrence of negative health behaviors among same-sex couples. In terms of marriage, sexual minorities experience similar marital benefits to heterosexual couples in some respects. This research indicates that marriage is also beneficial for same-sex women, as those women who are married are significantly less likely to report having fair or poor health. Marriage also decreases sexual minority feelings of hopelessness significantly for both genders, although slightly more for women than men.

Presenting Author: Caleb Cooley

SOCIOECONOMIC AND PSYCHOSOCIAL RESOURCES PREDICT REDUCED MORTALITY: LONGITUDINAL FINDINGS FROM THE HEALTH AND RETIREMENT STUDY Jennifer Morozink Boylan, (University of Colorado Denver), Justin L. Tompkins, Patrick M. Kreuger

Objective. To examine longitudinal associations between socioeconomic status (SES) and mortality among a national sample of older adults. Psychosocial resources (e.g., social support, psychological well-being) are examined as predictors of mortality and as moderators of the SES-mortality association. **Background.** Competing hypotheses inform how psychosocial resources may moderate the SES-mortality association. Fundamental cause theory and concepts of “strong situations” suggest that social structural constraints outweigh effects of psychosocial resources on mortality for lower SES. As such, the SES-mortality link is predicted to be stronger at high, relative to low, levels of resources. In contrast, the reserve capacity model and selective vulnerability hypothesis suggest that psychosocial resources may be stronger predictors of mortality among those with lower SES given the health-protective scaffolding inherent to high SES. As such, the SES-mortality link is predicted to be stronger at low, relative to high, levels of resources. **Methods.** We test these ideas with data from the Health and Retirement Survey (2008-18). SES was modeled as years of education. Psychosocial resources (i.e., purpose in life, life satisfaction, positive affect, and the absence of loneliness) were assessed up to twice between 2008-14. Discrete time models examined (1) main effects of SES and each resource, respectively, on mortality, and (2) interactions between SES and respective resources on mortality. **Results.** Higher SES, purpose in life, positive affect, and life satisfaction and lower loneliness were associated with reduced mortality over the 9-year follow-up, net of age, sex, and race/ethnicity. Results with interaction models are forthcoming. **Conclusions.** The findings contribute longitudinal evidence that SES and psychosocial resources are salubrious. Future research on the development and maintenance of psychosocial resources in older adults is warranted.

Presenting Author: Jennifer Morozink Boylan

FOREIGN AID, LOCAL ACTIVISM, AND ATTITUDES TOWARD VIOLENCE AGAINST WOMEN

Jeffrey Swindle, (University of Michigan), Justin L. Tompkins, Patrick M. Kreuger

Cultural scripts condemning violence against women are being spread worldwide. How does foreign aid diffuse such cultural scripts and inspire local social movements, and what effect does foreign aid have on people's attitudes? I examine these questions in the context of contemporary Malawi, a politically stable setting in which anti-violence cultural scripts have been diffused via specific foreign aid projects and an annual social movement, the 16 Days of Activism Against Gender Violence. I combine data from three national surveys between 2010 and 2016 with a new dataset capturing geographic district level variation in funding disbursed for various types of foreign aid projects. I show that districts in which violence against women is relatively less accepted receive less funding for foreign aid projects that focus explicitly on challenging acceptance of violence against women. Controlling for the district rejection rate prior to aid allocation, I find that funding disbursed at the district level for this specific type of projects positively predicts individual level rejection of violence against women. No such effects are observed for funding disbursed for projects focused on other aspects of gender equality or on other issues. I further exploit the timing of the 2015-16 national survey and find that people's probability of rejecting such violence is higher if they were interviewed after the 16 Days of Activism campaign from November 25 through December 10, 2015 rather than before it. Theoretically, these results illustrate the broad cultural influence of foreign aid on lay people: specific foreign aid projects can affect people in targeted areas while the general principles promoted may also inspire additional efforts across other settings.

Presenting Author: Jeffrey Swindle

EDUCATION ATTAINMENT AND HEALTH OF OLDER ADULTS: DOES THE RELATIONSHIP DIFFER BY SEX, GEOGRAPHY, AND RACE? Shaina Sta. Cruz, (University of California, Merced), Anusha M. Vable, Alison K. Cohen, Shauntice Allen, M. Maria Glymour, D. Leann Long, Michael Crowe, Jennifer Manly, Aleena Bennett, Virginia J. Howard, Irene H. Yen

Education is a recognized social factor with significant implications for both mortality and morbidity. Disparities in educational attainment exist by race/ethnicity and socioeconomic position, and the benefits of education for health may also differ across demographic subgroups. In developing policies and programs for population health, it is important to know whether these differential returns extend to health outcomes. Previous work has found evidence for differential mental and physical health returns to education by race/ethnicity and childhood SES, in a national sample of U.S. middle-aged adults. Results suggest increases in educational attainment may reduce social inequities in health. In determining the robustness of past findings, the current study examines possible differential returns in self-reported mental and physical health by geography by examining whether birthplace, sex, cSES, and race are related to educational attainment in an older U.S. population (ages 45 to 98) represented in the REasons for Geographic and Racial Differences in Stroke study. Final analyses included baseline data collected in 2003 from 11,354 participants. We conducted linear regression and interaction analyses (e.g., sex by education interaction). In alignment with recent literature, findings indicate the amount of health gained by increased education varies by sex, cSES, and race. Specifically, socially vulnerable demographic subgroups (e.g., black women) benefited more than advantaged groups (e.g., white men) from each year of education in improving the quality of their mental health. Findings suggest initiatives supporting increased educational attainment may reduce some social health inequities among socially vulnerable, marginalized populations. Understanding differential returns to education is important for identifying solutions to health inequities, thereby informing our policies and program interventions.

Presenting Author: Shaina Sta. Cruz

MICROBIOME-IMMUNE SYSTEM INTERACTIONS IN ADD HEALTH Audrey Renson, (Department of Epidemiology, The Gillings School of Global Public Health, UNC-Chapel Hill, Chapel Hill, NC, USA), Kathleen Mullan Harris, Jennifer B. Dowd, Lauren Gaydos, Matthew B. McQueen, Kenneth S. Krauter, Allison Aiello

Background: Immune dysregulation beginning early in the life course is believed to underlie many later life age-related conditions. The human gut microbiota likely modulates immune function and subsequently inflammation, but this has not been evaluated in population-based samples. Methods: We performed 16S rRNA sequencing on fecal samples among (n=363) Add Health wave V (WV) participants (aged 32-42). Whole-blood gene expression (GE) was measured among 73 of these individuals-from which we examined 122 known inflammation-related genes. We estimated a co-occurrence network of microbiota and genes, and used empirical Bayes models to estimate associations between microbiota balances (ratios between evolutionarily related groups) and several immune-related markers: C-reactive protein (CRP), pro- and anti-inflammatory GE proportion, and childhood and young adult asthma and seasonal allergy, adjusting for age and sex. Results: Our microbiota-gene expression network identified four co-occurrence groups of microbiota and genes, represented respectively by (a) *Megasphaera* sp. and CX3CL1 gene, (b) Clostridiaceae and PTGER3 gene, (c) *Chryseobacterium* sp. and NLRP7 gene, and (d) *Blautia* sp. and SLAMF8 gene. Anti-inflammatory GE was associated (FDR<0.05) with three fecal microbiota balances, including enriched *Methanobrevibacter* vs. kingdom Bacteria. Pro-inflammatory GE was associated with enriched Bacteroidiales vs. the rest of kingdom Bacteria. Higher CRP was associated with enrichment of *Corprococcus* vs. Ruminococcaceae, and with three other balances. Participants reporting allergy as young adults showed shifts in seven balances, including depleted *Prevotella* vs. Bacteroides. Childhood allergy was associated with Tissierellaceae vs. *Peptoniphilus*, as was young adulthood allergy. Conclusion: Microbiome composition and host inflammatory phenotypes demonstrate rich interactions in mid-adulthood and warrant future research into microbiota as an early determinant of immunity.

Presenting Author: Audrey Renson

SHIFTS IN LATINX IMMIGRANT STRESS BEFORE AND AFTER THE 2016 PRESIDENTIAL ELECTION: HAIR CORTISOL, MENTAL HEALTH, AND HEALTH BEHAVIOR Elizabeth S. Clausing, (University of California, San Diego), Amy L. Non

This study is an investigation of how immigration-related stress may impact the biology and health of Latinx immigrant mothers and children, considering recent increases in divisive rhetoric and policies towards U.S. immigrants. This project involves comparison of biological samples and interview data in Nashville, TN from two time points spanning the recent presidential election. Structured interviews were conducted with 82 immigrant mothers and their children (aged 5-13) between 2015 and 2016 and again in 2018. Biological samples and data were collected (saliva, BMI, hair, and blood pressure) from children and mothers for genetic and hormonal analyses to determine the biological consequences of exposure to immigrant-related stress. Using mixed-methods, we analyze perceived stressors, mental health, and buffering factors from mothers and children in relation to hair cortisol. Mothers report high levels of depressive symptoms (24.3%), anxiety symptoms (35.1%), and moderate perceived stress (86.5%) as well as significantly decreased levels of optimism over time (mean difference = -3.4; p-value < 0.001) in the mothers. At baseline, we see significant negative associations between optimism ($\beta = -0.08$; p-value = 0.03) and duration in U.S. ($\beta = -0.07$; p-value = 0.02) with hair cortisol, and we expect similar results at follow up. Dramatic changes in stress over time can have traumatic biological consequences, especially for these already vulnerable families.

Presenting Author: Elizabeth S. Clausing

AWARENESS AND KNOWLEDGE OF HPV AND HPV VACCINE AMONG A NATIONALLY REPRESENTATIVE SAMPLE OF ADULTS IN THE UNITED STATES Milkie Vu, (Department of Behavioral Sciences and Health Education, Rollins School of Public Health, Emory University), Amy L. Non

Background: HPV vaccine is a safe and effective method for protecting against different types of HPV-related cancers. HPV vaccine is recommended for both sexes and approved by the FDA for adults from aged 27-45 (in addition to being already approved for those aged 11-26). This study examines current population-level knowledge of HPV and predictors of awareness of HPV vaccine among U.S. adults. **Methods:** We analyzed cross-sectional data from the 2018 Health Information Trends Survey (HINTS) (unweighted N=3,504), which collects nationally representative data about the U.S. public's perceptions of cancer. We calculated weighted prevalence estimates for HPV knowledge. We used a weighted multivariable logistic regression to examine associations between awareness of HPV vaccine and predictors (gender, race/ethnicity, nativity, education, household income, and residential area). **Results:** Of the sample, 61% reported having heard of HPV; of those who had heard of HPV, 75% knew HPV causes cervical cancer, 29% knew HPV causes penile cancer, and 24% knew HPV causes anal cancer. Around 61% reported HPV vaccine awareness. HPV vaccine awareness was significantly associated with being female (aOR=3.89), being born in the U.S. (aOR=2.08), higher education (aOR=2.53), and higher income (aOR=1.94). Lack of HPV vaccine awareness was associated with being Black compared to White (aOR=0.54). **Discussion:** Compared to data from previous HINTS cycles, our findings show a decline in population-level HPV and HPV vaccine knowledge, which necessitates more research, policy, and actions to promote knowledge. We also found evidence of current sociodemographic disparities in HPV awareness. Future research can consider targeting those who are male, Black, not born in the U.S, and have lower education and household income (e.g., subgroups with lower awareness) for health education messages around HPV vaccine.

Presenting Author: Milkie Vu

THE ROLE OF DURATION OF RESIDENCE ON DIAGNOSED DIABETES PREVALENCE AND MANAGEMENT AMONG FOOD-INSECURE LATINOS Brandon Osborn, (Department of Population Health & Disease Prevention, University of California, Irvine), Annie Ro, Sandra Albrecht, Nancy Fleischer

We examined whether the association between food security (FS) status and type 2 diabetes (T2D) prevalence and T2D management varied according to nativity and US duration of residence among California Latinos. We used the California Health Interview Survey (2012-2017) and included Latinos who lived below 200% of the federal poverty line (n=16,254). For our management outcome, we limited to individuals with T2D (n=2,284). We first examined the association between FS status and T2D prevalence and found Latinos were significantly more likely to have T2D if they reported low FS (OR=1.44) or very low FS (OR=1.87) compared to their food secure counterparts. We then stratified our analyses by duration/nativity in the US. Both US-born Latinos and Latino immigrants with >10 years duration were significantly more likely to have T2D if they reported low FS (US-born: OR=1.60, >10 yrs: OR=1.48) or very low FS (US-born: OR=2.37, >10 yrs: OR=1.78). There was no association between FS status and T2D among immigrants living in the US for less than 10 years. For T2D management, Latinos with T2D were significantly less likely to report proper management if they had low FS (OR=0.56) or very low FS (OR=0.46) compared to their food secure counterparts after adjusting for covariates. While the US-born did not differ in their T2D management by FS status, Latino immigrants were significantly less likely to manage their T2D well if they reported low FS (OR=0.54) or very low FS (OR=0.36). The prevalence of T2D increases with the level of food insecurity among US-born and Latino immigrants with >10 years duration, but among recent Latino immigrants, T2D and FS status are not related. Latino immigrants are less likely to manage their diabetes well as their level of food insecurity increases, whereas this relationship does not exist among US Born Latinos. Food insecurity may be an important pathway that influences T2D risk and poor management as Latino immigrants reside longer in the US.

Presenting Author: Brandon Osborn

MAMMOGRAPHIC BREAST DENSITY AND ACCULTURATION: A LONGITUDINAL ANALYSIS IN CHINESE IMMIGRANTS Rebeca Almeida, (California Polytechnic State University, San Luis Obispo), Marilyn Tseng

Breast cancer is the most common cancer in women, regardless of race or ethnicity. But while most racial and ethnic groups have experienced either stable or declining breast cancer incidence rates over the past several decades, rates in Asian American women have steadily increased. The risk increase might be partly due to acculturation, or the adoption of the behaviors and values of the mainstream culture. We tested the hypothesis that higher level of acculturation is associated with higher mammographic breast density (MBD), an indicator of breast cancer risk, using data from a 2006-2010 longitudinal study of 426 premenopausal Chinese immigrant women in Philadelphia. MBD, including dense area, non-dense area, and percent density, was calculated using a computer assisted method. Acculturation was measured using an abridged version of the General Ethnicity Questionnaire – American version (GEQA). We used generalized estimating equations to account for repeated observations and adjusted for age, type of mammographic image (film or digital), body mass index, months of breastfeeding, number of live births, age at first birth, and menopausal stage (pre, early peri, late peri, post). Mean age of the participants was 44 years, and mean length of US residence was 7.5 years. Preliminary results indicate that GEQA score was not associated with any of the MBD measures, contrary to our hypothesis and previous, cross-sectional studies. Possibly, reproductive factors have a greater effect on MBD than acculturation-related behaviors in adulthood. Future work will explore likely reasons for lack of association in this sample.

Presenting Author: Rebeca Almeida

EARLY LIFE ORIGINS OF THE U.S. CARDIOVASCULAR HEALTH DISADVANTAGE: A COMPARISON OF ADOLESCENT AND YOUNG ADULT HEALTH IN THE UNITED STATES, ENGLAND, AND CANADA Melissa L Martinson, (University of Washington), Hazal Ercin, Nancy E. Reichman

Background and Significance: The United States (US) disadvantage in mortality and morbidity has been well-documented, and the 2013 IOM report on this issue suggests that the disparity between the health of US residents and their peers in other wealthy countries takes hold early in life. Yet, comparative research to understand the US health disadvantage in childhood, adolescence, and early adulthood is lacking. In this paper, we explore and compare the ways in which the US differs from England and Canada in terms of cardiovascular wellness early in the life course to gain insight into the origins of the US health disadvantage. **Data and Methods:** This paper uses nationally representative health data from the National Health and Nutrition Examination Survey for the US, the Health Survey of England, and the Canadian Health Measures Survey to examine differences in the onset of cardiovascular disease in adolescence (age 12-19) and young adulthood (age 20-34). We take advantage of a detailed questionnaire, body measurement, and blood sample health and health behavior measures including body mass index (obesity), total cholesterol, triglycerides, C-reactive protein, fasting blood glucose, blood pressure, smoking, and exercise. We estimate logistic regression models and calculate predicted probabilities of each of these cardiovascular risk factors while including controls important to population health. **Preliminary Results:** US adolescents and young adults only appear to be disadvantaged compared to their peers in England in their cardiovascular health for one outcome: obesity. This finding suggests that either a) relative poor cardiovascular health in the US emerges later in the life course, or b) patterns in cardiovascular health have shifted for young people in the most recent population health data for these two countries. We will extend this analysis to Canada and conduct a decomposition analysis by socioeconomic status, race/ethnicity, and sex prior to IAPHS.

Presenting Author: Melissa L Martinson

THE RELATIONSHIP BETWEEN DAYLIGHT, PRODUCTIVITY AND SPACE UTILIZATION IN A DESIGN FIRM IN INDIANAPOLIS Kristen M. Ambrose, (RATIO Architects, Indianapolis, USA), Helia Taheri, Sarah Wood

Indoor conditions of the built environment including thermal, visual, indoor air quality and acoustics as well as outdoor impacts including CO₂ emissions, heat islands, etc. have various effects on occupant performance and comfort. Buildings consume 40% of total energy consumption in the US (EIA, 2017), and people spend 90% of their time indoors (Leech et. al, 2000). The Guardian (Moodie, 2016) states that around 30% of the employees work more than required. The article states architects and engineers work in the office more than 40 hours/week. Design industry professionals experience stress due to complex demanding projects which results in less productivity. Thus, the employee's comfort, health and wellbeing is more affected by the built environment. De Carli et. al (2008) states that the dynamic nature of natural light enhances productivity in the office spaces. In this study, quantitative methods are proposed to understand the relationship between daylight, productivity and frequency of use in a design firm in Indianapolis. The methods of this study include daylight simulation analysis with DIALux, occupancy sensor data gathering, and quantitative occupant survey. A relationship through correlation analysis will be conducted. The results will indicate effective daylight necessary to optimize employees' productivity and maximize utilization of the office space. References: De Carli, M., De Giuli, V., Zecchin, R., (2008), Review on visual comfort in office buildings and influence of daylight in productivity, *Indoor Air*, 17-22 August 2008, Copenhagen, Denmark Guardian Magazine, (2016), <https://www.theguardian.com/sustainable-business/2016/jun/30/america-working-hours-minimum-wage-overworked> Leech, J.A., Burnett, R, Nelson, W, Aaron, S.D., Raizenne, M. (2000). Outdoor air pollution epidemiologic studies. *American Journal of Respiration and Critical Care Medicine*. 161. A308.

