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LGBTQ+**Social Networks, Access to Affirming Healthcare, and the Health and Well-Being of LGBT Elders in the U.S. South** Randi Saunders* Randi Saunders, Tara McKay,

Background: Experiences of discrimination in healthcare settings contribute to health disparities for lesbian, gay, bisexual, and transgender (LGBT) populations, through delays in care or inadequate provision of care. Access to inclusive and affirming health care is critical for addressing numerous health disparities experienced by LGBT populations. Access to an affirming provider is associated with higher odds of having received preventative care, including key health screenings and immunizations (McKay et al. 2023), and greater adherence to plans of care. However, affirming providers can be difficult to identify and LGBT adults often rely on informal networks to identify health resources (Kitzie 2021), including affirming providers.

Question: How do the social networks of LGBT elders shape their engagement with LGBT-affirming healthcare? Does access to affirming care mediate the relationship between social networks and health among LGBT elders?

Data/Methods: This study uses data from Wave 1 of the Vanderbilt University Social Networks, Aging, and Policy Study (VUSNAPS), a panel study examining health and aging experiences among older (aged 50-76 years) LGBT adults in the U.S. South. Logistic regressions were used to predict the relative odds of having an affirming care provider and reporting good health. OLS regressions were used to predict depression scores based on a 6-item scale. Models considered network factors such as size, LGBT homophily, network density, outness, and social integration.

Preliminary Findings: Both outness and social integration predict higher odds of having an LGBT-affirming healthcare provider. Outness mediates the link between LGBT homophily and having an affirming provider. Outness and social integration both predict higher odds of self-reported good health, and outness, social integration, and having an affirming provider predict lower depression scores. Having an affirming provider mediates the link between LGBT homophily and depression.

Aging**“Kinlessness” and Cognitive Function among European Older Adults** Christine Mair*

Christine Mair, Katherine Ornstein,

Due to declines in fertility and marriage/partnership, older adults who are unpartnered and childless (so-called “kinless”) are growing globally and may be at higher risk for social isolation and cognitive decline. Furthermore, the risk of “kinlessness” likely varies by country context (economic, policy, culture, etc.). Yet, the cognitive health of “kinless” is virtually unstudied. Although there is a wealth of research about the protective power of social connectedness and partnership in promoting cognitive health, it is unknown if a) “kinless” (no partner, no child) are higher risk than “unpartnered” (no partner, yes child), b) if “kinless” are at higher risk, even if they are highly socially connected, and c) if and how these patterns vary across country contexts. To address these questions, we analyze associations between family structure (presence and absence of partner and child) and cognitive outcomes (executive function and immediate recall) as well as the potential moderating effect of social connectedness (scale, 0 to 4) and country context (GDP) using data from the Survey of Health, Ageing and Retirement in Europe (SHARE) data (N=64,685 aged 65+; pre-pandemic observation period 2015-2017). Unpartnered older adults are a higher risk of cognitive decline, but being both unpartnered and childless (“kinless”) is highest risk. Although “kinless” are at higher risk cognitively, this disparity disappears when “kinless” are highly socially connected. Yet, the protective power of social connectedness for “kinless” is observed only in middle-income countries. In lower GDP countries, family structure and social connectedness operate differently and all older adults in these contexts are at higher risk of cognitive decline, regardless of family structure. We discuss these findings considering the need for multidisciplinary action in research and policy toward the growing global population of those aging “kinless” in different country contexts.

Social/relational factors

Perceptions about Adolescent Sexual and Reproductive Health in Western Kenya: Lessons Learned about Stigma and Parent-Child Communication Abigail A. Lee* Abigail A. Lee, Nema C.M. Aluku, Catherine Muteithia, Yvonne Wanjiru, Priyanka Dubey, Dara Jefferson, William T. Story,

Background: In Kenya, more than half of youth report being sexually active by age 18; however, parents rarely discuss sex with their children. Stigma makes sexual and reproductive health (SRH) communication challenging between youth and their parents. This study aims to investigate stigma and parent-child communication in the context of adolescent SRH.