Presenting Author: Helia Taheri

DECOMPOSING METROPOLITAN-LEVEL CONTRIBUTORS TO AIR POLLUTION OVER TIME

Victoria Sass, (University of Washington), Hannah Lee, Kyle Crowder, Bongki Woo, Samantha Teizeira, Anjum Hajat, David Takeuchi, Nicole Kravitz-Wirtz

Over the past thirty years average levels of pollution have been declining in cities across the United States, but the declines have been somewhat uneven. Prior research has been conducted in numerous fields to investigate the various metropolitan-level characteristics contributing to air pollution. Overwhelmingly these studies have found supporting evidence that factors such as urban sprawl, topography, and population density, to name a few, are significantly associated with higher concentrations and exposures to pollution. However, this prior body of literature has largely been hampered by two shortcomings: a cross-sectional approach and a focus on one metropolitan-level characteristic at a time. Without looking at multiple contributors to air pollution and their relative trends over time, it is difficult to fully understand the variation in air pollution decline across metropolitan areas and the potential mechanisms responsible. Our current study seeks to fill the gap in this area of research by utilizing an original dataset of metropolitan areas within the contiguous United States. In addition to containing information on average levels of pollution and a set of relevant metropolitan-level characteristics, it also spans the years 1990-2010, allowing for a temporal approach. By employing decomposition analysis we are able to investigate what proportion of these trend differences are due to differential changes in the levels and/or effects of various metropolitan characteristics. Preliminary results suggest that uneven patterns of pollution decline across cities reflect sharp differences in population concentration, distribution, and composition, along with differential patterns of industrial and structural development. These processes are combining to affect a sharply uneven landscape of exposure to environmental toxins.

Presenting Author: Victoria Sass

ADDRESSING SOCIAL DETERMINANTS OF HEALTH: HOW THE IMPLEMENTATION OF HOSPITAL SPONSORED COMMUNITY HEALTH WORKERS HAS PROVIDED AN OPPORTUNITY TO PROMOTE LOCAL POPULATION HEALTH Melody Schaeffer, (St. Louis Children's Hospital), Nicole Kozma

Healthy People 2020 has created the goal to improve access to comprehensive, quality health care services and has identified community health workers as a potential resource. In 2018, the Child Health Advocacy and Outreach at St. Louis Children's Hospital created 6 full time community health positions (1 community health coordinator and 5 community health workers (CHWs)). These CHWs work across multiple service lines, including an infant mortality initiative (Raising St. Louis), a program dedicated to asthma (Healthy Kids Express Asthma) and a program that provides screenings, such as hearing, vision, height and weight (Healthy Kids Express Screening). St. Louis Children's Hospital provides a rigorous two day training for all CHWs, which prepares them to address social determinants of health in the community. Some of the types of resources that are provided include connection to follow up services related to a failed vision or hearing test, connection to a medical home/visit, health/health insurance education, transportation, employment/income, legal services, nutrition/wellness education, safe housing, mental health services, and/or child supplies. St. Louis Children's Hospital Community Health Workers began working in late summer and winter of 2018. Staff have conducted about 350 encounters (phone calls, text messages, emails and mailed letters) per month and held 199 personal visits in 2018. By incorporating hospital sponsored community health workers into existing programs already provided by the Child Health Advocacy and Outreach, staff are able to connect more clients to resources, reduce barriers to accessing health care services, and ultimately promote local population health.

Presenting Author: Melody Schaeffer

EVALUATING BIRTH OUTCOMES IN RAISING ST. LOUIS: A PATIENT CENTERED HOME VISITATION PROGRAM Melody Schaeffer, (St Louis Children's Hospital), Sha'Neco Fennoy

Healthy People 2020 has identified improving maternal child health outcomes as an important public health goal for the United States. To address the well-being of mothers, infants, and children in St. Louis Missouri, St. Louis Children's Hospital provides Raising St. Louis (RSTL), a home visitation intervention beginning in pregnancy and continuing through the age of 4. Each visit includes an individual assessment, self-care activities, prenatal and/or child education. RSTL operates by using a patient-centered model, including community health workers, a manhood engagement specialist, a home visitation parent educator, nurse and social worker. The program is designed to improve birth outcomes, including birth weight and gestational age, ensure children are developing on track by performing exams and social-emotional and developmental screenings, teach effective parenting techniques to parents and guardians, and provide wraparound resources and social services when needed to address a variety of social determinants of health. RSTL is evaluated through a comprehensive approach by tracking number of participants, birth outcomes, developmental milestones, and referrals to resources and social services. Since program inception (2014), yearly encounters have increased by 5.7 times and the number of babies born in the program has increased 3.8 times from 47 in 2014 to 181 in 2018. Statistically significant ($p < 0.05$) chi-square analysis was found on yearly trends for preterm birth from program inception, 2014, of 23% to 13% in 2018. Babies born with low birth weights has decreased from 23% to 19%. Proper prenatal care improves health outcomes for both prenatal women and newborns. Participating in this intervention will help children be healthy and develop at an age-appropriate rate through services provided in a patient-centered model.

Presenting Author: Melody Schaeffer

IMPROVING HEALTH EQUITY THROUGH TRANSITIONS OF CARE AND COMMUNITY PARTNERSHIPS Jenny Bernard, (Hackensack Meridian Health), Jeanette Previdi, Victor Carrillo

Fragmentation of health care and poor post-discharge transitions often contribute to poor health outcomes. Risk factors are multifactorial and include co-morbidities, low socioeconomic status, and poor health literacy. Characteristics and needs of a patient with multiple comorbidities and lack of resources may differ requiring significant consistent interventions. In this session, a large research and teaching hospital, will provide an update on a transitions of care (TOC) model framed within a population health approach including identification of high risk patients, collaboration with community partners in developing a plan of care, explore ways to hardwire the use of technology, and standardize handoffs to include best practices in patient safety in underserved, low income, and high risk patients. This TOC model has resulted in a decreased in 30-day hospital readmissions of over 50% by addressing the local, national and global gaps that exist in health equity.

Presenting Author: Victor Carrillo

UNDERSTANDING DISPARITIES THROUGH TRAVEL BURDENS: POPULATION ACCESS TO ORGANTRANSPLANT CARE Megan Snair, (Center for Populations Health Research, Cleveland Clinic), Susana Arrigain, Wayne Tsuang, Rocio Lopez, Jesse Schold

Introduction: Organ transplantation is a lifesaving medical intervention for patients with end-stage organ disease, with ~300 transplant centers in the US. Patients who travel farthest for transplant and the impact of travel on health outcomes are not well understood. Our aim was to characterize rates and patient characteristics of long-distance travelers to receive a transplant in the US. Methods: We conducted a retrospective cohort study of adult US patients placed on a transplant waiting list between January 1, 2006 and May 31, 2017 using the Scientific Registry of Transplant Recipients. We characterized patients by measuring linear distance from their residential zip code to the zip code of the transplant center and found 13,646 patients who traveled >360 miles. We also evaluated patients that traveled extended distance based on “need” versus those that bypassed centers in closer proximity using multivariable logistic models. Results: Long distance travel was associated with college education(AOR=1.51,1.45-1.56), males (AOR=1.07,1.03-1.12) and Hispanics(AOR=1.63,1.55-1.72). In contrast, those less likely to travel were African-American(AOR=0.47,0.44-0.50), Medicaid insured(AOR=0.32,0.29-0.35), and higher BMI(0.99, 0.98-0.99 per kg/m²). For patients that traveled >360 miles, factors associated with ‘need to travel’ included Medicaid (AOR=3.23, 2.64-3.96), Medicare(1.29, 1.17-1.43), and higher community distress score(AOR=1.04,1.02-1.05 per 10 units higher). In contrast, for those with lower ‘need to travel’, patient factors included college education(0.79,0.72-0.87), and older age(0.99,0.99-0.997 per year). Conclusion: Women, and patients with Medicaid, and less education were less likely to travel to a more distant center, representing fewer options for care. Understanding whether certain populations have advantages to accessing a highly efficacious and last-resort treatment to end-stage diseases can help shape policies to address disparities.

Presenting Author: Rocio Lopez

DISPARITIES IN HEALTH CARE ACCESS, UTILIZATION, AND FINANCIAL STRAIN AMONG EXCHANGE AND OFF-EXCHANGE ENROLLEES Ryan M McKenna, (Drexel University Dornsife School of Public Health), Jessie B. Kemmick Pintor, Cinthya Alberto, Hactor E. Alcalai, Dylan H. Roby, Alexander N. Ortega

The objective of this study is to identify how enrollment in off- and on-exchange plans impacts differences in health care access, utilization, and financial strain among individuals who are eligible for subsidies under the Affordable Care Act (ACA). To accomplish this, we use individual-level survey data from the National Health Interview Survey (2014-2017) and examine the experiences of non-elderly adults (18-64 years old) who are eligible for subsidies on the ACA's exchanges. We use propensity score matching to control for differences between exchange and off-exchange enrollees and selection out of subsidies made available by the ACA. Compared to off-exchange enrollees, exchange enrollees were more likely not to be accepted as a new patient and were more likely to forgo or delay health care due to cost. Exchange enrollees experienced worse measures of health care access and financial strain, with differences in plan types likely driving these disparities. The insurance expansions of the ACA greatly reduced the uninsurance rate in the United States, but problems remain. Given that any future health insurance reforms are likely to affect the exchanges, policymakers should be cognizant of the differences that exist between exchange and off-exchange plans and take actionable steps to mitigate these differences.

Presenting Author: Ryan M. McKenna

WHO USES AN ONLINE INTELLIGENT MEDICAL INFORMATION SYSTEM AND WHAT DO THEY DO WITH THAT INFORMATION? RESULTS FROM A PILOT STUDY OF USERS OF BUOY HEALTH Deepti Chittamuru, (University of California Merced), Steven Ramondt, Richard Kravitz, A. Susana Ramirez

Although the internet is an important health information source, quality varies substantially. Disparities in information processing abilities may contribute to negative psychosocial outcomes and digital divide-related health disparities. This study aimed to understand how people use online information by linking objective measures of information-seeking from an online artificial intelligence-powered system with psychosocial outcomes. 194 random users completed a survey immediately after their Buoy session and 2 weeks later. OLS regression modeled factors affecting confidence in and intentions to follow recommendations. Buoy users were well-educated (86% college-educated), mostly white (77%) and female (83%). Most had insurance (87%), regular healthcare provider (78%), and reported good/very good/excellent health (82%). The most common symptoms reported were bloody vaginal discharge and pain (lower back/abdominal). The most common recommendations were to seek primary care within 2 weeks (37%) or to self-treat (27%). Users found Buoy useful, easy-to-understand, and reported confidence in the recommendations, according Buoy nearly the same level of trust as doctors. Buoy made users feel less anxious. Respondents had strong intentions to follow Buoy's recommendations, but were less inclined to discuss Buoy use with their doctors. Confidence ($\beta=0.46, p<.001$), perceived-utility ($\beta=0.39, p<.001$) and anxiety-reduction because of using Buoy ($\beta=0.39, p<.01$) were associated with stronger intentions to follow recommendations. Those advised to wait/watch or self-treat had strongest intentions to comply, whereas those advised to seek care had weaker intentions ($\beta=-0.25, p<.001$). Results demonstrate the potential utility of an artificial-intelligence-powered online health information tool to improve psychological outcomes; less clear is whether this translates into health behaviors/outcomes. Analyses of the user base illustrate persistent second-level digital-divide effects.

Presenting Author: Deepti Chittamuru

THE RESULTS OF A PARENT HEALTH CONCERNS SURVEY ON SOCIAL DETERMINANTS OF HEALTH Melody Schaeffer, (St Louis Children's Hospital), Nicole Kozma

According to Healthy People 2020, there are five key social determinants of health: economic stability, education, social and community context, health and healthcare, and neighborhood and built environment. The Child Health Advocacy and Outreach Department (CHAO) of St. Louis Children's Hospital provides health-related resources and education to families to keep them healthy and safe. In 2018, CHAO surveyed 1016 parents living in the primary service region on the health concerns they have for their children. Rigorous methods were employed to ensure the survey respondent demographics were reflective of the City of St. Louis, Missouri. Results of the survey help rank priorities for the Community Health Needs Assessment. Respondents were asked to rank 44 different health concerns ranging from not a problem to a big problem on a scale of 1-4. 13 of these questions relate to social determinants of health. Demographic information was also collected. Chi-square analysis was conducted to compare "big problem" results across different demographic groups. Statistically significant results ($p < 0.05$) were found for: access to fruits and vegetables, neighborhood safety (including community unrest, racial/ethnic issues, and safe housing), exposure to environmental pollutants (including lead and household poisons), access to healthcare (including insurance and information), school safety, and poverty, when compared to different demographic groups such as race, household type, gender, education level, insurance type, income level, and age. Social determinants of health influence health outcomes and are attributable to how some Americans are healthier than others. By understanding the differences in parent health concerns, St. Louis Children's Hospital is better equipped to address social determinants of health and promote local population health.

Presenting Author: Melody Schaeffer

BUILDING A “CULTURE OF HEALTH”: A CRITICAL ANALYSIS OF CHALLENGES AND OPPORTUNITIES FROM MEDICAL ANTHROPOLOGY Katherine A. Mason, (Brown University), Sarah S. Willen, Seth M. Holmes, Denise A. Herd, Mark Nichter, Heide Castaneda, Helena Hansen

The Robert Wood Johnson Foundation’s Culture of Health Action Framework aims to “make health a shared value” by catalyzing widespread cultural change. Drawing upon our expertise as anthropologists, we identify three challenges that should be addressed to effectively build a Culture of Health: (1) demystifying and effectively operationalizing the concept of “culture,” (2) grounding “community” interventions in larger networks of power and inequality, and (3) confronting the crises of trust and solidarity in the contemporary US. We suggest that RWJF and its partners (1) develop their use of the culture concept to reflect more accurately how culture is lived and experienced, (2) advocate for federal and local policies and practices that break down unhealthy consolidations of power, and (3) innovate solutions to building consensus in a divided United States.

Presenting Author: Katherine A. Mason

REACHING FAMILIES BEYOND THE WALLS: SMS-BASED HEALTH INTERVENTION FOR LOW-INCOME FAMILIES IN AN EARLY CHILDHOOD SCHOOL Melissa Goldin Evans, (Mary Amelia Center, Tulane School of Public Health and Tropical Medicine), Jylana Sheats, Stephanie Tokarz, Maeve Wallace, Katherine P. Theall

Over one-third (36.2%) of adults are obese in Louisiana. Strategies to improve diet and physical activity should include community-level efforts. Given limited time and resources, SMS or text-based approaches may prove useful for providing health education for Head Start and Early Head Start program parents. The aim of the current study was to determine if a culturally- and theoretically-informed mHealth program could successfully change intentions and behaviors around healthy eating and physical activity among parents of children attending an early childhood school. A 12-week SMS-based health education program was launched, and parents were sent weekly information about preparing healthy meals, shopping on a budget, or meeting national physical activity recommendations. A brief online survey assessed parent baseline intentions and eating and physical activity behaviors. Participants were then texted one question per week to measure their attitudes, perceived behavioral control, or subjective norms towards an aspect of healthy eating or physical activity. Respondents then received a health tip text related to that specific topic; and a related health tip or encouragement text later in the week. Of the 119 participants, the survey was completed by 37 with one parent opting out. Preliminary results indicate that on average, respondents made 4.6 healthy meals for their families in the previous week (range: 0-14), their children ate 2.8 fruits or vegetables each day (range: 0-12), and they were physically active 2.6 days in the previous week (range: 0-7). Most parents strongly agreed with intention statements regarding healthy eating and physical activity (n>31). Findings demonstrate that the program has the potential to deliver health information and engage parents outside the walls of an early childhood school. A follow-up survey will be administered to collect post-program measures, gauge feasibility, and provide further insight on participation and retention.

Presenting Author: Melissa Goldin Evans

A FAMILY NAVIGATION APPROACH TO IMPROVING HEALTHCARE AND SOCIAL SERVICE ACCESS AND PROVIDING HEALTH EDUCATION TO LOW-INCOME FAMILIES WITHIN AN EARLY CHILDHOOD SCHOOL Melissa Goldin Evans, (Mary Amelia Center, Tulane School of Public Health and Tropical Medicine), Maeve Wallace, Katherine P. Theall

Children living in poverty often experience significant physical and behavioral health issues that are frequently compounded by a lack of health insurance coverage, poor access to healthcare services, and parents that may have more pressing immediate needs (e.g., housing, employment, safety). Consequences may be life-long as early and repeated insults to health accumulate, contributing socioeconomic inequities in adult population health. In Louisiana in 2016, many children did not have a medical or dental visit (32%) or receive needed mental health services (62%). The Healthy Beginnings program offers an unprecedented opportunity to address these needs by imbedding a Health Navigator on-site at an early childhood school for financially disadvantaged children. The Health Navigator provides coordinated access to healthcare and social services to young children (< age 5) and their families. The program includes health education for parents, including an 12-week SMS-based health education program focused on nutrition and physical activity. In 2018, most (79%, 125 out of 158) families enrolled at Educare voluntarily joined the Healthy Beginnings program. There were 182 referrals given to families for medical (n=49), dental (n=39), behavioral (n=21), and other social services and programs (n=73), such as legal aid or housing. Currently, six weeks into the SMS education program (preliminary results are presented in another abstract), 109 families received bi-weekly health education texts (only 10 have opted out). Further analyses of these data will quantify the impact of the program on child and family health behaviors. Health Navigation services provided in nontraditional settings (on-site at an early childhood school) may be an effective method for improving access to healthcare and social services of low-income children and their families.

Presenting Author: Stephanie Tokarz

EDUCATIONAL ATTAINMENT AND YOUNG ADULT HEALTH IN THE UNITED STATES: DIFFERENCES BY RACE AND GENDER Grace A Noppert, (University of North Carolina Chapel Hill), Allison E. Aiello, Lauren Gaydosh, Kathleen Mullan Harris, Robert A Hummer

Individuals with higher educational levels typically experience better health across a range of health outcomes, including cardiometabolic and inflammatory markers. However, there is also compelling evidence to suggest that educational disparities in health differ by both race/ethnicity and gender. This study examines the relationship between respondents' educational attainment and six health outcomes related to cardiometabolic and inflammatory outcomes using data from Wave IV of the National Longitudinal Study of Adolescent to Adult Health (Add Health). Add Health is a nationally representative study of adolescents with follow-up through adulthood. We used objective biomarker data collected at Wave IV when respondents were between 24 and 32 years of age (N = 13,458). Using clinical cutpoints, we classified respondents as being in a high-risk category for each of the following outcomes: blood pressure, waist circumference, high-density lipoprotein (HDL), triglycerides, hemoglobin A1c (HbA1c), and C-reactive protein (CRP). We then used logistic regression models to examine the relationship between respondents' educational attainment at Wave IV and the odds of being classified as high-risk for each health outcome. Models were stratified by race and gender and controls included parental education, respondents' age, and respondents' nativity status. We found that the association between educational attainment and each health outcome differed by race/ethnicity and gender. For example, among white women we observed an increase in the odds of each high-risk health outcome with each decrease in educational attainment. In contrast, we did not observe any associations between educational attainment and health for black men. It may be that the benefits of education are particularly salient for those in more structurally advantaged positions, pointing to the continued need to address structural inequalities by both gender and race.

Presenting Author: Grace A Noppert

RISK FACTORS FOR PRE-HYPERTENSION AND HYPERTENSION IN A MULTI-RACIAL ADOLESCENT COHORT. Anna Zamora-Kapoor, (Washington State University), Morgan Montanez, Luciana Hebert, Kaimi Sinclair, Dedra Buchwald

Adolescent risk factors for pre-hypertension and hypertension in young adulthood were examined for three minority groups compared to non-Hispanic Whites. Retrospective cohort study with data on 8,084 adolescent respondents from Add Health (1994-2008). Participants included 4,950 Non-Hispanic Whites (NHW), 1,674 Non-Hispanic Blacks (NHB), 330 American Indians and Alaskan Natives (AI/AN), and 1,130 Hispanic respondents. Hypertension was identified with a blood pressure over 130, pre-hypertension (120-129) and normal blood pressure (≤ 119). Relative risk regression models were used to measure the association between known risk factors and risk of hypertension and pre-hypertension, controlling for body mass index, sedentary and physical activity habits, fast food consumption, smoking, parental education, parental obesity and financial stability. Of the sample, 3,788 respondents developed pre-hypertension and 1,544 developed hypertension. Hypertension was more prevalent in NHB and AI/ANs than in NHW and Hispanics. In all races, females had a lower risk of both pre-hypertension and hypertension than males and increasing body mass index raised the risk of pre-hypertension and hypertension. Parental obesity increased the risk of pre-hypertension in NHBs by 11% and in AI/ANs by 24%. Future interventions should target households, rather than individuals, to prevent pre-hypertension and hypertension in adolescents and young adults.

Presenting Author: Anna Zamora-Kapoor

THE ROLE OF PUBERTAL TIMING FOR BOYS AND GIRLS: IMPLICATIONS FOR POPULATION HEALTH Lindsay Till Hoyt, (Applied Developmental Psychology, Fordham University), Li Niu, Mark C. Pachucki, Natasha Chaku

Puberty is marked by substantial increases and emerging sex differences in psychological disorders, physical activity patterns, and risky behaviors, with implications for long-term health and health disparities. However, few studies have examined these effects beyond adolescence, and the previous literature has been dominated by samples of White girls, with limited research on pubertal processes in ethnic/racial minority youth and boys. The current study explores the broadest known set of social, behavioral, and physical health sequelae related to pubertal timing in a representative sample of 14,545 U.S. youth from Add Health. Puberty was assessed by age of menarche for girls and physical maturation for boys (e.g., facial hair, voice change), then categorized as early (-1SD below mean), on time, or late (+1SD) within-sex. We examined outcomes during adolescence (1994) and adulthood (2008) in a series of sex-stratified regression analyses using survey and design weights as well as a comprehensive set of demographic and familial covariates. Results indicate that for girls, early puberty was associated with increased risk for poor mental and physical health during adolescence, while for boys, both early and late puberty may confer risk (e.g., early timing was associated with more antisocial behaviors and poor sleep, and late timing was associated with depressive symptoms and less exercise). In female longitudinal models (controlling for adolescent symptoms), early timing was significantly associated with fewer years of education, lower self-reported health, and higher BMI in adulthood; late timing was associated with lower BMI and more sleep. For males, late puberty was associated with lower education and more screen time in adulthood, but also less drug use, fewer sex partners, and more sleep. Analysis of this broad and holistic set of outcomes with sex differences in mind allows for more careful evidence-based recommendations for adolescent health promotion.

Presenting Author: Lindsay Till Hoyt

THE STIGMA CONTEXT, SOCIAL INEQUALITIES AND KNOWLEDGE GAPS ABOUT EPILEPSY AMONG AYETE PEOPLE IN SOUTHWESTERN, NIGERIA Olukunle Omotoso, (University of Ibadan, Ibadan, Nigeria and Centre for Communication Program), Li Niu, Mark C. Pachucki, Natasha Chaku

Mental health has been hidden and neglected for long due to the stigma. This stigmatization has contextual and cultural meanings that are constructed in the way people interpret epilepsy. Previous epilepsy studies focused on the prevalence and burden without enough discussion on how the meanings influence stigmatization. This study uses an interdisciplinary approach to explain the meanings and stigmatization in epilepsy cases and the healing-processes in Ayete. Structured questionnaires were administered to 250 randomly selected respondents. Qualitative data were elicited using participant-observation; In-depth Interviews with Lay referrals (Significant others) of People Living with Epilepsy (PWE). Life histories of 5 PWE and how the illness has affected them and their lay referrals was examined. Quantitative data were analyzed using SPSS while qualitative was subjected to content analysis. Epilepsy is generally called “Warapa”, classified as humanly or god-inflicted. Ninety-seven percent agreed for humanly-inflicted while (3%) for godly-inflicted. FGDs further categorized epilepsy manifestations into five: Ogun-oru (night-battle), Gbare (sudden-seizure), Otit (sudden-gradual push), Waaku (Come-die) and Warapa (epilepsy). Life histories of PWE revealed that they go through humiliation, discrimination, and stigmatization that made family members abandon them. This further goes to social impairment and finally to avoidance of contact with their bodies. Castigation existed as felt or enacted stigma changing life-patterns of PWE from that of independence to dependence. The treatment path differs from healer to healer and the ingredients used symbolize connection to life. Meanings given to epilepsy increased the stigmatization process. These meanings occurred at different stages of epilepsy manifestation and are embedded in symbols and misconception. The treatment paths by the traditional healers could help in overcoming the epilepsy and in adjusting to life.

Presenting Author: Olukunle Omotoso

OPIOID-RELATED EMERGENCIES FALL IN NEW YORK CITY AFTER THE GREAT RECESSION Tim Bruckner, (University of California, Irvine), Nhung Trinh

US emergency departments (ED) treat ~ 800,000 opioid-related emergencies annually. Opioid-related morbidity occurs more frequently in regions which experience long-term economic decline and/or deindustrialization. We, however, know very little about the short-term opioid use response to acute and large economic change. Prior work on other substances supports the “inhibition effect” in which sudden downturns deter persons from using substances that are too costly and/or may threaten their continued employment status. We use monthly ED data in New York City—the largest metropolitan area in the US—to test whether opioid-related emergencies deviate from their expected value in months immediately following the Great Recession of 2008-9. We used negative outliers in monthly employment counts to gauge the timing and severity of the Great Recession. We then retrieved the universe of opioid-related outpatient ED data in New York City for 72 months (Jan 2006 to Dec 2011; n=126,837 ED visits). Box-Jenkins time-series methods controlled for temporal patterns (e.g., seasonality, trend) as well as outliers in ED visits. Results indicate fewer than expected opioid-related ED visits for dependence, abuse, and overdose in the same month (coef: .046, SE=.022, p=.04) and three months (coef: .025, SE=.011, p=.03) after employment decline. Taken together, a one standard deviation decline in employment during the Great Recession corresponds with a 2.5 percent decline in opioid-related ED visits. We, by contrast, do not reject the null for heroin-related ED visits. Our findings in the largest metropolitan area in the US indicate, following the Great Recession, a distinct short-term response in opioid-related ED visits not anticipated by prior literature on longer-term responses.

Presenting Author: Tim Bruckner

A MIXED METHODS STUDY USING ELECTRONIC MEDICAL RECORDS TO UNDERSTAND YOUTH SUICIDE ATTEMPTS Amanda N. Barczyk, (Dell Children's Trauma and Injury Research Center & Department of Population Health, Dell Medical School, The University of Texas at Austin), Karen Piper, Karla A. Lawson, Catherine L. Crocker, Cara C. Young

Background: Suicide is the second leading cause of death for youth 18 years of age and younger and for every suicide, there are an estimated 25 attempts. The purpose of this study is to understand youth presenting to hospitals with a level I trauma center due to a suicide attempt by examining contributing factors surrounding their attempt. Methods: Patients 5-18 years of age presenting to one of two hospitals in Central Texas due to a suicide attempt between 1/1/2011 and 8/31/2012 were identified. Researchers conducted a retrospective medical record review of these encounters. A content analysis of clinicians' notes identified major themes of patients' adverse experiences. Logistic regression was used to examine the association between traumatic suicide attempts and the number of the patients' adverse childhood experiences. Results: Of the 231 patients included in this study, the majority were female (76%), non-Hispanic white (48%), and had public insurance (54%). Most patients (79%) had at least one adverse childhood experience and 13% had four or more. Patients averaged 14.7 years old (standard deviation=2.0) and 35% presented due to a traumatic suicide. Four themes characterized contributing factors: 1. Trauma 2. Relationship Quality 3. Risky Behaviors and 4. Personal Emotions and Symptoms. Quantitative analysis showed that compared to females, males were less likely to have 4 or more adverse childhood experiences (OR=.30, CI=0.87-1.02). Conclusion/Implications: Understanding adverse experiences of youth who attempted suicide provides insight into their complex histories. Universal suicide screenings and screenings for adverse childhood experiences can assist clinicians in identifying and referring patients to treatment to reduce the likelihood of reaching a state of crisis. Clinicians must receive regular trainings and emotional support to truly be impactful in preventing youth suicide attempts.

Presenting Author: Amanda N. Barczyk

RESPONSE TO THE DECLINING HEALTH STATUS OF THE UNITED STATES Stephen Bezruchka, (University of Washington), Karen Piper, Karla A. Lawson, Catherine L. Crocker, Cara C. Young

The U.S. was one of the world's longest lived nations in the 1950s. Health improvements since then have been substantial, but by 2017 people in over 35 countries enjoyed better health than in the U.S., as measured by both mortality and other indicators of well-being. Although increases in death rates are very rare events this century, adult mortality in the U.S. has been increasing for the past five years, and life expectancy has begun to decline. Awareness of this trend is growing, but causal explanations of upstream factors leading to these changes are rarely discussed. The opioid epidemic is sometimes presented as the cause of the decline, without explaining why the U.S. is the leading user of opioids on the planet. Such drugs not only treat physical pain, but also the social pain of alienation, loneliness, and status anxiety, from which we suffer disproportionately. Health care for all is an important human right, but conflating health and health care is a common mistake; access to health care alone will not reverse our declining health status. Income and other economic inequalities are a major cause of our declining health, and the response to those conditions must be political. Key strategies must be measures to decrease structural inequality and support early life, the time when a large fraction of adult health is programmed. Besides raising lower income levels, top levels must be limited as well. Strategies to reduce inequality and support early life include universal paid maternity leave, income pre-distribution rather than redistribution through taxation, support for a liveable wage, and drawing attention to businesses acting responsibly to their workers and the public.

Presenting Author: Stephen Bezruchka

ALCOHOL CONSUMPTION BEHAVIOR AND MORTALITY RISKS AMONG WORKING WOMEN IN THE UNITED STATES Muntasir Masum, (The University of Texas at San Antonio), P. Johnelle Sparks

Contrary to emblematic male privilege in alcohol consumption, social and gender roles have indiscriminately affected female drinking habits, because women tend to carry more home and parental responsibilities and are often subjected to greater social surveillance. In the recent past, women have secured autonomy and opportunities by working outside the home in addition to other responsibilities which resulted in personal and professional stress and increased drinking as a coping mechanism. The assumption is that occupational demands and settings facilitate alcohol consumption. The relationship of women's alcohol intake and mortality risk show a U-shaped relationship, where light/moderate drinking has health benefits among middle-aged women such as reduced risk of cardiovascular and coronary heart disease, whereas, heavy drinking adds additional risk to health and mortality due to hypertension, chronic liver disease, and breast cancer. This paper examines the effects of alcohol consumption behavior on mortality risk among employed women compared to women, not in the labor force. Nationally representative data from the public-use National Health Interview Survey-Linked Mortality Files (NHIS-LMF), 1997 to 2005, was used to investigate mortality risk due to drinking habits. Mortality status was treated as a binary outcome variable and the main predictor variable was 'current' alcohol drinking status. Bayesian regression modeling was used to conduct the statistical analysis on the binary outcome variable. Results show paradoxical evidence of higher levels of drinking among employed women and lower mortality risk. One plausible reason can be the age or timing effect on the risk of mortality. As women complete their education in the early twenties and enter the labor market, they have natural age protection on health and mortality even though they are exposed to higher levels of alcohol consumption during this age range.

Presenting Author: Muntasir Masum

RACIAL DISPARITIES AND URBAN-RURAL DIFFERENCES IN INFANT MORTALITY IN THE US Dovile Vilda, (Department of Global Community Health and Behavioral Sciences, Mary Amelia Douglas-Whited Community Women's Health Education Center, Tulane University School of Public Health and Tropical Medicine), Maeve Wallace, Lauren Dyer

Vast racial disparities in infant mortality between non-Hispanic (NH) black and NH white populations persist. Previous studies have failed to examine this disparity as part of, and inseparable from, the context in which it occurs. We aimed to identify associations between county-level structural racism (racial inequality in educational attainment, income, and judicial treatment) and infant mortality and explore differences between urban and rural counties. We calculated race-specific 2011-2015 5-year infant mortality rates (IMR) per 1,000 live births in every county, data provided by the National Center for Health Statistics. Racially-stratified log-Poisson regression models with robust standard errors estimated IMR rate ratios and 95% confidence intervals associated with an interquartile range increase in indicators of structural racism, adjusting for county poverty and size of the black population and including a test for interaction by urban status. Adjusted linear regression models estimated associations between structural racism indicators and the size of the black/white relative inequity in IMR. Across all counties, increased racial inequality in incarceration was associated with an 11% increase in black IMR (RR=1.11, 95% CI=1.02, 1.20). In urban counties, increased racial inequality in median household income was associated with a 7% increase in black IMR (RR=1.07, 95% CI=1.00, 1.13), whereas racial inequality in incarceration was associated with an 8% increase in black and 6% decrease in white IMR (RR=1.08, 95% CI=1.02, 1.14 and RR=0.94, 95% CI=0.88, 0.99, respectively). The relative racial inequity in IMR was exacerbated in counties with greater inequality in education (b=0.49, 95% CI=0.19, 0.79) and incarceration (b=0.42, 95% CI=0.12, 0.72). These findings highlight the complex relationship between structural racism and population health across urban-rural lines and suggest its contribution to the maintenance of health inequities in urban settings.

Presenting Author: Dovile Vilda

OPIOID RELATED MORTALITY IN OHIO, 2010-2016 Sara Crawford, (Center for Populations Health Research, Cleveland Clinic), Rocio Lopez, Megan Snair, Tae Hyun Hwang

Introduction: To explore relationships between population characteristics and opioid fatality rates among Ohio census tracts and detect geospatial clustering of opioid fatality deaths. **Methods:** We explored trends in opioid fatality rates by gender, age and race, comparing distributions between the Ohio population and Ohio opioid fatalities using chi-square tests. All opioid related deaths (n=13,057) from the Ohio Department of Health mortality data occurring from 2010-2016 were included. We explored relationships between census data and opioid fatality rates per year using Poisson regression. Publicly available U.S. Census Bureau datasets were used to examine Ohio population totals for socioeconomic characteristics from 2010-2016. Finally, we looked for geospatial clustering using global and local Moran's I statistics. **Results:** Opioid fatality rates increased significantly over time. Compared to the general Ohio population, higher percentage of opioid deaths occurred among males (67.2% vs. 48.9%), individuals 25-44 years and 45-54 years (52.6% vs. 25.1% and 24.3% vs. 14.6%, respectively), & whites (90.7% vs. 82.8). Higher opioid fatality rates were associated with higher percentages of whites, high school diplomas or less, divorced/separated, urban areas, male headed households with no female present, living alone, & vacant housing units. Patterns of association persisted for mostly urban census tracts but not mostly rural. Spatial pattern analysis showed increased opioid fatality rates over time and clustering of high rates in major cities. **Conclusions:** Communities with a younger age distribution, more whites, larger percentages of divorced or living alone households, lower socioeconomic status, and urban communities are at higher risk for opioid-related deaths. Understanding characteristics of communities with highest opioid fatality rates can help medical and public health officials target appropriate interventions and medical care.

Presenting Author: Rocio Lopez

NEIGHBORHOOD WALKABILITY AND ITS ASSOCIATION WITH OUTCOMES AMONG OLDER ADULTS AFTER ACUTE MYOCARDIAL INFARCTION Brita Roy, (Yale School of Medicine), Carley Riley, Sui Tsang, Mary Geda, Alexandra Hajduk, Harlan M. Krumholz, Sarwat I. Chaudhry

Question: Is neighborhood walkability associated with better outcomes among older adults after acute myocardial infarction (AMI)? **Significance:** Physical inactivity and poor mental health are associated with greater morbidity and mortality after surviving AMI. The neighborhood environment in which people live may influence engagement in health promoting activities. **Methods:** We merged data from SILVER-AMI, a longitudinal cohort of adults >75 years hospitalized for AMI, with walkability scores for the neighborhoods in which they live. We obtained walkability scores from Walk Score, which assess pedestrian friendliness (e.g., length of blocks, quality of sidewalks/crosswalks) and proximity of amenities. Our primary outcome was hospital-free survival time (HFST) at 1 year. Physical and mental health, assessed by the SF-12, at baseline and 6 months were secondary outcomes. Covariates included cognition, functioning, comorbidities, participation in rehabilitation or physical therapy, social support, physical activity, and demographics (age, education, income, race, sex, marital status). We employed survival analysis to examine associations between walkability and HFST, before and after adjustment for covariates; we repeated analyses with physical and mental health as outcomes. **Results:** We used data from 1557 participants (mean age 81 years, 43% female, 87% white, 54% ≤high school education). Compared to those living in neighborhoods in the lowest quintile of walkability, those living in neighborhoods in the highest quintile of walkability had lower social support ($p=0.002$), worse mental health ($p=0.03$), and a decline in physical health over the 6 months post-AMI ($p=0.048$); physical activity was similar across walkability quintiles. In unadjusted models, walkability was negatively associated with mental health but not associated with physical health or HFST. In adjusted models, walkability was not associated with any outcome.

Presenting Author: Brita Roy

SPATIAL STIGMA AND STRUCTURAL INTERVENTIONS Shannon Whittaker, (Yale School of Public Health), Danya Keene

Recently, scholars have heightened spatial research by focusing on how symbolic and cultural representations of place interact with health outcomes. Within this niche area of study, one of the most prominent concepts to emerge is spatial stigma. Spatial stigma assumes that those who reside in or relocate from vilified and degraded locales may come to embody the perceived negative characteristics of their environment. Despite the multiple health pathways linked to spatial stigma, there are little to no interventions in place that address the multi-level processes that influence the health of spatially stigmatized individuals. Due to this large gap in research and implementation, the goal of this study is to develop a conceptual framework for the creation of structural interventions that address spatial stigma. Without a conceptual framework, interventions will continue to employ strategies that do not tackle the underlying intersections and inequalities that construct spatial stigma. To begin, we conducted a preliminary review of the literature and analyzed existing spatial stigma interventions. The scope of this review covered an in-depth examination of the stated research question (i.e. definitions, theoretical and conceptual frameworks, intervention constructs, limitations, and results). Our initial results suggest that there are no structural interventions that address spatial stigma and its related constructs. The majority of interventions that address spatial stigma focus on transforming the built environment and deconcentrating small pockets of poverty by employing mixed-income techniques. All of the noted strategies present short-term success because they overtly neglect the underlying structural forces that perpetuate the stigmatization of place. It is necessary to create a framework that challenges these structural components in an effort to shift stigma discourse and positively influence the health of spatially stigmatized individuals.