Methods: This qualitative study was embedded in an SRH program in western Kenya called *Stepping Up!*. In March 2022, we conducted 12 focus group discussions (FGDs) with three group-types: youth ages 15-24 (n=72); parents (n=15); and a mixed group of religious leaders, teachers, and healthcare providers (n=12). FGDs were conducted in Kiswahili, transcribed, and translated to English. A codebook was developed and transcripts were analyzed using open coding before developing final code summaries on the following themes: SRH concerns; SRH stigma; and parent-child communication.

Results: Youth in western Kenya are concerned about unintended pregnancy, abortion, and sexually transmitted infections (e.g., HIV), and the potential impact on their life goals. Youth face multiple forms of stigma from parents and healthcare providers. Specifically, they fear punishment from their parents for engaging in sexual behaviors and accessing preventive services. Some youth report experiencing harsh treatment from healthcare providers for using SRH services, yet they go because they are hesitant to talk to their parents. Parents describe SRH behaviors and services as “unbiblical” and explain that cultural traditions make it difficult to talk to their children about sex. Conversely, parents believe it is their responsibility to advise their children about SRH. Youth shared that parents with open attitudes would build their confidence to discuss SRH.

Conclusion: This study demonstrates that stigma surrounding youth SRH impacts parent-child relationships and communication about SRH, which has implications for future adolescent SRH interventions.

Social/relational factors

Grandmother-mother relationship quality and caregiving practices among mothers, grandmothers, and others in rural Pakistan Esther Chung* Esther Chung, Linda Adair, Stephanie Martin, Brian Pence, Sean Sylvia, Siham Sikander, Joanna Maselko,

Background: Early childhood interventions primarily focus on mothers and fail to take a family systems approach to promote optimal child development. The grandmother-mother relationship is often excluded from maternal and child health research, but may have important influences on the caregiving environment. We assessed associations between grandmother-mother relationship quality and household caregiving practices.

Methods: We used data on 469 families from the Bachpan Cohort, a birth cohort study in rural Pakistan. Mothers reported on the quality of their relationship with the child's grandmother at child age 6 years. Outcomes included caregiving engagement by mothers, grandmothers, and other family members at 6 years. We used exploratory factor analysis to define grandmother-mother relationship quality and conducted generalized linear models to assess the cross-sectional associations between grandmother-mother relationship quality factors and caregiving outcomes.

Results: We found three factors of grandmother-mother relationship quality: Trusted advisor, Caregiving support, and Conflict. Specific grandmother-mother relationship quality factors had different associations with caregiving outcomes among mothers, grandmothers, and others. Trusted advisor was associated with higher maternal caregiving engagement and lower caregiving engagement by other family members. Greater Caregiving support was associated with lower maternal caregiving engagement, but higher caregiving engagement by grandmothers and others. Lack of conflict was associated with lower grandmother caregiving engagement.

Discussion: Our findings indicate that the grandmother-mother relationship may influence caregiving practices in the household. Further longitudinal studies are needed to tease out the temporal ordering of these associations. Interventions that include multiple family members may have greater impacts on child development by creating a cohesive caregiving environment.

Methodological approaches to studying public health

Ensuring racial equity in data collection, analysis and reporting for underrepresented communities Lan Đoàn* Lan Đoàn, Matthew Chin, Yousra Yusuf, Farah Kader, Laura Wyatt, Rienna Russo, Lloyd Feng, Vanessa Leung, Anita Gundanna, Simona Kwon, Stella Yi,

Federal standards on racial/ethnic data were last updated in 1997. Proposals to update race/ethnicity questions for the 2030 Census were released in January 2022, to better reflect US demographic shifts. The quality of race/ethnicity data has profound impacts on how health inequities are monitored and how resources and money are and will be distributed to communities.