Presenting Author: Shannon Whittaker

GREENSPACE AND OBESITY RISK AMONG NON-HISPANIC BLACK AND NON-HISPANIC WHITE WOMEN Samantha Gailey, (University of California Irvine), Danya Keene

Rising obesity prevalence in the US, particularly among low-income and ethnic-minority populations, has generated widespread research on the determinants of obesity. Much work in this area examines whether neighborhood greenspace provides environmental support for physical activity and, in turn, reduces risk of obesity among residents. Findings on relations between greenspace and obesity, however, do not converge, owing in part to differences in study populations and methodological approaches. Some evidence suggests that the health benefits of greenspace disproportionately accrue to higher socioeconomic status (SES), non-Hispanic (NH) white populations. Effect modification by race/ethnicity may tap differences in social and cultural norms related to park- and nature-based physical activity, as well as differences in neighborhood characteristics like crime that concentrate among disadvantaged populations and create barriers to greenspace access. Using generalized estimating equations that permit analysis of clustered data, we examine, among 1,670,907 women living in 6,258 California census tracts, whether neighborhood greenspace access varies with risk of obesity in NH white and NH black women. As hypothesized, results indicate that greater access to greenspace corresponds with a reduced-odds of obesity among NH white women, but not NH black women, controlling for individual demographic and socioeconomic factors. Further adjustment for neighborhood disadvantage, however, reverses the direction of discovered (inverse) associations, indicating that greater greenspace access corresponds with an elevated-odds of obesity in both NH white and NH black women. Our findings may help explain heterogeneity in past studies, and hold relevance to efforts to reduce population health disparities in increasingly urban societies.

Presenting Author: Samantha Gailey

STATE-LEVEL MEDICAL MARIJUANA POLICY AND PRESCRIPTION STIMULANT USE AND MISUSE AMONG A NATIONALLY REPRESENTATIVE SAMPLE OF SEXUAL MINORITY ADULTS, 2015-2017

Morgan M. Philbin, (Columbia University Mailman School of Public Health), Pia M. Mauro, Emily Greene, Silvia S. Martins

Background: Research had demonstrated that adults living in states with medical marijuana laws (MML) report higher marijuana use than adults in non-MML states, but the potential spillover effect of MMLs on other substance use, particularly prescription stimulant use (PSU) and misuse, remains unknown. Sexual minority adults have higher prescription stimulant use and misuse than heterosexuals; we therefore estimated associations between MML and PSU and misuse by sexual minority status, highlighting gender differences. Methods: We used 2015-2017 National Survey on Drug Use and Health data for adults (n=128,679) to model the odds of past-year PSU, differentiating medical use and misuse, using gender-stratified multinomial logistic regression. We also tested the interaction between MML state residence and sexual identity (heterosexual, gay/lesbian, bisexual). Results: Bisexual men had higher past-year PSU (6.4% vs. 4.1%; aOR=1.82[1.22-2.73]) and misuse (6.6% vs. 2.4%; aOR=2.03[1.30-3.15]) than heterosexual men. Bisexual women also had higher misuse than heterosexual women (7.9% vs. 4.9%; aOR=1.29[1.01-1.66]). Bisexual men in MML states had lower PSU (4.2% vs. 9.9%; aOR=0.37[0.22-0.62]) and misuse (5.6% vs. 8.1%; aOR=0.51[0.31-0.84]) than bisexual men in non-MML states; bisexual women in MML states also had lower misuse: (6.0% vs. 7.9%; aOR=0.57[0.40-0.81]). The odds of past-year PSU (interaction $\beta=-0.69$, $p=0.0121$) and misuse (interaction $\beta=-0.48$, $p=0.0499$) was lower in MML versus non-MML states for bisexual men versus heterosexual men. Conclusion: Findings suggest that MMLs may differentially impact prescription stimulant medical use and misuse for sexual minorities—particularly bisexuals. Future studies should assess if these associations are casual. Potential pathways and research implications will be discussed. States enacting MMLs should consider potential differential spillover impacts to other substance use, particularly for LGB populations.

Presenting Author: Morgan M. Philbin

HOMICIDE DURING PREGNANCY AND POSTPARTUM: AT THE INTERSECTION OF REPRODUCTIVE RIGHTS AND VIOLENCE AGAINST WOMEN Maeve Wallace, (Tulane University School of Public Health and Tropical Medicine, Tulane University), Dovile Vilda, Melissa Goldin Evans, Katherine Theall

Homicide is a leading cause of maternal death in the US. Across a growing number of jurisdictions, evidence that homicide risk is elevated during pregnancy and postpartum among women of reproductive age suggests that a woman's ability to control whether to become pregnant and/or to carry a pregnancy to term has implications for her risk of violent death. We conducted a retrospective, ecologic analysis of all homicides among women who were pregnant and up to 1 year postpartum at the time of death (pregnancy-associated homicide) as reported to the US National Violent Death Reporting System (NVDRS). For every state participating in NVDRS from 2011-2015, we estimated 5-year pregnancy-associated and IPV-related pregnancy-associated mortality rates. Each state was assigned a score indicating the strength of women's reproductive rights in 2013 (midpoint of the study years) based on the cumulative burden of legal restrictions imposed on access to comprehensive reproductive health care services, including contraception and abortion. The state score was operationalized as a 3-level indicator of strong, moderate, or weak reproductive rights. We fit Poisson models to estimate the association between strength of reproductive rights and pregnancy-associated homicide controlling for levels of poverty and violent crime within each state. Across 17 states with NVDRS data from 2011-2015, we identified 174 homicides of pregnant and postpartum women (2.9 deaths per 100,000 live births), with more than half (60%) known to be perpetrated by an intimate partner. Compared to states with the strongest reproductive rights, the pregnancy-associated homicide rate was on average two-fold higher in states with the weakest rights (adjusted rate ratio=2.07, 95% CI=1.37, 3.12). Results were consistent when restricted to known IPV-related homicides only. Guaranteeing access to comprehensive reproductive health care services for all women in the US may help to reduce violent maternal death.

Presenting Author: Lauren Dyer

MARIJUANA DECRIMINALIZATION POLICY IMPACTS DAILY LIFE FOR RACIAL AND ETHNIC MINORITY YOUTH IN NEW YORK CITY: A QUALITATIVE EXPLORATION Morgan M Philbin, (Columbia University Mailman School of Public Health), Heather M. Wurtz, Elizabeth N. Kinnard, Ben V. Lane, Pia M. Mauro

Background: Marijuana (MJ) use is similar across racial/ethnic groups, yet 89% of people arrested for MJ possession in New York City (NYC) in 2018 were Black or Hispanic. To help address this disparity, policy advocates have called for marijuana decriminalization (MJ-D), now in 22 states including New York. We explored how racial/ethnic minority youth (REMY) in NYC experienced MJ-D policy. Methods: We conducted 30 qualitative interviews in NYC (April–May 2018); participants were 18-29 years old and Hispanic and/or Black. Interviews were recorded, transcribed and analyzed using thematic content analysis to explore how MJ-D policy impacts daily life for REMY. Results: Three primary themes emerged: 1) REMY felt that MJ-D reduced MJ-related incarcerations, but called for the benefits of MJ-D to be extended to those already held on MJ-related charges “like, 87% of people on Rikers Island would be home now;” 2) MJ-D increased REMY’s sense of personal security and safety in public spaces “it takes a sense of panic off my back.” MJ-D also improved REMY’s sense of belonging and ability to lower anxiety by self-medicating with MJ because “looking scared and being brown is not good when you got weed on you;” and 3) REMY saw MJ-D as a “band-aid” that advocated for, “just don’t get caught with more than this” but did not address underlying inequities. REMY uniformly called for MJ legalization to limit arrests and related consequences that, “take them out of school, colleges, homework, and into jail.” Conclusions: REMY, who are disproportionately targeted for MJ arrests, saw MJ-D as a first step to limit arrests and related consequences, increase personal security and reduce stress-related disorders. However, they felt that MJ-D did not do enough to address systematic injustices and therefore called for MJ legalization—now legal in 10 states. States enacting MJ laws should consider their potential to mitigate health disparities for REMY.

Presenting Author: Morgan M Philbin

F@#! THE POLICE (POWERS)!: OWS, SDH, AND A CASE FOR RE-FRAMING PUBLIC HEALTH LAW & ETHICS FOR POPULATION HEALTH EQUITY Ryan Petteway, (OHSU-PSU School of Public Health), Heather M. Wurtz, Elizabeth N. Kinnard, Ben V. Lane, Pia M. Mauro

Events surrounding Occupy Wall Street (OWS) in 2011/12 marked a significant moment for public health law and ethics, calling into question the authenticity and stability of the field's social justice foundations. OWS was fundamentally about social and economic inequality, power, and opportunity—structural matters at the very core of population health inequities. Unfortunately, public health (PH) remained curiously silent during early OWS stages. Instead, PH was in many ways co-opted to maintain structural inequality between social groups—with PH police powers (PHPP) exercised via literal police power to violently repress social action aimed at redressing economic/social conditions at the root of health inequities. The current social and political climate suggests that PHPP will be called upon with increasing frequency to respond to and “regulate” community action, thus amplifying the importance of scrutinizing their application (e.g. in response to BLM, DAPL). In these contexts, it is important to interrogate the extent to which the exercising of PHPP—even if protecting legitimate downstream health concerns (e.g. sanitation, physical safety)—undermines the field's social justice roots and curtails productive discourse/action to promote social, and thus, health equity. This work presents an examination of the use of PHPP—specifically nuisance abatement—in the context of OWS. I review the use of PHPP in Oakland and San Francisco within a social determinants of health (SDH) framework. I draw upon legal and ethical writings to explore core constitutional and ethical concerns and evaluate OWS “intervention” efforts in relation to core ethical criteria/principles guiding the PH field. Through this work, I propose a cursory approach for a more nuanced application of PHPP focused on SDH and responsive to the critical import of social movements/activism in promoting health equity, and suggest areas for research linking PHPP and population health.

Presenting Author: Ryan Petteway

A SYSTEMATIC REVIEW OF THE USE OF RACE IN POPULATION HEALTH MEDICAL

RESEARCH Rae Anne Martinez, (Department of Epidemiology, Gillings School of Global Public Health, UNC Chapel Hill), Nafeesa Andrabi, Andrea N. Goodwin, Rachel E. Wilbur, Natalie R. Smith, Paul N. Zivich, Allison Aiello, Robert A. Hummer

Careful considerations of the role of race and racism along the causal path to health and illness are essential. Racial disparities have long been documented across health behaviors and health outcomes, yet the use of race appears under-theorized and under-motivated in the medical literature. This is problematic because it is clear that racism is a fundamental cause of US health inequalities. LaVeist (1996) challenged population health researchers to “do a better job” and critically use race in their work, but it is unclear if medical research has made progress to this end. Therefore, we aim to assess how the use of race has changed in medical research over time. We will address how race is conceptualized, operationalized, and utilized in leading medical journals that likely shape discourse around race and health. We will systematically review five prominent medical journals from 1995 to the present – *Annals of Internal Medicine*, *JAMA*, *Lancet*, *NEJM*, and *BMJ* – selected based on impact factor and reputation. Within these five journals, all original human-subjects research conducted in the US is eligible for review. We will extract information on the use of race in publications – such as theoretical justification (conceptualization), categorization and coding (operationalization), and use in analysis (utilization). Analyses are ongoing. This review is timely given the continued emphasis on population health disparities that are evident across the life course and constitute a major threat to health and well-being. Future work will consider population health literature from medical sociology, public health, and epidemiology for cross-disciplinary comparisons.

Presenting Author: Rae Anne Martinez

COMMUNITIES AND POLICE VIOLENCE: PRESENCE OF SCHOOL-BASED POLICE OFFICERS AND IMPACT ON ADOLESCENT MENTAL HEALTH J'Mag Karbeah, (University of Minnesota School of Public Health), Nafeesa Andrabi, Andrea N. Goodwin, Rachel E. Wilbur, Natalie R. Smith, Paul N. Zivich, Allison Aiello, Robert A. Hummer

Research Objective: The killing of unarmed African Americans has been an issue that has risen to the forefront our public debates as a nation as well as the public health agenda. Despite our understanding of the mental health impact that aggressive policing tactics have on the health and well-being of African-American adults, few studies have explored the unique experiences that African American adolescents have with law enforcement officers. In 2015, 70% of students reported that they attend a school that has a law enforcement officer present. The goal of this study was to identify if self-reported health of students living in communities impacted by police violence who also attend schools that employ police officers. **Study Design:** A multi-level regression analysis was conducted to evaluate the mental health status of students attending schools that employ school resource officers. In addition to self-reported mental health status, the relationship between the presence of school resource officer and perceived trustworthiness of these officers. **Population Studied:** This sample includes students from Minnesota in grades 8,9, and 11 who completed a voluntary state-wide survey of their opinions and behaviors. The sample includes responses from over 100,000 adolescents. **Principal Findings:** In our sample, close to two-thirds of the students reported attending schools with school resource officers present. An overwhelming majority of this sample also reported feeling safe in their schools and considered school resource officers as adults that they trusted. **Conclusions:** The findings of this study suggest that the presence of school resource officers may not have negatively influence the mental health of students who live in communities that have experienced police violence. Additional research is needed to identify the experiences of students whose school resource officers who also serve the broader community.

Presenting Author: J'Mag Karbeah

MEASURING RACIAL-ETHNIC SOCIALIZATION PRACTICES IN FORMERLY INCARCERATED PARENTS OF YOUNG CHILDREN Makeda Springette, (Northwestern University - Feinberg School of Medicine), Amelie Petitclerc

Prior research showed that African American parents' transmission of racial-ethnic pride and other aspects of racial-ethnic socialization could protect adolescents from adverse experiences. However, little is known about these effects among other racial-ethnic groups and young children. To facilitate this work, we synthesized, adapted and expanded existing racial-ethnic socialization questionnaires to design a new measure that is relevant to parents of young children from diverse racial-ethnic groups and captures attitudes and behaviors from all four main parental approaches to racial-ethnic socialization: cultural socialization, egalitarianism, preparation for bias (i.e., the three positive strategies) and promotion of mistrust. In this presentation, we will show the measure's psychometric properties and convergent validity. Participants are former juvenile delinquents and their 3- to 7-year-old children. Data collection is ongoing. We have data from 12 participants (8 African American, 2 Hispanic, 2 Non-Hispanic White) and anticipate including 50 more by IAPHS in October. To assess convergent validity, we used the Multidimensional Assessment Profile of Disruptive Behavior to measure disruptive behavior, the Child Behavior Questionnaire effortful control subscale to assess self-regulation and the MyChild questionnaire's affective discomfort, internalized conduct, and empathy subscales to measure emerging conscience. We used the Ages & Stages Questionnaire – 3rd edition to measure child general development, including both direct assessment and parent report. Preliminary analyses show the positive strategies were strongly correlated (r 's from 0.83 to 0.87; p 's < 0.001) and, as hypothesized, were moderately associated with child self-regulation (r 's from .41 to .56) and general development (r 's from .32 to .56). We will discuss implications for measuring racial-ethnic socialization as a protective factor among diverse, at-risk families of young children.

Presenting Author: Makeda Springette

MINORITY-OWNED SMALL BUSINESSES AND EMPLOYER-SPONSORED HEALTH INSURANCE Melanie K. Tran, (University of Colorado Denver), Patrick M. Krueger

Introduction: Employer-sponsored health insurance (ESI) plays a crucial role in covering more than half of the non-elderly population in the U.S. Yet, only half of small businesses offer ESI compared to nearly all larger businesses. One third of small businesses are owned by racial/ethnic minorities; minority owned businesses routinely employ individuals of the same racial/ethnic background as the employer. Currently, health policies do not consider racial/ethnic minority-owned businesses when encouraging the provision of ESI. While other social policies exist to help address race/ethnic disparities, they are not present in the small business world. Existing literature highlights economic factors, especially the cost of ESI, that influence business decisions to provide health insurance, and this is reflected in current health policy strategies that involve monetary penalties and incentives to encourage small businesses to offer ESI. We hypothesize that (1) compared to white-owned small businesses, black-, Asian-, and Hispanic-owned small businesses are less likely to offer ESI, and (2) even after controlling for firms' economic characteristics (e.g., payroll and receipts), find minority-owned businesses will be less likely to offer ESI. **Methods:** We use data from the U.S. Census Bureau's 2012 Survey of Business Owners. Our sample includes nearly a quarter million firms with 50 or fewer employees. We use multinomial logistic regression to examine whether racial/ethnic ownership status of a business is associated with ESI, while adjusting for owner, firm, and economic characteristics. **Results:** Preliminary analyses support our hypotheses. Next steps include testing additional mediators, such as language, payroll, and receipts, and interactions with nativity status. **Conclusion:** This study has implications for targeted health policy initiatives to address inequities in ESI among small businesses and minority-owned small businesses in particular.

Presenting Author: Melanie K. Tran

BIRTH OUTCOMES AFTER WILDFIRE EXPOSURE Catelynn Kenner, (Cottage Health Research Institute), Libby Smith

Literature on birth outcomes after acute wildfire exposure is scant and somewhat mixed. It is imperative that more is understood about health outcomes among pregnant and neonatal populations due to the increasing frequency and intensity of wildfire events. This work aims to describe birth outcomes after the Thomas Fire of December 2017- January 2018 in Santa Barbara County, California among births at a community-based hospital. Infant outcomes investigated include: Birth weight, Low birth weight and Very low birth weight classification, Stillbirth, Congenital abnormalities, Fetal growth restriction, Preterm birth, macrosomia. Investigated outcomes of the birthing patient include: Hypertension, Preeclampsia, Premature membrane rupture, Placenta previa, Placenta accreta, Placental abruption, Gestational diabetes, Gestational length. Maternal demographics will also be analyzed. The authors compare rates of health outcomes during the fire and in the nine months following the fire with the same time periods of the prior year. When able, this study analyzes data according to trimester of exposure, birthweight classification, and infant sex, and incorporates County-wide data for the minority of births that occur outside of the local hospital.

Presenting Author: Catelynn Kenner

MASS INCARCERATION AND PUBLIC HEALTH: THE ASSOCIATION BETWEEN BLACK JAIL INCARCERATION AND BLACK PRETERM BIRTH IN LOUISIANA Lauren Dyer, (Tulane University School of Public Health and Tropical Medicine), Maeve Wallace, Dovile Vilda, Katherine Theall

A growing body of evidence is beginning to highlight how mass incarceration shapes inequalities in population health. Louisiana has consistently maintained one of the highest incarceration rates in the nation, an enduring legacy of racially-biased judicial treatment. Concurrently, large racial disparities in population health persist. We conducted a cross sectional analysis of all births among non-Hispanic black women in Louisiana in 2014 to identify the association between 2014 county-level black jail incarceration rates (number of black persons incarcerated in jail per 1,000 black residents) and preterm birth (N=23,954). We fit a log Poisson model with generalized estimating equations to determine the relative risk (RR) of preterm birth associated with an interquartile range increase in incarceration when adjusting for maternal age, insurance type, parity, adequacy of prenatal care, and county-level racial inequality in median household income. We fit the same model, additionally adjusted for the county-level crime rate (count of violent and property crimes per 1,000 residents) in order to quantify the degree to which mass incarceration may harm health above and beyond living in a high crime area. Risk for preterm birth was 11% greater among women in counties with the highest incarceration rates compared to women in counties with the lowest (RR=1.11, 95% CI: 1.04 -1.20). Additionally adjusting for the level of crime in each county did not substantially change the magnitude of the association. Black incarceration rates are positively associated with preterm birth among black women in Louisiana, independent of differences in individual- and county-level social and financial resources. Not only are there economic and social impacts stemming from mass incarceration, but there may also be implications for population health and health inequities, including the persistence of racial disparities in preterm birth.

Presenting Author: Lauren Dyer

RACE/ETHNIC TRENDS IN CESAREAN DELIVERIES, INDUCED LABORS, AND U.S. BIRTH WEIGHT Andrea M. Tilstra, (University of Colorado Boulder), Ryan K. Masters

Birth weight in the United States declined substantially during the 1990s and 2000s. We posit that the declines were likely due to compositional changes in gestational age resulting from changes in obstetric practices. Using restricted National Vital Statistics System linked birth/infant death data for years 1990-2013, we analyze trends in obstetric practices and birth weights among singleton births to U.S. non-Hispanic white, non-Hispanic black, and Latina women. We use life table techniques to analyze the joint probabilities of gestational age-specific birth and gestational age-specific obstetric practice (i.e., cesarean delivery, induced vaginal birth induced cesarean delivery, spontaneous vaginal birth) to fully account for trends in birth by obstetric practice. We use simulation techniques to estimate changes in birth weight distributions by gestational age and obstetric practice. Results show that between 1990 and 2013 the likelihood of cesarean deliveries and induced labor increased at all gestational ages, and the gestational age distribution of U.S. births significantly changed. Over this period, births became much less likely to occur above gestational week 40 and much more likely to occur during weeks 37 – 39. Overall, 20% of spontaneous vaginal births at older gestations were reallocated to occur at earlier gestations from obstetric interventions. Results also suggest that if rates of obstetric practices did not change between 1990 and 2013, then average birth weight would have increased by about 7 grams instead of declining 60 grams. Further, these trends do not vary substantively by maternal race/ethnicity. Findings indicate that recent declines in U.S. birth weight were due to increases in cesarean deliveries and births from induced labor and that the changes in obstetric practices and the resulting changes in gestational age is a U.S. phenomenon that is not specific to any one race/ethnic group.

Presenting Author: Andrea M. Tilstra

CHANGES IN LONG-ACTING REVERSIBLE CONTRACEPTIVE (LARC) ACCESSIBILITY BY PATIENT AND PROVIDER URBAN/RURAL LOCATION IN LOUISIANA WHEN MEDICAID REIMBURSEMENT FOR THE DEVICES IS RAISED TO WHOLESALE AVERAGE COST Melissa Goldin Evans, (Mary Amelia Center, Tulane School of Public Health and Tropical Medicine), Katherine P. Theall, Joan Wightkin, Rebekah E. Gee

Unintended pregnancies, occurring in 45% of pregnancies in the United States, are associated with adverse health and social outcomes for the infant and the mother. Long-acting reversible contraceptives (LARCs), namely intrauterine devices and implants, reduce the risk of unintended pregnancies. Barriers to LARC access include rural location and low reimbursement. This retrospective repeated cross-sectional study used Medicaid claims data to investigate the association between LARC uptake by patient and provider urban/rural location. LARC provision was assessed among contraceptive users (sterilization, intrauterine devices, implants, the pill, injectables, patch, ring, and diaphragm) at risk of unintended pregnancy in Louisiana from 2013-2015. This study also investigated if LARC access changed following a 2014 Louisiana Medicaid policy that increased LARC reimbursement to wholesale acquisition cost. Analyses were conducted using logistic regression. LARCs were used by 13% of contraceptive users from 2013-2015 (n=241,983). Adjusting for other covariates, compared to women that received contraceptive care in urban parishes, fewer rural women that received contraceptive care in rural parishes used LARCs (12.7-15.2% vs. 8.7%, respectively) and had significantly lower odds of LARC uptake (OR=0.65, p<0.0001). However, in 2015 after the policy change, rural women receiving contraceptive care in a rural parish still had the lowest uptake of LARCs (13.7%, vs. 18.5-21.7% of those receiving care from an urban parish), but had the greatest odds of LARC uptake in 2015 compared to 2013 (OR=2.38, vs. OR=1.73-2.32 of those receiving care in an urban parish). Patient and provider location impacts LARC uptake among contraceptive users, but access can be improved when barriers, such as low LARC reimbursement, are removed. Healthcare policies should support equitable access to all methods of contraception, including LARCs, to reproductive-aged women at risk of unintended pregnancy.

Presenting Author: Melissa Goldin Evans

DOES THE EPIGENOME CHANGE OVER TIME IN RELATION TO CHANGES IN STRESS, DISCRIMINATION, AND RESILIENCE IN CHILDREN OF LATINX IMMIGRANTS? Elizabeth, (University of California, San Diego), Elizabeth S. Clausing, Alexandra M. Binder

Latinx children are the fastest growing group of youth in the US, and are increasingly born to mothers under heavy burdens of stress with unknown health consequences for their children. The purpose of this study is to investigate how discrimination and other immigrant-related stressors may associate with changes in the epigenome of children of Latinx immigrants from childhood to adolescence. This question is particularly pressing in the context of recent policy debates surrounding Latinx immigrants in the US since the last presidential election. The rhetoric directed towards Latinx immigrants has led to elevated psychological distress, particularly among those with precarious legal status. Children are increasingly exposed to media targeting Mexican immigrants as “illegal criminals,” and to discrimination in their schools and neighborhoods. These stressors may put children at risk for worse mental and physical health, potentially through childhood programming pathways. These children also have access to protective psychosocial and cultural factors to buffer these exposures. We conducted a longitudinal study of the embodiment of stress and discrimination among these children in Nashville, TN. In 2015, we collected saliva samples and survey data to investigate stress experiences of children (aged 5-13), and revisited the same families in 2018 to determine how these stressors may have changed over time (aged 7-15). DNA at baseline (n=79) and follow-up (n=36) was used for ongoing epigenomic analysis in relation to stressors over time. We will examine if children’s epigenomes age faster than their chronological age, according to Horvath’s epigenomic age acceleration measure. We are also examining the buffering effects of positive psychosocial aspects (i.e., optimism and social support). We expect to see changes in DNA methylation at stress-related genetic regions (e.g. SLC6A4 and FKBP5) in relation to both stress exposures and resilience factors over time.

Presenting Author: Amy L. Non

ASSOCIATION OF CHILDHOOD LEAD EXPOSURE WITH LATE LIFE COGNITION AND PSYCHOLOGICAL OUTCOMES John Robert Warren, (University of Minnesota), Joseph Ferrie, Mark Lee

There is a clear association between low-level lead exposure and poor cognitive and psychological outcomes. Recent research has documented that this link is longitudinal with early exposure predicting traits in adulthood. However, the existing evidence on the persistent effects of lead is limited by small sample sizes, few outcomes, and a follow-up period ending in mid-adulthood. We build on this burgeoning research by investigating the association between childhood lead exposure and late life cognition and psychological traits in a large cohort study. Our data come from the Wisconsin Longitudinal Study, a prospective survey following a sample of the 1957 Wisconsin high school graduating class and their siblings. Over 8,000 WLS participants were linked to their household records in the 1940 U.S. Census. Then we used data about municipal water sources from that era to proxy lead exposure. Water with a low PH flowing through lead pipes is known to contain higher levels of lead, and drinking water is a key source of blood lead contamination. First, we will validate our measure of lead exposure by showing its association with adolescent IQ, which bears a strong relationship in previous research. Next, we will estimate the effect of early life lead exposure on several cognitive and psychological outcomes measured in 2011 when the participants were in their early seventies. Our dependent variables will include depressed mood, personality, letter fluency, digit ordering, and word recall. We will use hierarchical linear models to account for the clustering of individuals within families and cities. Rich data from the WLS allow us to adjust our models for family background, which may confound our results. We can also examine whether the effect of lead exposure differs by sex. This study will add crucial evidence regarding whether the impact of early lead exposure persists across the life span.

Presenting Author: John Robert Warren

NEW DELHI'S TOXIC AIR POLLUTION IN CONTEXT; DEVELOPMENT, URBANIZATION AND PUBLIC HEALTH Ella S Parsons, (University of Oklahoma), Joseph Ferrie, Mark Lee

Poor air quality has been linked to cardiovascular disease, asthma, lung cancer, COPD, increased risk of respiratory infections, prematurity and low birth weight, cataracts, eczema, problems with cognition, and strokes. According to the WHO, air pollution is linked to seven million deaths worldwide, and over 2 million of these estimated deaths are found in South East Asian cities, particularly in Indian cities. This paper explores the complex array of local and global forces that are contributing to air pollution in New Delhi, India. These include patterns in climate change, consumer behavior, a history of colonialism, urbanization, and rapid unplanned city sprawl. Ultimately the paper concludes that Delhi's air quality problem is a result of a history of rapid unplanned urbanization and a lack of planned eco-friendly infrastructure. As British rule delayed India's industrial progress, the country is currently undergoing westernization and a result more and more Indians are using personalized vehicles contributing to the overall concentration of PM. In order to properly assess the air quality it is necessary to increase the number of air quality monitoring stations to understand the extent of the pollution.

Presenting Author: Ella S Parsons

CYCLES OF VIOLENCE: HOW CONFLICT AND DISPLACEMENT STRUCTURE WOMEN'S RISKS OF INTIMATE PARTNER VIOLENCE Stephanie Koning, (Northwestern University), Joseph Ferrie, Mark Lee

Global violence and forced displacement are at record highs. Elevated violence against women is documented in many conflict settings, but how conflict-related violence and displacement continue to affect violence against women following conflict exposures is not well understood. This is potentially of gravest concern for women in protracted displacement situations which can present long periods of housing instability, precarious social and legal standing, and other risk factors for violence, including intimate partner violence (IPV). The current study investigates this at Thailand's border with Burma, one of the longest-standing forced displacement sites globally and a context where multiple displacement channels co-exist that link conflict exposures to different types of living and working situations upon arrival in Thailand. I analyze surveys of 520 women in and outside of camp settings on the border to better understand how current displacement situations and historical exposure to violent conflict influence IPV risk with a current partner. With logistic regressions, I focus on two sets of independent variables: (a) conflict and migration history (birthplace and conflict-related life events in Myanmar) and (b) adverse life events in Thailand indicating severe threats to livelihoods or personal safety/security (immobility or fear due to risk of arrest/deportation). Findings suggest that migration histories are not directly associated with IPV, but safety/security threats present a 2.36-times greater odds of IPV (95% confidence interval: 1.02, 5.48). Migration histories still play an indirect role. Being born in Burma and past violence there each predict safety/security threats in Thailand. This study suggests a powerful case of structural violence that is likely broadly relevant, where past conflict and current displacement circumstances must be jointly addressed to better protect displaced women from ongoing violence.

Presenting Author: Stephanie Koning

ATTITUDES TOWARD VIOLENCE AGAINST WOMEN IN THE TWENTY-FIRST CENTURY: THE ROLE OF NATIONAL LAWS AND FOREIGN AID Jeffrey Swindle, (University of Michigan), Louisa Roberts, Taylor Brown, Katrina Hauschildt, Garrett Pace

Attitudes toward violence against women across countries in Latin America, Africa, and Asia dramatically shifted toward higher rates of rejection during the first decade of the twenty-first century. Research finds that this temporal shift is not mediated by socioeconomic or demographic factors, suggesting that the trend may be largely due to broader global cultural efforts to disseminate cultural scripts condemning violence against women. We argue that international efforts in this vein were largely concentrated on changing national laws to prohibit such violence and funding specific interventions to encouraging women's empowerment via foreign aid. For our analyses, we draw upon data of over 1.8 million respondents fielded from 125 Demographic and Health Surveys conducted in 61 African, Asian, Eastern European, Latin American, and Middle Eastern countries. We merge these individual level data with national level statistics on laws about domestic violence from the World Bank and foreign aid committed for gender equality projects from AidData. We begin our analyses by examining whether national rates of rejection of violence against women has continued to increase during the second decade of the twenty-first century. Our preliminary analyses show that increases in national rates of rejection have instead largely slowed or fully stalled. Next, we uncover positive effects of national laws and gender-focused foreign aid on individuals' likelihood of rejection. We further show that these factors mediate a substantial portion of the temporal increase in rejection observed across the twenty-first century. We are currently in the process of extending these analyses to include 105 Multiple Indicator Cluster Surveys conducted between 2009 and 2018 that have the same survey questions about their attitudes toward violence against women.

Presenting Author: Jeffrey Swindle

HEALTH STATUS AND CHRONIC DISEASE BURDEN OF THE HOMELESS POPULATION: AN ANALYSIS OF TWO DECADES OF ELECTRONIC MEDICAL RECORDS Wyatt P. Bensken, (Case Western Reserve University), Nikolas I. Krieger, Douglas Einstadter, Jarrod E. Dalton, Adam T. Perzynski

Individuals experiencing homelessness are a population that is difficult to study due to varied definitions and lack of data, while simultaneously having complex health needs. Previous work in this field has demonstrated the feasibility of identifying homeless individuals via electronic health records (EHR), yet this work is limited. We sought to describe the health and chronic disease characteristics of individuals experiencing homelessness in the Cleveland, Ohio region. We included those who had at least one outpatient visit to MetroHealth System clinics after January 1, 1999, using the NEOCARE Learning Health Registry. Homelessness was characterized based on patients listing “homeless” (or similar text) or a known shelter in the address field of the EHR. Preliminary results indicated 9,442 patients identified as homeless or having lived in shelters. Of those individuals, mean age at first recorded homeless address was 40.5 and range of 18 to 93.86. 6,781 (72%) of patients were male, and 5,507 (58%) were Black/African American. Of the conditions evaluated, the most common were major depressive disorders with 4,192 (44%), followed closely by psychoses with 3,969 (42%). Substance- and alcohol-related disorders were common in the patient population with 3,771 (40%) and 2,872 (30%) respectively. Notably, 4,033 (43%) of the patients had hypertension and 3,521 (37%) had chronic pulmonary disease, and 1,090 (12%). Cancers were also incredibly prevalent in this population with nearly a third (3,295 [35%]) of patients of patients having a diagnosis code of other neoplasms. This study demonstrates the feasibility of identifying homeless individuals in an EHR registry, while providing insight on the health needs of the homeless population. The immediate results underscored key conditions with a large burden in the homeless population, and establishes methodology for future studies using EHR data as a tool to understand this population.

Presenting Author: Wyatt P. Bensken

HEALTH CARE REFORM AND CHRONIC DISEASE MANAGEMENT: EVIDENCE FROM THE DIAGNOSIS AND TREATMENT OF DIABETES-RELATED COMPLICATIONS IN MEXICO Melissa Knox, (University of Washington), Nikolas I. Krieger, Douglas Einstadter, Jarrod E. Dalton, Adam T. Perzynski

This project addresses the role of universal health care (UHC) in promoting population health through management of chronic disease. I investigate the impact of Mexico's universal health care system (Seguro Popular, or SP) on hospitalizations for complications of Type 2 Diabetes Mellitus (diabetes). Diabetes leads to measurable outcomes that can be impacted by not only access to care, but the type and quality of care received. Patients can live with diabetes for many years, provided they actively manage their blood sugar, or they can suffer a host of severe complications that include limb amputation, kidney failure, and death. Universal access to consistent primary care can reduce complications and lead to better outcomes at the population level. I investigate the role played by UHC in mitigating the severest complications of diabetes by estimated the effect of SP (along with other systemic, geographic, and community factors) on the prevalence of these outcomes. I measure the geographic and temporal variation in hospitalizations for diabetes complications, including chronic kidney disease and diabetes-related amputations between the years 2001 and 2015, the period over which SP was rolled out across the country. I use Mexican administrative hospital discharge data (SINAIS) and data from a nationally representative health survey of Mexicans over 50 (MHAS). Both data sets span the SP's period of introduction (~2000-2015). I find that there is great heterogeneity in the testing, diagnosis, and management of diabetes across insurance status and state. In my next steps, I will use regression analysis to quantify the relationship between community characteristics and health care infrastructure on these outcomes. I will also measure the impact of access to Seguro Popular on these outcomes as the program spreads over time. Finally, I investigate the quality of health care provided by Seguro Popular, relative to the formal insurance system in Mexico.

Presenting Author: Melissa Knox

INSTITUTIONAL CAPACITY OF COC-ACCREDITED CANCER CENTERS TO PROVIDE COLLABORATIVE CARE SERVICES Hazal Ercin, (University of Washington), Taryn Lindhorst, Cynthia Piedra

Background: Cancer is a major public health issue in the United States and cancer's impact on public health is expected to grow substantially over the next decades. Despite the growing evidence, adequate detection and management of the psychosocial problems continue to be major unmet needs in oncology service provision. The Collaborative Care Model is a well-researched population-based intervention in which patients' psychosocial needs are systematically identified, evidence-based care is applied and outcomes are tracked. However, little is known about what institutions outside of National Cancer Institute-designated centers have the capacity to provide population-based collaborative care. Therefore, this paper examines the institutional capacity of cancer centers in the North West region to provide collaborative care to meet their patients and families psychosocial needs. **Method:** This paper utilizes a dataset composed of an interview-based survey and the American Hospital Association Survey data. The surveys assessed the institutional capacity for collaborative care in psychosocial service delivery at 44 cancer centers in 5 states (Washington, Wyoming, Alaska, Montana, and Idaho) accredited by the Commission on Cancer. We examined their staffing levels and onsite psychosocial services in relation to institution characteristics (e.g., hospital ownership status, rural vs. urban location, and hospital size). **Findings:** Institutional capacity for collaborative care was strongly related to cancer centers' size, but no association was found between institutional capacity and hospital ownership status. Surprisingly, cancer centers in rural areas tend to have more staff in psychosocial care provision, except for patient navigators. Insufficient staffing and onsite services for a population-based psychosocial model of care in oncology in one region of the country. As more people are diagnosed with cancer, more resources will be needed to provide adequate care.