We will discuss lessons learned from the Innovations in Data Equity for All Laboratory (IDEAL) initiative, a collaboration led by the Center for the Study of Asian American Health at NYU Grossman School of Medicine, with the Coalition for Asian American Children and Families, New York Academy of Medicine, and New York State Department of Health.

We will articulate our comprehensive process rooted in the peer-reviewed literature, present multisector perspectives and lessons learned from efforts to transform race/ethnicity data collection in health systems, and share best practices for advancing data equity for underrepresented populations. We present Asian Americans as a case study and include: 1) data-driven approaches to propose updated race/ethnicity questions for use in electronic health systems and state agencies; 2) scan of state-level data disaggregation efforts to identify facilitators and barriers for implementation in other states and settings; and 3) focus groups with community members to understand perceptions and self-report of racial/ethnic identity in health settings. Collectively, these efforts informed the development of: 1) a manual for the data collection, analysis and reporting of Asian American health data, and 2) tailored toolkits on data disaggregation for community members, health providers and allied health professionals.

These resources can serve as a blueprint for other cross-sector collaboratives seeking to foster inclusion and representation, and to reimagine health data systems that intentionally center communities and advance data equity for underrepresented populations.

Methodological approaches to studying public health

Machine learning for harm reduction: Translating predictive models for community-based prevention practice Bennett Allen* Bennett Allen, Daniel Neill, Robert Schell, Jennifer Ahern, Benjamin Hallowell, Maxwell Krieger, Victoria Jent, William Goedel, Abigail Cartus, Jesse Yedinak, Claire Pratty, Brandon Marshall, Magdalena Cerdá,

Overdose deaths continue to accelerate in the United States, with mortality trends shifting across geography, drug involvement, and sociodemographics. Health authorities now must distribute finite prevention resources across wider and more diverse catchment areas. Machine learning offers a novel strategy for practitioners to anticipate trends in harm and allocate sparse resources proactively to maximize impact. However, prior applications of machine learning to public health prevention have relied on conventional assessments, limiting the utility of models as decision supports for practitioners. To bridge the gap between predictive modeling and prevention practice, we developed four practice-based machine learning model evaluation criteria and applied them to the problem of overdose prevention in Rhode Island. Our criteria are: (1) implementation capacity, or the feasible overdose prevention resource dissemination in a jurisdiction; (2) preventive potential, or the maximum possible reduction in overdose death; (3) health equity, or the fair allocation of overdose prevention resources across geography, race/ethnicity, and socioeconomic; and (4) jurisdictional practicalities, or the site-specific constraints of a given health authority and provider network. To illustrate the use of our criteria, we developed two predictive models: random forest and Gaussian processes. We used Rhode Island overdose mortality records from January 2016 to June 2020 (N=1,408) and neighborhood-level Census data. Our models predicted 7.5-36.4% of overdose deaths during the test period, illustrating the preventive potential of overdose interventions assuming 5-20% statewide implementation capacities for neighborhood-level resource deployment. We described the health equity implications of our models to guide interventions along urbanicity, racial/ethnic composition, and poverty. Our criteria offer a tool for public health practitioners to integrate machine learning into prevention practice.

Methodological approaches to studying public health**A Comparison of Methods for Detecting Invalid Instruments in Structural Equation Models Estimated with Model Implied Instrumental Variable Two Stage Least Squares** Adam Lilly*
Adam Lilly,