Presenting Author: Hazal Ercin

PRECARIOUS EMPLOYMENT AND IMMIGRANT HEALTH IN CALIFORNIA Anna-Michelle Marie McSorley, (University of California, Los Angeles, Fielding School of Public Health), Randall Kuhn, Kevin Riley, Linda Delp, Michael Rodriguez, Abel Valenzuela

Work plays a central role in immigrants' experiences and their health, yet existing studies of immigrant health pay limited attention to employment. In the United States, immigrants and the undocumented, in particular, are overrepresented in jobs characterized by low wages, exposure to multiple occupational hazards, and irregular work arrangements. Literature demonstrates that these precarious employment situations have implications for immigrant life course health (Benach et al. 2014), yet few studies have tested these pathways using representative survey data. In this study, data from five rounds of the California Health Interview Survey (CHIS), from 2013-2017, are pooled to estimate the effects of long-term exposure to precarious employment on measures of life course health, including poor self-rated health, chronic morbidity and serious psychological distress. CHIS data include measures of wages, working hours, duration of employment and detailed census occupation code, but no direct measures of occupational hazards. This limitation is addressed by linking standardized job descriptors from the US Department of Labor's Occupational Information Network (O*NET), which are used to generate occupational risk scores specific to each census occupation code. In combination with the other employment characteristics available through CHIS, occupations will be classified along a spectrum of precarity of work arrangements, material deprivation and physical risk. Preliminary bivariate and logistic regression analyses reveal that non-citizen foreign-born workers do experience higher levels of psychological distress and poor self-rated health than their employed US born or naturalized counterparts, when controlling for standard sociodemographic characteristics ($p < 0.05$). We will next estimate the extent to which markers of precarious employment explain the tendency towards health disadvantage.

Presenting Author: Anna-Michelle Marie McSorley

LONG-TERM ECONOMIC OUTCOMES AMONG REPEAT VERSUS ONE-TIME TEENAGE MOTHERS Joshua N. Cone, (University of Texas at Austin), Olesegen Owotomo, Leila Al-Hamoodah, Emily Hendrick, Julie Maslowsky

Purpose: We examined differences in the long-term economic outcomes of one-time and repeat teenage mothers in a nationally representative US sample. **Methods:** Linear and logistic regression models were conducted to compare the economic indices of women who delivered one versus two or more children during their teenage years. **Results:** After controlling for background and demographic factors, repeat teenage mothers were less likely to graduate high school, more likely to receive public assistance, and more likely to experience financial hardship than one-time teenage mothers. Repeat and one-time teenage mothers did not significantly differ in their personal annual incomes. **Conclusions:** In their mid- to late- 20s, the lives of repeat teenage mothers are more financially precarious than those of one time teenage mothers, as indicated by receipt of public assistance and experience of financial hardship. Our findings suggest that lower educational attainment plus the burdens of caring for two children as a young mother make it difficult to secure economic stability and additional supports may be necessary to improve long-term economic outcomes of repeat teenage mothers.

Presenting Author: Joshua N. Cone

ADDRESSING CHINESE AMERICAN H. PYLORI AND STOMACH CANCER DISPARITIES THROUGH EHR-BASED TOOLS IN A LARGE NYC HEALTHCARE SYSTEM Yi-Ling Tan, (NYU School of Medicine), Janet Pan, Devin Mann, Sara Chokshi, Renee Williams, Qiuqu Zhao, Anju Malieckal, Benyam Hailu, Chau Trinh-Shevrin

Background: Stomach cancer is the most common infection-related cancer worldwide. In the United States, Chinese Americans experience a disproportionate burden of stomach cancer mortality. The bacterium *Helicobacter pylori* (*H. pylori*) is the strongest risk factor for stomach cancer, with eradication of *H. pylori* the most effective prevention method for stomach cancer. However, clinician adherence to *H. pylori* treatment guidelines is not high. Medication adherence to the complex *H. pylori* treatment regimen is challenging, especially for Chinese New Yorkers with limited English proficiency (61%), low health literacy (68%) and live in poverty (21%). Working collaboratively with safety net community and clinical stakeholders, we developed a health-systems level intervention using electronic health record (EHR)-based tools to facilitate *H. pylori* treatment and follow-up strategies. Methods: The tool development process included 4 workflow analyses, which consisted of ethnographic observation and interviews with providers working with underserved Chinese American communities, and 15 key informant interviews. Through iterative engagement of a transdisciplinary advisory group, we refined and implemented the EHR tools across a large, urban healthcare system. Results: We developed 3 EHR-based tools: 1) a *H. pylori* medication order set for the most common first and second-line therapies; 2) culturally and literacy-appropriate basic health education materials for the patient in English, Chinese; and 3) a reminder to place future laboratory orders for follow-up testing in 2 months. We will present findings from utilization reports during the first 6 months of implementation. Conclusion: There is a need to integrate system-wide EHR-based tools for underserved, vulnerable communities to enhance and sustain evidence-based practices for treatment adherence and cancer prevention and reduce *H. pylori*-related stomach cancer disparities for high-risk patient populations.

Presenting Author: Simona Kwon

MODERATORS OF CHANGE IN SELF-EFFICACY FOR FINDING SELF-CARE RESOURCES AMONG MIDDLE AGED AND OLDER ADULTS RECEIVING COMMUNITY RESOURCE REFERRALS THROUGH A REAL-WORLD TRIAL Chenab Navalkha, (University of Chicago), Jennifer Makelarski, Kelly Boyd, Elizabeth L. Tung, Stacy Lindau

Background: Self-care self-efficacy is associated with disease self-management adherence and positive health outcomes. CommunityRx is a scalable low-intensity intervention that provides patients with personalized referrals to local self-care resources and significantly improves self-efficacy for finding local self-care resources. We examined predictors of baseline self-efficacy for finding resources and moderators of the relationship between intervention receipt and self-efficacy for finding resources among middle aged and older adults. Methods: Participants (publicly insured Chicagoans seeking ambulatory care, ages 45-74 years) were assigned to case or control groups by alternating calendar week. Intervention group participants received an EMR-generated, personalized list of community resource referrals. Surveys (baseline, 1-week, 1- and 3-months) measured participants' self-efficacy for finding resources. Results: At baseline, nearly 2/3 of participants (N=411) reported they were somewhat (32%) or completely (33%) confident in their ability to find resources. Baseline self-efficacy for finding resources was positively associated with educational attainment and physical and mental health. After controlling for baseline self-efficacy, the effects of the intervention on self-efficacy for finding resources at 3 months were significant among women (OR 2.9, 95% CI: 1.5, 5.9), but not men (OR: 1.0, 95% CI 0.4, 2.5). Intervention effects were also significant among adults ages 45-54 at 1 week and 1 month (OR: 3.5, 95% CI 1.2,10 and OR: 3.3, 95% CI: 1.0, 10.4) and adults ages 55-64 at 3 months (OR: 3.7, 95% CI: 1.2, 9.2) but not adults 65-74 years old. Intervention effects were moderated by self-reported health, race/ethnicity and educational attainment. Conclusion: Community resource referral interventions could be further personalized to optimize the potential population health promotion impacts by considering moderators of self-efficacy for finding resources.

Presenting Author: Chenab Navalkha

THE BUSINESS UNUSUAL MODEL: A NOVEL APPROACH FOR GOVERNMENT OWNERSHIP AND SUSTAINABILITY IN 11 NIGERIAN STATES Olukunle Omotoso, (University of Ibadan, Ibadan, Nigeria and Centre for Communication Program), Jennifer Makelarski, Kelly Boyd, Elizabeth L. Tung, Stacy Lindau

Over the past few decades, donors funded programs have witnessed several approaches to shift the norms from partners to government driven projects for ownership and sustainability. Unfortunately, the approaches have not yielded any meaningful change. The Challenge Initiative (TCI)-a Johns Hopkins Center for Communication Program rolled out “A Business Unusual Approach” to program implementation where geographies and cities implement family planning (FP) programs to meet their desires, a model which clearly shows that government ownership. The demand-driven model of TCI is a three-stage process: (i) Expression of Interest (ii) program design and (iii) implementation. It is expected that states interested in the challenge fund “catalytic fund” meet these selection criteria of self-select, state-led, owned & aligned; financial investment; political commitment; significant need; potential impact and most be an urban/Peri-urban slums with undeserved population. TCI uses a comprehensive Result Based Framework (RBF) compensation strategy clustered into two broad performance frames – financial disbursement and non-financial disbursement to monitor implementation. It conducted orientation for key stakeholders across the states on grant framework. TCI currently support two streams of program: TCI Classic and Life Planning for Adolescent and Youth (LPAY-AYSRH) which run in 11 states (78 Local Government). After 2 years of capacity building and light-touch technical assistance to staff, states now have workplans, created and or increased FP budget line. Local government now co-fund activities based on the workplan. Across supported geographies, local government has now contributed (in cash/kind) more than 50% (\$514,045) to the LPAY-AYSRH and about 20% (\$1,5Million) to the TCI classic programs which is contrary to the patterns before the “Business Unusual Model”. Government orientation is changing from the old to new way of doing sustainability interventions.

Presenting Author: Olukunle Omotoso

IMPACTS OF A CASH PLUS INTERVENTION ON GENDER ATTITUDES AMONG TANZANIAN ADOLESCENTS Tia Palermo, (University at Buffalo), Yekaterina Chzhen, Leah Precipe

Inequitable gender attitudes are linked to poor health outcomes, particularly for females. These include increased risk of early marriage, HIV and STIs, chronic stress, and gender-based violence. Interdisciplinary research and programming is needed to address gender attitudes to mitigate against these outcomes. We examine the impact of a government 'cash plus' intervention implemented through the national cash transfer programme on gender equitable attitudes among adolescents in Tanzania. The intervention aims to enhance adolescents' capabilities, through livelihoods/life skills training, mentoring, and asset transfers. A mixed-method, longitudinal impact evaluation is being conducted using a cluster randomized control trial design (130 clusters). Statistical analysis uses data among adolescents interviewed at both baseline in 2017 (ages 14-19 years) and midline in 2018. Gender attitudes were measured using 24 items from the Gender Equitable Men (GEM) Scale. Intent-to-treat impacts were estimated using ANCOVA models on the overall 0-24 GEM scale and each of its four sub-scales (violence, sexual relationships, reproductive health and disease prevention, and domestic chores and daily life). The analytic sample consisted of 2,012 adolescents, and there was no evidence of selective attrition. While the 'cash plus' intervention did not have a significant impact on the overall GEM scale, it did increase gender equitable attitudes on the domestic chores sub-scale in the pooled sample. Further, among males (but not females), the intervention increased gender equitable attitudes on the overall GEM scale and on the sexual intervention had no significant impact among females. Results show that programming can improve gender equitable attitudes during adolescence, a key period when the process of gender socialization intensifies. This study can inform future programming has strong external validity.

Presenting Author: Tia Palermo

MENTAL HEALTH ACCESS TO IMMIGRANT LATINX EMERGING ADULTS Carmen R Valdez,
(University of Texas at Austin), Yekaterina Chzhen, Leah Precipe

Latinx youth who arrive to the U.S. without legal documentation transition into emerging adulthood with disrupted autonomy and security about their future that could significantly limit their activities and aspirations, a transition that leads to a higher risk for depression, anxiety, and substance use. This qualitative study explores Latinx emerging adults' (a) perceived mental health (MH) needs and determinants of MH functioning and utilization of MH services, and (b) priorities for MH screening, referral, and services. The long-term goal is to build a sustainable MH model by expanding the Mexican Consulate General of Austin's Ventanilla de Salud (VDS; Health Window) program, which connects individuals in the consulate's 23-county catchment service area with medical needs to healthcare. Emerging adults 16-25 years of age participate in focus groups (N = 45) about MH and determinants of functioning and service utilization. We then invite fifteen emerging adults from the focus groups to participate in individual interviews. In these interviews, we present a model of change using Intervention Mapping Framework, and discuss the types of MH screenings, resources, and services they would utilize at the VDS and potential facilitators and barriers to utilizing MH services through the VDS. Participants to date (a) identified a significant demand for expanding the VDS to include mental health services, (b) were unfamiliar with MH services in the community, and (c) revealed transportation and immigration climate as barriers to seeking MH services. Trust in the VDS was a facilitator to accessing services. Ongoing data collection will inform the role of familial obligations, personal expectations and efficacy in the transition to emerging adulthood, as well as immigration policy (e.g., DACA) in the MH status of emerging adults. The knowledge gained provides the foundation for creating a sustainable MH model for the VDS tailored to Latinx emerging adults.

Presenting Author: Carmen R Valdez

SUICIDE IDEATION WITHIN AND OUTSIDE THE PERINATAL PERIOD: MODIFIABLE RISK FACTOR IDENTIFICATION FROM A LONGITUDINAL COHORT IN RURAL PAKISTAN Ashley Hagaman, (Carolina Population Center, University of North Carolina at Chapel Hill), Siham Sikander, Kiran Saqib, Anam Jamil, Joanna Maselko

Research Objective: Suicide is a leading contributor to global mortality and the majority of suicides occur in South Asia. The perinatal period, and associated life-event stress, may trigger the onset or recurrence of depression, and an increased risk for suicidal ideation (SI). This research seeks to further elucidate pathways for SI in vulnerable populations at different life course benchmarks, focusing in/around the perinatal period. Study Method: We leverage rich longitudinal cohort data from the Bachpan cohort of mothers in Pakistan (n=1154) to examine epidemiologic patterns and risk factors for SI in pregnancy, and then at 3, 6, and 24-months post-partum. Using hierarchical mixed-effects models, we identify theoretically modifiable risk and protective factors for SI at these cross-sections and explore how predictors change as mothers move from pregnancy, to post-partum, and onward. Findings: The point-prevalence for SI in pregnancy was higher and then steady post-partum (12.5, 5.6, 5.1, 5.3 percent) We focus on factors that may be influenced by community-based mental health interventions (e.g., perceived stress, isolation, interpersonal conflict, and violence). After controlling for depressive symptoms, age, and socio-economic status, we find that risk factors for SI in pregnancy are mediated by perceived stress (aOR: 1.12). However, at 3, 6, and 24 months post-partum, stress is no longer significantly related to SI, but multiple forms of intimate partner violence (aOR: 4.11), interpersonal conflict (aOR: 3.23), and perceived social support (aOR: 0.66) independently are. Implications: We contextualize these results within a prevention framework and make recommendations for future intervention opportunities in LMIC.

Presenting Author: Ashley Hagaman

EXAMINING DISCREPANCIES IN REPORTING OF EXTERNALIZING AND INTERNALIZING BEHAVIORS BETWEEN TEACHERS AND PARENTS OF HEAD START PRESCHOOLERS Austin

F. Lau, (Washington State University), Tammy D. Barry

Externalizing and internalizing behaviors constitute two classes of “problematic” behaviors that children can exhibit at a young age. To illustrate, hyperactive (e.g., fidgeting, not being able to sit still) and aggressive behaviors (e.g., punching, fighting) fall in the externalizing domain and withdrawn behaviors (e.g., depression, mood disturbances) fall in the internalizing domain. The earliest reporters of externalizing or internalizing behaviors are often students’ parents or teachers. Teachers may observe externalizing or internalizing behaviors of their students at an increased frequency, who may react to the more structured demands of the classroom environment by colloquially “acting out” or “shutting down.” Conversely, parents may observe unique patterns of externalizing or internalizing behaviors from their child in an environment with less structure. To better understand the potential discrepancies in reporting, intraclass correlation coefficients were calculated between parents’ report and teachers’ report of behaviors within a large, nationally-representative, at-risk youth sample enrolled in Head Start. Parents and teachers rated children with equivalent rating forms with acceptable internal consistency. Parent-reported and teacher-reported student hyperactive and aggressive behaviors exhibited significantly poor agreement. No significant pattern of agreement was found between parent and teacher report of withdrawn behaviors. Discrepancies in agreement between levels of externalizing/internalizing behaviors across settings may lead to repercussions toward individual behavioral treatment planning as well as the systemic coordination of care between school and home. Broadly, the results of this study are particularly important for understanding the measurement of problematic child behavior among children living in low socioeconomic conditions, such as those attending Head Start.

Presenting Author: Austin F Lau

COMPARING MOTHER AND CHILD FUNCTIONING AMONG PRESCHOOLERS ATTENDING HEAD START AND PRIVATE PRESCHOOLS: THE IMPORTANCE OF FATHER INVOLVEMENT

Tammy D. Barry, (Washington State University), Laci N. Jensen, Rebecca A. Lindsey, Ferne A. Pinard

Fathers are more involved with their children compared to previous generations, making this population and their habits as parents important to family involvement research (e.g., Opondo et al., 2016); yet, they remain underrepresented in such research (Cassano et al., 2006). Increased levels of father involvement have been related to beneficial outcomes for children (e.g., Jeynes, 2015) and may be particularly important for families with a socioeconomic disadvantage (Atzaba-Poria et al., 2004). Within 130 families, the current study examined mother and family variables as they relate to child behaviors, including whether these variables differ due to Head Start status [attending Head Start (i.e., lower socioeconomic status) or a private preschool (i.e., higher socioeconomic status)] or family structure (presence of a father in the home or not). Results indicated (1) mother/family variables tended to be significantly related with child variables in an intuitive pattern; for example, higher maternal dysfunction related to higher child dysfunction; (2) children attending Head Start had lower cognitive functioning and their mothers had higher levels of stress and used less positive and more negative parenting practices; (3) children with a father in the home had higher cognitive functioning and their mothers had lower levels of stress and psychopathology and used less negative parenting practices; (4) in two caregiver homes, less spouse/partner stress predicted better child/mother functioning. Results also indicated that children who attend Head Start were more likely to have an absent father; however, if a father was present, mothers of children in Head Start experienced significantly lower levels of spouse/partner stress. These results inform both psychological and educational interventions for children in Head Start, who may otherwise experience health and academic inequity, and indicate how families can bolster positive outcomes through increased father involvement.