Structural equation modeling is used in the social and population health sciences to estimate models containing latent variables, evaluate measures, control for measurement error, conduct mediation analyses, investigate multiple outcomes simultaneously, and for many other purposes. When all endogenous variables are continuous, maximum likelihood is the most popular estimator, but the model implied instrumental variable two-stage least squares (MIIV-2SLS) estimator is an attractive alternative. The MIIV-2SLS estimator transforms every equation in a SEM that includes latent variables into an equation with the original parameters but only observed variables, and then uses the model structure to locate instruments already in the model to estimate each equation. When a model is estimated using MIIV-2SLS, the Sargan overidentification test can be used to identify equations with invalid instruments, but the test does not provide information regarding which instruments are invalid. In this paper, I adapt a Lagrangian multiplier (LM) test developed by Wooldridge and the MR-PRESSO test developed by Verbanck and colleagues to the MIIV-2SLS setting. The primary ingredient in the LM test is the r-squared from a regression of the residuals from an equation estimated by 2SLS on the predicted values of the regressors in a modified form of that equation that includes one or more of the instruments from the original specification. The MR-PRESSO test was originally developed to detect genetic variants that display evidence of horizontal pleiotropy in applications of two-sample Mendelian randomization. I will simulate 500 sample datasets from a population model for each of seven different sample sizes ranging from 75 to 2000. Incorrect models that constrain one or more of the population parameters to zero will then be estimated with MIIV-SEM in the sample data to determine which method performs better in detecting invalid instruments caused by the misspecification.

Methodological approaches to studying public health

“I know who I am attracted to so I just clicked the options I am”: Improving assessment of attraction using data from a large survey of U.S. adolescents and young adults

Allegra Gordon* Allegra Gordon, Lysie Ranker, Kimberly Nelson, R. Korkodilos, Jennifer Conti, Ziming Xuan, Sabra Katz-Wise,

Background. Sexual and/or romantic attractions are a key feature of adolescent and young adult (AYA) health and development. Accurate, inclusive assessment of attractions is critical to population health research. Yet little is known about how to best assess attractions for AYA. **Methods.** We use cross-sectional quantitative and qualitative data from an online panel of 14,985 US-based AYA (14-25 years). We asked participants to report current attractions (check all that apply: girls/women, boys/men, nonbinary people, people of another gender identity [write-in]), and how they decided which of those answers to choose (open-ended). We assessed selection frequency and conducted: (i) content analysis of “another gender identity” write-ins (n=253); (ii) inductive thematic analysis of a stratified random sample of decision process responses (n=120; 20 across 6 gender groups).

Results. Most respondents (n=14,675; 98.3%) endorsed one or more of the three gender categories offered. Among the 253 (1.7%) who selected “another gender” there were two common write-ins: (1) Any/all/no preference (n=116); (2) No attraction (n=74). Some wrote-in specific gender modalities (n=19; e.g., “trans men”) or expressions (n=10; e.g., “masculinity”). Decision-making question responses suggest the question was interpretable and easy to answer. Thematic analysis identified three main decision-making patterns: (a) considering gender(s) of past/current/possible partners, (b) stating one’s sexual orientation identity, and (c) naming other attraction facets (e.g., personality).

Conclusions. Nearly all AYA in a large online sample answered an attraction question using three check-all-that-apply gender categories, suggesting this approach serves most AYA. To increase accuracy and inclusivity, population health surveys of AYA should include additional options in attraction questions (e.g., “no attractions” and “any gender”). Research is needed to examine attraction patterns across population subgroups.

Life-course/developmental**Geographical Variation in the Long-Arm of Childhood** Emily Dore* Emily Dore,

Scholars have identified important variation in health disparities across states, including educational disparities in mortality and morbidity. The focus on state variation shifts research away from individual explanations of poor health to contextual reasons, such as the availability of needed resources. So far, this literature has largely investigated variation in the relationship between an individual's own education and health. The current project expands this literature by incorporating the life course perspective and examining state variation in the relationship between childhood socioeconomic status (SES) and adult health. The negative relationship between childhood SES and adult health is well documented, but it is unclear if this relationship varies across states. Using data from the Panel Study of Income Dynamics, this study explores the relationship between childhood SES and three adult health outcomes by state: poor self-rated health, an aggregate measure of chronic conditions, and psychological distress (N=36,779). In each model, childhood SES is operationalized as highest parental education and controls include age, gender, and race. Preliminary results suggest there is important state variation in the relationship between childhood SES and all three health outcomes. The relationship between childhood SES and poor self-rated health was the most consistently different across states, with a significant difference found in 16 states. The difference was greatest in New Mexico, where the predicted probability of reporting poor health was 11.9% for adults from high-SES backgrounds compared to 78.1% for adults from low-SES backgrounds, a 66.2-percentage point difference. This study poses important policy questions for why the relationship between childhood SES and health is larger in some states than others, and ultimately how policymakers and decision-makers can best support children throughout their lives.