Presenting Author: Robyn S. Herbert

PRACTICAL GUIDANCE FOR USING COMMUNITY DETECTION WHEN EXAMINING SOCIAL NETWORKS AND HEALTH Natalie R Smith, (Department of Health Policy and Management, UNC Chapel Hill), Paul N. Zivich, Leah Frerichs, James Moody, Allison Aiello

Social networks contain sub-structures commonly referred to as communities. The community structure of networks has been used to explore important public health topics like substance use, HIV, and sanitation. There are a wide variety of algorithms to identify these communities. Existing guidance from the computer science and physics literature has focused mainly on computational complexity and suggests using one of six publicly available algorithms. Authors also note the importance of letting the research question drive algorithm selection. However this selection process is unclear without an intuitive understanding of each algorithm's specific properties. Building on previous guidance, we provide 1) an intuitive overview of the six algorithms, 2) example research questions for each algorithm, and 3) an applied example. In our applied example, social network data from the eX-FLU randomized trial were used to demonstrate how analytic results are dependent on algorithm choice. We explored how individuals with poor hand hygiene practices are distributed between communities of the network, which could inform infectious disease risk assessment or intervention tailoring. We selected the Walktrap algorithm that is based on flows through the network and aligns with the theory of infectious disease transmission. Visualizations of community structures derived using the Walktrap and five other potential choices showed differences. These differences underscore the importance of using the research question to determine which algorithm is used. Detecting communities within social networks is a complex and nuanced undertaking, but could potentially have substantial utility for public health researchers. Our work will help researchers strengthen their theoretical justification and use of these methods, and the applied example clearly demonstrates the process and importance of aligning research questions with algorithms.

Presenting Author: Natalie R Smith

MIGRANT SELECTIVITY: AN EMPIRICAL ANALYSIS OF THE NATIVITY ADVANTAGE IN BLACK INFANT BIRTH WEIGHT IN CALIFORNIA Bridgette Blebu, (University of California, Irvine), Annie Ro

Non-Hispanic black women remain at high risk for adverse birth outcomes including low birth weight. However, foreign-born black women do not exhibit the same disparities compared to their US-born counterparts even after controlling for maternal risk factors. We examined migrant selectivity and the extent that it contributes to the nativity differential in birth weight among black women in California. We defined migrant selectivity as the extent that immigrants have more favorable characteristics than their non-migrant counterparts. We assessed migrant selectivity by comparing Nigerian immigrant women to Nigerian non-migrant women who gave birth between 2007 and 2010. We developed three measures of selectivity using two-waves of the Nigerian Demographic Health Survey (N = 4, 090). BMI selectivity measures selection related to nutritional status; height selectivity measures selection related to early life conditions; and likelihood of migration accounts for characteristics that increase the probability of migration including age, education, BMI and height. We studied the nativity difference in infant birth weight for Nigerian immigrant women (N = 2,418) and US-born black women (N = 95,593) ages 18 to 59. We used OLS regression to examine the extent that each measure contributes to the nativity differential after adjusting for key maternal characteristics. We found a significant nativity difference, where infants born to Nigerian immigrant women are 202 grams heavier than infants born to US-born black women (b = 202.2, 95% CI: 170.1, 234.3). The nativity difference remained significant after adjusting for BMI selectivity (b = 148.6, 95% CI: 105.7, 192.0) and height selectivity (b = 64.7, 95% CI: 11.01, 118.3). However, adjusting for likelihood of migration significantly attenuated the nativity difference (b = 46.3, 95% CI: -33.3, 126.0). Likelihood of migration may be a more robust indicator of nativity differences in birth weight for this population.

Presenting Author: Bridgette Blebu

RISK OF POISONING DEATH BY EMPLOYMENT STATUS AND OCCUPATION – UNITED STATES, 2002 - 2008 Jonathan Aram, (University of Maryland),

Background: Between 1999 and 2017, the age-adjusted overdose death rate increased from 6.2 to 21.8 per 100,000, and over 702,000 people have died of a drug overdose. Although studies have documented excess risk based on age, race, ethnicity, sex and education, few nationally-representative studies have examined patterns by occupational status, which could inform strategies for prevention. **Methods:** Using data from the National Longitudinal Mortality Study (NLMS), we estimate risk of poisoning death by occupation, while controlling for demographic covariates (n=436,359). The NLMS uses baseline demographic data collected by the Census Bureau and linked to the National Death Index. We used the most recent publicly-available data available, which covered 2002-2008. Our exposure variable combined employment status and occupation, as defined and coded by the Bureau of Labor Statistics. We defined our outcome as, “accidental poisoning and exposure to noxious substances,” as reported on death certificates and coded by the CDC, and used Cox proportional hazards regression to estimate hazard ratios. **Results:** Between 2002-2008, 157 poisoning deaths occurred during 2,553,626 person-years of observations. Relative to individuals in professional occupations, those in construction (hazard rate ratio (HR)= 1.52, 95% CI=1.46-1.59) and service occupations (HR=1.87, 95% CI=1.80-1.95), and those who were unemployed (HR=4.58, 95% CI=4.40-4.75) and disabled (HR=7.66, 95% CI=7.39-7.94), displayed excess risk of poisoning death, adjusted for age, sex, race/ethnicity, education and income. **Conclusions:** Relative to professional occupations, four groups are at high risk for poisoning: construction, service occupations, unemployed and disabled. These findings remain strong even after adjusting for covariates. Future research may seek to verify these findings in a more recent timeframe, as efforts to prevent overdose deaths may benefit from focusing on these groups.

Presenting Author: Jonathan Aram

VICARIOUS AND CONTINGENT CONSEQUENCES OF ADOLESCENT POLICE EXPOSURE

Kristin Turney, (University of California, Irvine),

Police stops are a pervasive form of criminal justice contact among adolescents that have adverse repercussions for mental health. Yet the mental health consequences of adolescent police stops likely proliferate, vicariously, to parents of adolescents exposed to this form of criminal justice contact. In this article, I conceptualize adolescent police stops as a stressor, drawing on the stress process perspective to examine how and under what conditions adolescent police stops damage the mental health of adolescents' mothers. The results, based on data from the Fragile Families and Child Wellbeing Study, suggest three conclusions. First, the mental health consequences of adolescent police stops proliferate vicariously, increasing depression and anxiety among adolescents' mothers. This relationship persists across a series of modeling strategies that progressively adjust for observed confounders, including potentially endogenous adolescent characteristics including delinquency, substance use, and other forms of criminal justice contact. Second, the relationship between adolescent police stops and mothers' mental health is contingent, especially concentrated among mothers with prior exposure to the criminal justice system (either via themselves or their adolescents' fathers). Third, mothers' emotional support buffers the relationship between adolescent police stops and mothers' mental health. Taken together, this research highlights the role of police exposure as a stressor with both vicarious and contingent consequences and, accordingly, documents the expansive and proliferating repercussions of police contact.

Presenting Author: Kristin Turney

CAN FREQUENT RECEIPT OF COMMUNITY-BASED FOOD ASSISTANCE IMPROVE HEALTH AND WELL-BEING? A NATURAL EXPERIMENT IN MOVING FOOD ASSISTANCE CLOSER TO FOOD INSECURE HOUSEHOLDS Sandi Pruitt, (University of Texas Southwestern Medical Center), Tammy Leonard, Erlene Martinez-Miller, David Andrews

A natural experiment in Dallas County, Texas changed the structure of food banking networks. Beginning in 2012, a new hub-and-spoke food distribution model was implemented to serve food insecure households. In this model, a high capacity, non-profit food pantry serves as a “hub” while smaller churches, public housing communities, and other community organizations are enlisted as Community Distribution Partners (CDP) to serve as “spokes” for food re-distribution. This natural experiment shifted food assistance from a centralized hub into the neighborhoods in which food insecure households live, significantly reducing client travel time. In our prior work, the opening of a new CDP site was significantly associated with increased client visiting frequency, but the impact of visiting frequency on client health outcomes is unknown. We now examine the association between frequency of food assistance and client and household outcomes related to food security and health (body mass index [BMI] and self-rated health), among approximately 1,500 clients visiting in 2017-2018. Data are collected from clients onsite at each pantry visit; all measures except BMI are self-report. Further, we test whether the estimated impacts vary for hub and CDP site users. We will fit a random effects panel model to test hypotheses. Results will inform 1) dissemination of the CDP Model of food re-distribution to other food pantries across the U.S; and 2) future research designed to optimize delivery of food assistance to improve health outcomes of food insecure populations.

Presenting Author: Sandi Pruitt

MILITARIZATION IN DOMESTIC LAW ENFORCEMENT AND LETHAL USE OF FORCE: A MIXED-METHODS INTERDISCIPLINARY STUDY AT THE INTERSECTION OF POLICING AND POPULATION HEALTH Maayan Simckes, (University of Washington), Anjum Hajat, Dale Willits, Ali Rowhani-Rahbar

In recent years, several high-profile incidents of law enforcement use of force (UOF) have sparked national dialogue around the impacts of policing practices on population health. Interdisciplinary research at the intersection of policing and health offers unique opportunities to advance the priorities of multiple stakeholder groups and produce immediately applicable findings for law enforcement, public health, and policy makers. The present ecological cross-sectional study examines militarization, a particularly divisive topic in U.S. policing, and its relationship with lethal UOF. Militarization is a complex phenomenon and there remains no consensus on the best way to define or measure it. To establish a unifying definition of militarization, 12 interviews were conducted with experts across a variety of fields, including policing, community activism, psychology, and law. Results were qualitatively analyzed using grounded theory and informed a conceptual framework comprised of five key domains: military tactics, gear and technology, policies and procedures for community interaction, training and requirements, and officer culture and mindset. Principal components analysis supported construction of metrics to describe these five domains among 2,826 agencies that participated in the national 2013 Law Enforcement Management and Administrative Statistics Survey (LEMAS). Four public databases capturing lethal UOF from 2013-2017 were linked using deterministic and probabilistic methods; after exclusions, 6,333 deaths were merged with 2013 LEMAS data. Findings on the association between militarization and lethal UOF will be presented. This research serves as a launching point for further interdisciplinary collaboration between leaders in population health, policing, criminal justice, and other fields, who together can have meaningful impact on officer training, agency protocols, and the nature of police-public encounters.

Presenting Author: Maayan Simckes

A TRANSDISCIPLINARY SYSTEMATIC LITERATURE REVIEW OF RACE, SCHOOL DISCIPLINE, AND HEALTH STUDIES IN US SCHOOLS: SUMMARY OF FINDINGS AND FUTURE DIRECTIONS FOR RESEARCH AND PRACTICE Catherine Duarte, (Division of Epidemiology, UC Berkeley School of Public Health), Melissa Brown

Fueled by a 1990s rhetoric that constructed young people as “superpredators,” the Gun-Free Schools Act of 1994, and high-profile school shootings, the US observed a nationwide increase in school discipline. Beyond federally mandated discipline for certain behaviors (e.g., on-campus use/possession of drugs or weapons), there was also an increase in non-federally mandated discipline for lesser infractions. It is well documented in the education literature that this discipline disproportionately targets Black and brown students in US schools. While the public health literature around the adverse health impacts of racially discriminatory practices, and the pathways that underlie these associations has grown dramatically in recent years, it is unclear to what extent discipline’s impact on the health of US students has been studied. To address this gap, we conducted a systematic review assessing (1) the quantity and quality of research on race, discipline, and health, (2) whether structural determinants of these inequitable discipline experiences have been explored, and (3) specific health outcomes studied to-date. Using PRISMA guidelines, we searched 8 electronic databases that index public health, education, criminology, and social sciences literature. Studies published since 1990 that explored racial inequities, assessed a health outcome, and were conducted in pre-K-12th grade populations were included (N=28). Data extraction is currently underway exploring indicators pertaining to study population characteristics, exposure and outcome definition and measurement, design, analytic methods (including missingness, covariate adjustment, subgroup analyses, estimates of association and precision, and threats to validity), and proposed mechanisms. Given variation in methodological approaches across publications, this presentation will qualitatively summarize findings from our review, make recommendations for future research, and discuss implications for practice.

Presenting Author: Catherine Duarte

A BODY INDEBTED: EDUCATIONAL DEBT AND PHYSICAL HEALTH OVER TIME Rayven Plaza,
(University of Texas at Austin), Melissa Martinson

As of 2012, approximately 1 in 5 U.S. households owed some form of student loan debt (Fry, 2012). Concurrently, the national debt burden, both in number of indebted and in magnitude of individual debt, has been growing steadily for more than 20 years (Federal Reserve, 2018). General household financial debt has been tied to elevated rates of poor self-rated mental and physical health as well as high blood pressure, and student loan debt is associated with poorer self-rated mental health (Sweet, et al., 2013; Walsemann, et al., 2015). In addition, larger student loan debt is associated with increased chances of delaying marriage for women, lower odds of homeownership, and lower capability of accumulating wealth (Bozick & Estacion, 2014; Cooper & Wang, 2014). Roadblocks to normal life functioning such as these may contribute significant stress to the lives of the indebted, which may manifest as physical symptoms. This study investigated the following question: What is the association between total household student loan debt burden and poor self-rated physical health and/or limited physical functioning? We analyzed data from the National Longitudinal Survey of Youth 1997 (NLSY97, n = 8984) using multivariate linear regressions and household fixed effects to investigate this question. We also examine variation in the relationship between student debt and health across subgroups by socioeconomic status, race/ethnicity, and sex. The NLSY 97 is ideal for examining our question because it contains comprehensive information on respondents' government educational loans debt burden from 2003-2016, as well as information on respondents' self-rated health, physical limitations, mental health, and the presence of chronic health conditions over time.

Presenting Author: Rayven Plaza

DISENTANGLING SIMULTANEOUS NEIGHBORHOOD AND SCHOOL DISCIPLINE EFFECTS ON ADOLESCENT HEALTH OUTCOMES Jelena Todic, (UTSA, College of Public Policy, Department of Social Work), Ying Huang

While a handful of studies focus on disentangling simultaneous neighborhood and school effects on health, none of them focus on school discipline. Harsh discipline (suspensions and expulsions) is negatively associated with positive school climate and high school completion, both predictors of good health. Furthermore, neighborhood disadvantage and harsh discipline disproportionately impact African Americans and Latinos, who also experience health inequities. We use the National Longitudinal Study of Adolescent to Adult Health Wave 1 data to evaluate neighborhood disadvantage and harsh school discipline effects on adolescent health. Methods Our analytic sample includes 14,384 students nested in 127 schools and 283 neighborhoods. We use cross-classified multilevel modeling (CCMM) to examine if school discipline policies and neighborhood disadvantages predict adolescents' self-rated health and depressive symptoms, after controlling for a number of confounders. Dependent variables include self-rated health (1=excellent, very good, good; 0=fair, poor) and depressive symptoms (12-item Center for Epidemiologic Studies-Depression Scale; 1=score >11; 0=score 11 or less). The key independent variable is harsh school discipline. We coded out-of-school suspension or expulsion in response to nonviolent first-time student misconduct (e.g., alcohol possession) policies as 1 and all else as 0. The summary score (0-9) indicates the overall school discipline harshness. Preliminary Results Schools vary considerably in discipline harshness (M=6.08, SD=1.90). CCMM analysis shows that harsh discipline is significantly associated with increased probability of depressive symptoms and decreased probability of reporting good health. Neighborhood disadvantage is not associated with health outcomes. Next Steps & Implications We will have complete results by the 2019 IAPHS conference. Our findings have implications for interventions and policies aimed at improving population health.

Presenting Author: Jelena Todic

SUBURBANIZATION OF PREVENTABLE DEATHS: GEODEMOGRAPHIC SHIFTS IN ALAMEDA COUNTY FROM 2005 – 2017 Melody Tulier, (Yale University), Ying Huang

Currently, two challenges exist within the field of social epidemiology. First, advancing health disparities research, as recently proposed by the National Institute of Minority Health and Health Disparities, requires measuring a health difference adversely affecting defined disadvantaged populations, based on one or more health outcomes. This idea is not new. Similarly, Syme, Marmot, and Cassel have argued for examining a set of diseases with similar. Second, neighborhood effects research has focused primarily on whether neighborhoods matter for health. This research advances development with regard to these two key challenges. First, we develop a definition of preventable mortality based on literature reviews and ecosocial theory. Preventable mortality is a cause of death of an individual under 65 year of age where: that meets the following criteria: 1. Limited time necessary for exposure to result in death (less than 10 years); 2. Easily treatable or acuity is quickly modifiable; 3. Resources necessary for modification are available. Second, we calculated developed crude and standardized rates of preventable mortality at the county level for 2005 – 2017. Given small cell sizes, the R package ‘epitools’ is used to calculate exact confidence intervals. Moran’s I is also calculated to measure the degree of spatial concentration, indicating spatial health disparities. Analyses show the concentration of high rates of preventable death have shifted from urban areas of Oakland to outlying areas of the County, such as Livermore, Fremont and San Leandro. Urban versus suburban rates of preventable mortality are statistically significantly different. This geographic shift is also accompanied by changes in demographic profiles of preventable deaths. These findings have implications for program implementation and policy supporting expansion of health services and health protective social, environmental, and economic opportunities in a suburban context.

Presenting Author: Melody Tulier

COMMUNITY COLLABORATIVE TERMS OPERATIONALIZED BY FREQUENCY, ETYMOLOGY, AND CONTEXT: A SCOPING REVIEW Carrie Mershon, (Kansas State University), David Dzewaltowski

IntroductionTo improve population health, the collaboration between multisector organizations with a common health goals has become an increasingly popular practice. This review was conducted to identify the frequency of use, historical background, and theoretical use of terms used in current literature to identify a term that best represents integrated agencies working together to achieve population health outcomes.**Methods** A scoping review was conducted in PubMed, PsycINFO, and Google Scholar databases for articles published from 2002 through December 2018 that described integrated agencies working together to achieve health outcomes. In addition, grey papers from conferences and group collaborations, online tools, and book chapters were included in the review to incorporate the expanding research on multi-stakeholder community collaborations. **Results** Two categories of terms were identified: community group identification and community group membership components. Community groups were identified as partnerships, collaborations, and coalitions. These three words were used synonymously to describe community groups working collectively to improve population health; however, noted are differences in of the terms in the frequency of use, context, and etymology. In the literature, multisector and multiorganization were descriptive terms describing the heterogeneity of community collaborations. **Conclusion** Community collaborative is the suggested terminology to characterize the relationships of integrated agencies. Community collaborations are a complex merging of people from different constituency groups, organizations, and sectors. Competing beliefs and vocabulary can emerge in these complex relationships. Navigating through these differences is eased with consistency in language. This review brings clarity of terms to help communities work more efficiently and aid in researchers communicating more effectively.

Presenting Author: Carrie Mershon

BLACK-WHITE DIFFERENCES IN THE EXPERIENCE OF CHRONIC STRESSORS: DOES APPRAISAL MATTER FOR ANXIETY AND DEPRESSIVE SYMPTOMS AMONG OLDER ADULTS?