Life-course/developmental**The Spill-over Effects of Childhood Health on Siblings' Educational Attainment** Han Liu*

Han Liu,

Siblings are a very important, but understudied, part of family relations and home environments that can affect children's status attainment. Prior research has established an association between status attainment and structural features of the sibling group (e.g., sibship size), but largely overlooks the characteristics of each sibling. To fill this gap in the literature, this study examines how children's health affects their siblings' education with data from the NLSY79 Child/YA and multilevel dyadic models. This study will make several contributions to the literature on stratification, families, and the life course. First, it contextualizes the production and reproduction of health-related inequality in families. Second, this study bridges two fields of research in the sociological literature on families, one on health and family ties and the other one on family dynamics and inequality. In the context of the second demographic transition, it is particularly important to delineate the interrelatedness of families' impact in different areas of social lives. Third, this study treats the accumulation of advantages and disadvantages as a multilevel process and emphasizes that research on early life adversities should account for the "linked lives" of family members. Fourth, this project uses multilevel dyadic models in an innovative way that is different from most prior sociological studies. While prior quantitative dyadic studies typically use actor-partner interdependence models, this study shows that dyadic models can be adapted to include more family members, deal with more complex data structures, and study a wider range of research topics.

Life-course/developmental**Healing the Surveillance and Punishment through System Impacted Motherwork Across the Life Course** Katherine Maldonado* Katherine Maldonado,

Public health research in child welfare pushes to identify child maltreatment and neglect from a comprehensive health perspective, and Sociologists have identified how neglect is linked to surveillance and punishment. This study examines how Latina mothers experience institutional violence and trauma via the child welfare system, and how the violence affects their mental health. I apply an intersectional qualitative approach; using life course theory and social determinants of health perspective. Study is based on photo-elicitation life history interviews with 75 Latina mothers from Southern California who have been involved with the child welfare system. This study advances understanding of the long reach of institutional violence by examining 1) post effects of child welfare system involvement for the mental health of mothers and 2) coping and healing mechanisms under child welfare surveillance. Findings reveal that multi-institutional involvement for criminalized poor mothers deepens mental health problems and requires motherwork strategies to intervene in family crises. I argue that to fully grasp mental health needs for system impacted families, social scientists must be aware of the multiple institutional barriers, stigmas, and cultural resistance strategies that develop over time. In an era of family separation, it is crucial that child welfare policy and health care providers provide effective approaches to the long-term mental health needs of criminalized mothers and children.

Life-course/developmental**The Long-Term Health Effects of Welfare Reform** Emily Dore* Emily Dore, Melvin Livingston,

Given the well-documented and negative relationship between childhood poverty and adult health, it is important to understand the potential of economic policies in reducing poverty's long-term threats to health. Economic policies may buffer poverty's harmful effects by providing cash and in-kind resources to families in need, thereby reducing stress and enabling opportunities to prioritize health. Welfare reform in the mid-1990s in the US represented a shift from a more to less generous welfare program that emphasized the importance of work and self-sufficiency over governmental assistance. Research has documented the generally negative impact of welfare reform on short-term health outcomes, but less research has documented the impact of welfare reform on health across the life course. However, the lasting impact of childhood circumstances suggests the importance of examining policy exposure during childhood and the consequences throughout life. This study exploits time and state variation in the implementation of welfare reform to examine the impact of exposure to welfare reform as a child on self-rated health and psychological distress in adulthood using the Panel Study of Income Dynamics (N=12,032). We estimate the effects in two samples that represent adults more or less likely to be exposed to welfare as children based on parental education. The models adjust for individual-level demographics, state of childhood contexts, and fixed effects for birth year, state of childhood, and interview year. The study's findings indicate that exposure to welfare reform as a child was harmful to both self-rated health ($b=0.61$, $p=0.013$) and psychological distress ($b=0.69$, $p=0.013$) for adults with parents in the lower education group. This study suggests providing a more generous safety-net in childhood may reduce long-term health harms caused by poverty.