Lauren Brown, (University of Michigan), Leah Abrams, Uchechi Mitchell, Jennifer Ailshire

Exposure to stressors is differentially distributed by race, with blacks reporting higher stress burdens than their white counterparts. Prior research and theory have suggested that exposure to objectively stressful events contributes to mental health disparities in older adulthood. Yet, in order to understand the extent to which some groups bear a disproportionate stress and mental health burden, we need to consider race differences in not only stress exposure, but also stress appraisal—how upsetting the exposures are perceived to be. We examine black-white differences in the number of reported chronic stressors across five domains (health, financial, residential, relationship and caregiving), their appraised stressfulness, and their varying associations with anxiety and depression among a diverse sample of older adults. Data come from 6,019 adults ages 52+ from the 2006 Health and Retirement Study. Fully adjusted models show stress exposure and appraisal significantly and independently predicted anxiety and depressive symptoms. Race and stress exposure interactions show that as stress burdens increase, blacks report a greater number of anxiety symptoms relative to whites but fewer depressive symptoms. Race and appraisal interactions show that blacks and whites report similar increases in anxiety and depressive symptoms with very upsetting stressors. These findings suggest stress exposure has varying consequences for the mental health of whites and blacks, while stress appraisals have similar consequences for the mental health of both groups. The distinction between exposure- and appraisal-based measures of stress sheds light on important pathways differentially contributing to black-white mental health disparities in older adulthood.

Presenting Author: Lauren Brown

PERCEPTIONS, EXPECTATIONS AND ATTITUDES ABOUT PAIN MANAGEMENT AMONG CHINESE AMERICANS Simona Kwon, (NYU School of Medicine), Jazmine Wong, Janet Pan

Background: Chinese Americans make up the largest subgroup of the Asian American population in the US and in New York City, numbering 628,763 based on 2017 Census data. Data from a large health system indicate that Chinese Americans experience lower satisfaction in pain management after surgery compared to all other racial/ethnic patient groups. **Objective:** To understand pain experience among Chinese American postoperative patients in order to improve pain satisfaction and management strategies **Methods:** A mixed methods study was conducted that included the following: 1. a scoping review of the peer-reviewed published literature; 2) face-to-face survey; and 3) qualitative interviews. A total of 27 Chinese American postsurgical patients were recruited for the survey and interview with a trained bilingual Community Health Worker. Questions from the Survey on Disparities in Quality of Healthcare and Kleinman's Explanatory Model of Illness were integrated into the data collection tools. **Results:** The 31 studies identified were largely observational; none assessed pain control or management interventions for Chinese Americans. Most participants reported experiencing a language barrier that hindered healthcare staff communication during hospital stay. Even with an interpreter, limited English proficient patients reported lower understanding of health information compared to those who did not need interpretation. Ideas of self-medication, "pushing through" and perceiving physicians as "busy people" contributed to pain attendance delay. Facilitators to care included family support, culturally and linguistically-tailored pain assessment tools, and availability of cultural remedies. **Conclusions:** This mixed-methods study identified key themes including barriers and facilitators to effective pain care and management. Findings will inform tools to better capture and address pain management in Chinese Americans.

Presenting Author: Simona Kwon

EARLY ACQUISITION AND CONVERSION OF PSEUDOMONAS IN HISPANIC YOUTH WITH CYSTIC FIBROSIS Meghan McGarry, (University of California, San Francisco), Ngoc Ly

Background: Hispanics with cystic fibrosis (CF) have increased mortality and more severe pulmonary disease than non-Hispanic whites for reasons not yet known. *Pseudomonas aeruginosa* pulmonary infections cause more severe pulmonary disease over time. Conversion from non-mucoid to mucoid form of *P. aeruginosa* also cause more severe disease. It is not known if pulmonary infections differ by ethnicity in CF. **Objective:** To determine if the timing and rate of non-mucoid and mucoid *P. aeruginosa* acquisition vary between Hispanic and non-Hispanic white youth with CF. **Methods:** This retrospective cohort study of subjects ages 0-25 years in the CF Foundation Patient Registry from 2008 to 2013 compared acquisition of non-mucoid and mucoid *P. aeruginosa* between Hispanics and non-Hispanic whites. Risk of acquisition was assessed by Kaplan-Meier survival curves and timing of acquisition was determined with Cox regression analyses. Analyses were adjusted for sex, age of diagnosis, CFTR mutation class, CF-related diabetes, and pancreatic insufficiency. **Results.** Of 10,648 subjects, 797 (7.5%) were Hispanic and 9,851 (92.5%) were non-Hispanic white. Hispanics acquired non-mucoid *P. aeruginosa* at 8.5 years old (3.4-16.8) compared to 11.7 years old (5.5-20.1, $p<0.001$) in non-Hispanic whites. Hispanics had a 58.0% higher risk of acquiring non-mucoid *P. aeruginosa* than non-Hispanic whites (HR 1.58, 1.44-1.74, $p<0.001$). Hispanics acquired mucoid *P. aeruginosa* at 14.4 years old (8.1-22.3) compared to 17.7 years old (11.1-24.9, $p<0.001$) in non-Hispanic whites. Hispanics had a 58.0% higher risk of acquiring mucoid *P. aeruginosa* than non-Hispanic whites (HR 1.58, 1.44-1.74, $p<0.001$). **Conclusions:** Hispanic youth have an increased risk of developing *P. aeruginosa* and develop mucoid at an earlier age than non-Hispanic whites. The increased incidence and earlier onset of *P. aeruginosa* may contribute to the increased morbidity and mortality in Hispanic youth with CF.

Presenting Author: Meghan McGarry

SOCIODEMOGRAPHIC DISPARITIES IN WELL-BEING Brita Roy, (Yale School of Medicine), Carley Riley, Jeph Herrin, Erica S. Spatz, Brent Hamar, Harlan M. Krumholz

Question: Do disparities in well-being exist in the US among different race/ethnic, socioeconomic (SES), and urban subgroups? Significance: Health disparities have focused on morbidity and mortality, with little attention paid to positive aspects of health, such as well-being: a comprehensive, positively framed assessment of quality of life. To achieve a society with high well-being, we must understand its distribution among groups, especially those disadvantaged in health. Methods: We conducted a cross-sectional study with data from the Gallup National Health and Well-being Index (WBI, 2014-2016). We summarized WBI scores by race/ethnicity, SES, and rural-urban status. We used mixed effects linear models with random effect for county to test for differences among groups. We used multivariable mixed effects models to assess independent associations of these factors with WBI, adjusted for year of survey completion, age, sex, marital status, and household size. We then summarized well-being for race-SES-urban subgroups and used mixed effects models to test for interaction effects. Results: We used data from 530,920 participants (50% female, 75% white, 58% 65 years, female, Asian, Hispanic, higher education, higher income, and living in rural areas ($p < 0.001$ for all). After adjustment, higher WBI associated with older age, female, non-white, higher education and income ($p < 0.001$ for all). For example, compared to whites, adjusted average WBI score was 4 points higher for Hispanics, 2.5 points higher for Asians, 1 point higher for blacks. Compared to <high-school, adjusted average WBI score was 1.4 points higher for those with a college degree and 2.3 points higher for those with a post-graduate degree. The race-SES-urban subgroup with the highest well-being was non-whites living in rural areas with at least a college degree ($p < 0.001$).

Presenting Author: Brita Roy

WHAT DOES “PERSPECTIVE TRANSFORMATION” LOOK LIKE? FINDINGS FROM A MIXED-METHODS STUDY OF HEALTH, EQUITY, AND FAIRNESS IN THE U.S. MIDWEST Sarah S. Willen, (University of Connecticut), Colleen Walsh, Abigail Fisher Williamson, Anne Kohler, William Tootle, Katherine Mason, Martha Halko

Background: A growing consensus supports the view that changes in law and policy are necessary but insufficient steps toward reducing population-level health inequities. Across the U.S., a range of new initiatives aims to transform how stakeholders at multiple levels understand (a) the distribution of health and disease among social groups; (b) the historical, economic, social, and structural factors shaping those distributions; and (c) what action—if any—should be taken in response. One such initiative is Health Improvement Partnership-Cuyahoga (HIP-Cuyahoga), a county-wide consortium in Northeast Ohio that aims to advance equity and health for all county residents. HIP-Cuyahoga has two hallmarks. The consortium explicitly identifies structural racism as a key driver of population health disparities, and it aims to raise awareness of the linkages between structural racism and health and thereby promote “perspective transformation” among the consortium’s 600+ members. Methods: As part of an interdisciplinary, mixed-methods study of Americans’ views on health, equity, and fairness (ARCHES | the AmeriRicans’ Conceptions of Health Equity Study, funded by the Robert Wood Johnson Foundation), we conducted two years of ethnographic participant-observation at HIP-Cuyahoga events and semi-structured interviews with a purposive sample of local health professionals, community leaders, key decision-makers, and community members (n=164), nearly 1/3 of whom (n=52) were involved with the consortium. Interviews were audio-recorded and transcribed, then coded and analyzed using Dedoose (a qualitative data analysis platform). Findings: Ethnographic findings and interviews offer robust insight into (1) who is attracted to “perspective transformation” efforts related to structural racism and health, (2) factors that catalyze and sustain such transformations, and (3) how individual-level transformation can influence collective efforts to confront health inequities.

Presenting Author: Sarah Willen

IS BIRTH SPACING A ROUTE TO LOWER FERTILITY IN PAKISTAN? EVIDENCE FROM FALAH INTERVENTION Saman Naz, (Pennsylvania State University), Yubraj Acharya

The contraceptive prevalence rate (CPR) in Pakistan decreased from 35.4 percent in 2013 to 34.2 percent in 2018, puzzling researchers and policymakers. This surprising decline is concerning given Pakistan's Total Fertility Rate (TFR) of 3.6, the highest in South Asia, along with a high unmet need for contraception (17.3 percent). To understand this decline in CPR, we evaluate the Family Advancement for Life and Health (FALAH) project 2007-2012, a five-year-long family planning program implemented in selected 31 districts (covering nearly two-fifths of Pakistan's total population). Using the 2012-13 round of the Pakistan Demographic and Health Survey, we evaluate the impact of the program on birth spacing using mother-fixed effects. To estimate the causal effects of the program, we compare the birth interval for multiple children born to the same mother before and after the program. We find that exposure to the intervention increased birth spacing by three months (3.7428 $p < 0.01$). We also found a heterogeneous impact of the program by mother's education, household wealth, and area of residence. Results suggest that interventions targeted at birth spacing than those aimed at limiting family size resonate better with Pakistani couples. These results provide important policy insights for more rigorous research to understand the initially stagnant and more recently declining contraceptive prevalence rate in Pakistan.

Presenting Author: Saman Naz

WOMEN'S JOB SATISFACTION BEFORE AND AFTER THE BIRTH OF A CHILD Margaret Whitley, (Program in Public Health, University of California Irvine), Annie Ro, BongKyoo Choi

BACKGROUND Job satisfaction is related to productivity and health. Work-family conflict is thought to decrease job satisfaction, thus we hypothesized that women's job satisfaction would decrease after having a baby. **METHOD** The longitudinal Infant Feeding Practices Study II (2005-07) assessed job satisfaction among expecting/new mothers during pregnancy and at 3, 6, 9 and 12 months postpartum using one item with a 5-point response scale (1=very low, 5=very high). Scores of 1 or 2 were considered low job satisfaction. For the n=421 women with complete data, we compared job satisfaction from pregnancy to 3 months, pregnancy to 12 months, and 3 to 12 months for the entire sample and for subgroups based on occupation, income, age, and previous children. We used t-tests to compare mean job satisfaction and chi-square tests to compare the proportion with low job satisfaction. **RESULTS** For the sample overall, changes in mean job satisfaction were not statistically significant. However, the proportion of women with low job satisfaction decreased significantly ($p<0.05$): 12.1% had low job satisfaction during pregnancy, this fell to 11.4% at 3 months and 10.5% at 12 months. The proportion of women with low job satisfaction differed across subgroups. Professional women were consistently less likely to have low job satisfaction compared to those in non-professional jobs, as were women with income $\geq \$50,000$ annually (versus $< \$50,000$), women ≥ 30 years (versus < 30), and women who already had children (versus first-time moms). For most subgroups, the proportion of women with low job satisfaction decreased over time, but for women in professional jobs, it increased. **CONCLUSION** We did not find evidence to support our hypothesis that women's job satisfaction decreases after giving birth. In fact, job satisfaction appeared to increase slightly from pregnancy through on year postpartum among all groups of women except those with professional occupations.

Presenting Author: Margaret Whitley

STRUCTURAL MEASURES OF HEALTHCARE ACCESS AS CONTRIBUTORS TO PRETERM BIRTH RISK FOR BLACK MOTHERS David S. Curtis, (University of Utah), Elizabeth Izampuye

Black Americans have elevated risk of preterm birth (PTB; 100,000 and black populations of >10,000. Population-adjusted primary care physicians for zip codes with large black populations was coded using IQVIA data and averaged to the MSA. The number of black physicians per county adjusting for the black population was coded using AAMC data. Anti-black racial bias was estimated as the MSA average on the race-based Implicit Association Test among health care providers from Project Implicit data. County health expenditures were derived from the Census of Governments. Uninsurance rates and several other maternal level covariates (marital status, education, age) came from birth records. Using logistic regression that accounted for clustering by county, and adjusting for infant sex, maternal covariates, and county percent black, rural-urban classifications, and physician supply, we found county availability of black physicians, public health expenditures, and uninsurance rates were associated with PTB risk (ORs=.94, .96, & 1.02, respectively, for standardized predictors). Adjustment for median income and poverty attenuated associations, with only public health remaining a significant predictor of PTB risk (OR=.97); findings were similar when adding numerous maternal health covariates. Results provide weak support for insufficient healthcare access contributing to PTB risk among black mothers, yet public health programs remain a promising prevention approach.

Presenting Author: David S. Curtis

STATE-LEVEL VARIATION AND DISPARITIES IN THE NUTRITIONAL QUALITY OF HOUSEHOLD FOOD PURCHASES IN THE US, 2007-2014 Allison Maria Lacko, (Department of Nutrition and Carolina Population Center, University of North Carolina at Chapel Hill), Shu Wen Ng

Background: Socioeconomic disparities in diet quality are widening in the US. However, it is unknown if these trends exist in the quality of packaged food and beverage purchases (PFPs). Studying PFPs is important as store-purchased food constitutes more than two-thirds of total caloric intake. Furthermore, although there is state variation in both poverty and burden of diet-related chronic diseases, little is known about state variation in diet quality. Objectives: 1) Examine whether disparities in the nutritional quality of households' PFPs exist at the national level and if they are changing over time; 2) Examine state variation in mean outcomes and in the magnitude of disparities. Methods: Data comes from the Nielsen U.S. Homescan Consumer Panel, a nationally-representative open cohort of households (~60,000 households/year) who scan all purchases. We will use random-effects models to test for trends in disparities and variation between states. Nutritional outcomes include calories, total sugar (% kcal purchased), saturated fat (% kcal), sodium (mg/1000 kcal), and calories from fruits, vegetables, processed meats, mixed dishes, junk foods and SSBs. Disparities will be assessed by household income (adjusted for local cost of living), education and race/ethnicity. Results: While results vary by outcome, preliminary, unadjusted results show variation in purchases by state. For example, an average household (HH) in California purchased 329 (± 3) calories (per capita/day) of junk foods, while an average HH in West Virginia purchased 465 (± 25) calories. Unadjusted results also show income disparities in most states, where high-income HHs buy healthier PFPs compared to low-income HHs (e.g., more calories from fruits and non-starchy vegetables, fewer calories from SSBs, lower percent of calories from sugars). Conclusions: Further research is needed investigating how state context (e.g., via social policies) is associated with the nutritional quality of PFPs.

Presenting Author: Allison Maria Lacko

RACIAL/ETHNIC DIFFERENCES IN THE WEALTH-HEALTH ASSOCIATION ACROSS YOUNG ADULTHOOD: EVIDENCE FROM THE NATIONAL LONGITUDINAL SURVEY OF YOUTH 1997

Sicong Sun, (Washington University in St. Louis), Darrell Hudson

Background. Although relationship between socioeconomic position (SEP) and health has been well documented, there have been very few investigations of the time-varying association between wealth and health across race/ethnicity. This study examined the wealth-health association during young adulthood. **Method.** Data were drawn from the NLSY 97. Three data points were included, when respondents were aged 20, 25, and 30. The primary dependent variable was dichotomized self-rated health (SRH). Wealth, defined as net worth, was calculated as assets minus debt, adjusting for inflation. Two indices of wealth were calculated: respondents' own reported net worth and reported net worth of their family in 1997. Other SEP indicators included household income, education, employment status, and parental education. Three racial/ethnic groups were examined: Non-Hispanic White, Non-Hispanic Black, and Hispanic. Sociodemographic factors that were adjusted for included age, gender, census region, urbanicity, household size and health insurance. The final sample size was 6,719. Two-level logistic regression was performed, stratified by race/ethnicity. **Results.** Among the White sample, family net worth in 1997 was not significantly associated with SRH, whereas respondents' own net worth was significantly associated with SRH (OR: 1.035, 95% CI: 1.017, 1.053). Conversely, among the Black sample, respondents' own reported net worth was not statistically associated with SRH. However, family net worth in 1997 was associated with SRH among Black respondents (OR: 1.049, 95% CI: 1.014, 1.086). Neither individual net worth nor family net worth was significantly associated with SRH in the Hispanic sample. **Conclusion.** This study examined racial/ethnic differences in time-varying relationship between wealth and health during young adulthood. Findings indicate that there are notable racial/ethnic differences in the patterning of wealth-health association that appear to emerge in early adulthood.

Presenting Author: Sicong Sun

RISE OF THE QUEERBURB - RELATIONSHIPS AMONG THE DOMESTIC MIGRATION OF LGBTQ+ POPULATIONS, HEALTH POLICY, HEALTH EQUITY, AND HEALTH CARE PROVIDER CULTURAL COMPETENCE Wendy A. Ritch, (Monmouth University; also a PhD(c) at Rutgers-Newark & NJIT in Urban Systems), Darrell Hudson

As federal, state and local laws, as well as popular attitudes become more progressive toward LGBTQ+ people, then they no longer need to concentrate in cities either for individual anonymity or communal ghettoization. Instead, sexual and gender minorities (SGMs) can settle in suburban or even rural areas, which until very recently were unaccepting at best and deadly at worst. The US Census data show a trend of stable general household residency in select cities (Chicago, Los Angeles, New York, and San Francisco) but migration of “same-sex unmarried partner households” (SSUP) out of metropolitan statistical areas (MSAs) beginning in 2005, which is the first year that data for this demographic were available and reliable. The queering of the suburbs, or the creation of “queerburbs,” is a product of domestic LGBTQ+ migration. Although urban areas are often where studies of the health of LGBTQ+ populations are conducted some rural and urban/rural comparative health studies do exist. However, the US Census data support the hypothesis that suburbs are being transformed into queerburbs, a phenomenon that is thus far absent from the literature. Anecdotal evidence suggests that LGBTQ+ people who migrate out of cities still rely on their urban health providers for care. The “Rise of the Queerurb” has far-reaching intersectional and interdisciplinary implications but the focus of today's presentation is on the relationship between domestic LGBTQ+ migration and culturally-competent care by suburban health and human services practitioners, who may be very unused to serving LGBTQ+ populations.

Presenting Author: Wendy A. Ritch