Health systems**A National Overview of Nonprofit Hospital Programs to Address the Social Determinants of Health** Berkeley Franz* Berkeley Franz, Kristin Kueffner, Simone Singh, Neeraj Puro, Cory Cronin,

Decades of research have solidified the crucial role that social determinants of health (SDOH) play in shaping health outcomes and health equity. The aim of this study was to understand what hospitals mean when they publicly commit to address SDOH as part of their community benefit responsibilities. Our research team created a novel dataset of identified needs within hospital community health needs assessments and adopted strategies within corresponding implementation plans. This dataset included a 20% random sample of all nonprofit hospitals in the US (n=506), of which 321 had programs to address SDOH. We analyzed data on hospitals who adopted one or more programs to address SDOH as part of their implementation plan. Using the Kaiser Family Foundations' (KFF) framework of SDOH, we coded each strategy under one of their six categories and then also created a dichotomous categorization of whether each program addressed health care or nonmedical needs. We conducted bivariate and multivariable analyses to assess hospital and community characteristics associated with hospitals addressing each type of need. We found that hospitals are most often addressing needs related to health care with 43% of programs within this category. When compared with hospitals addressing health care focused SDOH, we found that hospitals offering programs focused on upstream, nonmedical SDOH are larger in size and significantly more likely to be academic medical centers. At the broader county level, hospitals focused on nonmedical SDOH are located in communities with higher average income, fewer non-white residents, and more hospital beds. Nearly half of hospital programs to address SDOH remain focused on the health care needs of individual patients rather than upstream, nonmedical causes of poor health. Communities with greater economic and social needs are less likely to have hospitals investing upstream which has important implications for improving health equity in the U.S.

Race/Ethnicity**Socioeconomic Status is a Mediator for Hospital Readmissions Among African Americans with Congestive Heart Failure in the Philadelphia Area** Jonathan Arend* Jonathan Arend, Stephanie Kjelstrom, Georgia Montone, Gill Kim,

African Americans (AA) have the highest rate of cardiovascular related deaths in the US, and a higher risk of congestive heart failure (CHF) compared to non-Hispanic White (NHW) patients. Lower socioeconomic status (SES) is an independent risk factor for cardiovascular disease and those with CHF are more prone to hospital readmissions. No study to date has evaluated the mediation between race, socioeconomic status, and its association with hospital readmissions.

We extracted Electronic Health Record inpatient data of primary care patients from four community hospitals in our Philadelphia area health care system from 2018 to 2022. We identified 1,614 patients with an index admission diagnosis of CHF and calculated the number of readmissions per person for the study period. SES was categorized into high (1-5) and low (6-10) SES using the area deprivation index. We used t-test and chi-square to compare NHW and AA patients and multivariable negative binomial regression models were built. Mediation was determined by first adding race to the model, then SES as the outcome and race as the predictor to a second logistic model. Finally, both were added to the first model.

AA patients were on average younger (70 vs 81 years), of low SES (79% vs 11%), had a higher mean readmission rate (2.9 vs 2.3), and higher percentages of comorbidities compared to NHW patients. In the first mediation model, AA patients had a higher risk of readmissions compared to White patients (IRR 1.1 [1.04, 1.3]). In the second model, low SES is significantly related to being AA (OR 23.0 [16.7, 31.6]). With both in the model, neither is significant, indicating that SES is a mediator for readmissions.

These findings support the need for distinct population health strategies for higher risk groups to manage chronic diseases including CHF. Surveillance, early detection and enhanced care management strategies may reduce readmission for a significant proportion of at-risk patients.

Health care/services

Association Between Governmental Spending on Social Services and Health Care Use Among Low-Income Medicare Beneficiaries Carlos Irwin Oronce* Carlos Irwin Oronce, Ninez Ponce, Fred Zimmerman, Catherine Sarkisian, Yusuke Tsugawa,

Background/Significance

Low-income older adults experience a high burden of adverse social risk factors that contribute to worse access to primary care, frequent hospitalizations, and higher mortality. Governmental programs and social services mitigating these risks may lead to better outcomes. This study measured the association between county-level social spending on outcomes of dual-eligible Medicare beneficiaries.

Data/Methods

In this cross-sectional study, we linked claims from Medicare beneficiaries to county-level governmental expenditures data from the US Government Finance Database. Four types of social spending comprised the exposures of interest: per capita spending on (1) public welfare, (2) housing and community development, (3) public transit, and (4) infrastructure. Outcomes included annual rates of primary care visits, emergency department (ED) visits, and preventable hospitalizations (PH). We used separate multivariable Poisson regression models to measure the association between each spending type and beneficiary-level outcome, adjusting for individual and county covariates.

Preliminary Results

607,651 older adults dually-enrolled in Medicaid from 2016 through 2018 residing in 3,121 counties were included. Median county social spending in the four categories was \$533 per capita (range: \$312 to \$1,016). On average, dual-enrollees had 3.5 (SD 3.8) primary care visits, 2.0 (SD 3.5) ED visits, and 0.2 (SD 0.5) preventable hospitalizations per year. After adjustment, higher welfare spending was associated with 16% higher primary care visits (95% CI 5-27%). Higher housing and community development spending was associated with 18% higher primary care visits (95% CI 10-26%), 8% lower PH (95% CI 3-12%), and 12% lower PH from acute conditions (95% CI 5-18%). Higher public transit spending was associated with 6% lower PH (95% CI 3-9%) and 10% lower PH from acute conditions (95% CI 6-15%). Infrastructure spending was not associated with any outcomes.

Health care/services

Perceived Discrimination in a Healthcare Setting among U.S. Black Middle-Aged and Older Adults Michael Green* Michael Green, Heather Farmer, Cassie Ford, Hanzhang Xu, Matthew Dupre,

In the United States, Black adults report experiencing daily discrimination at higher rates than White adults, the most commonly used comparison group for racial disparities. The association between perceived everyday discrimination and various health outcomes has been studied extensively for decades. However, our understanding of the factors associated with perceived discrimination in healthcare settings for Black adults in later life remain largely unknown at the national level. Our study used data from participant baseline observations in the Health and Retirement Study, spanning from 2008 to 2018. The objective of the study was to examine the demographic, socioeconomic, psychosocial, behavioral, and physiological factors associated with experiencing discrimination in a healthcare setting among non-Hispanic Black adults aged 50+ (n=3,033). Discrimination in a healthcare setting was derived from an item in the Perceived Everyday Discrimination scale that asked respondents how often they received poorer service or treatment from doctors or hospitals compared to others. Participants were grouped into those who reported never experiencing discrimination (76.8%) and those who reported ever experiencing discrimination (23.2%). Results from multivariable logistic models of baseline observations showed that age (OR=0.97; $p<0.001$), being male (OR=1.27; $p=0.019$), more education (OR=1.04; $p=0.020$), depressive symptoms (OR=1.13; $p<0.001$), functional limitations (OR=1.30; $p=0.006$), prior stroke (OR=0.67; $p=0.019$), and number of doctor visits (OR=1.02; $p=0.002$) were significantly associated with reporting discrimination in healthcare. Overall, we find that a wide array of demographic, socioeconomic, psychosocial, and physiological factors were associated with experiencing discrimination in a healthcare setting among Black middle-aged and older adults. Future research is needed to examine potential health consequences of unequal treatment in clinical encounters.

Policy**Initial Policy and Community Responses to the Racism is a Public Health Crisis Declaration in Milwaukee County, WI** Michael Gonzalez* Linnea Laestadius, Lorraine Lathen, Pammie Rebecca Yang, Tajammal Yasin, Michael Gonzalez, Douglas Ihrke, Young Cho,

Policymakers have often failed to address existing laws that underpin racial health inequities. In the past two years, however, local governments have begun to lead the way in explicitly recognizing that racism is a public health crisis that requires policy actions beyond those taken to date. In May 2019, Milwaukee County, WI became the first locality in the U.S. to adopt such a resolution. Declarations represent only a starting point for change and questions arise as to what happens after they are made. Using Milwaukee County, WI as a case study, we aim to determine the initial policy and community responses to this type of declaration.

First, we performed a content analysis of Milwaukee County ordinances and resolutions with final actions taken between 2019 and 2021 (n=234) to assess the extent to which they address structural racism, equity, and/or the social determinants of health. Policies that mentioned racism were more likely to be adopted (87.9% vs. 70.7%; $p < 0.05$). Overall, mentions of racism remained low at 16.9%. Of adopted policies (n=171), 71.9% addressed the social determinants of health or equity in some manner. However, policies focused heavily on symbolic actions (55.3%) or asking other government bodies to take action (33.3%).

Paired with this, we conducted online focus groups (n=6) with communities of color in Milwaukee County. Community perspectives suggest some skepticism toward the declaration, as well as a desire to see more concrete actions to address structural racism and improve representation in the county. Perceptions of challenges and solutions also varied across racial and ethnic groups.

Overall findings indicate that Milwaukee County, WI is still in the early stages of implementing policies to create structural change following the declaration. Findings emphasize the importance of continued stakeholder attention to implementation, as well the need for engaging with community members throughout the implementation process.

Health behaviors

Results from a reader impact assessment of Dear Pandemic Malia Jones* Malia Jones, Sandra Albrecht, Shoshi Aronowitz, Jennifer Beam Dowd, Lauren Hale, Lindsey Leininger, Gretchen Peterson, Amanda Simanek, Ashley Z. Ritter, Alison Buttenheim, Aparna Kumar, Sarah Coles,

In March of 2020, an interdisciplinary volunteer collaboration *Those Nerdy Girls (TNG)* formed to address the emergent and widespread need for evidence-based advice in the context of the COVID-19 pandemic. TNG launched the project *Dear Pandemic* on March 13, 2020 and since then has solicited more than 5,000 reader questions and created more than 2,000 answers in the form of short essays. TNG shares this content on social media channels (Facebook, Instagram, Twitter, LinkedIn) in English and in Spanish, and via a newsletter and website. The total reader base across platforms is ~200,000 people. In Oct 2022, TNG fielded a survey in English to assess the impacts of the project on readers in domains including: mental health; knowledge, attitudes and behaviors related to preventive behaviors (e.g., social distancing, mask use); knowledge, attitudes, and behaviors around COVID-19 vaccination; discussing pandemic topics within readers' own networks; and trust in *Dear Pandemic* compared to other information sources. TNG fielded the survey in two samples: a random sample of 5,000 newsletter subscribers (~50% of all subscribers), and an open link posted across the project's social media sites. The newsletter sample yielded a response rate of 20% (n=1,011). The open link yielded 970 responses. The vast majority of respondents were women with modal age was 35-44 years. Most respondents identified as slightly- to very liberal, but 1 in 5 were moderate or slightly- to very conservative. Results show that overall, reading *Dear Pandemic* was very positive for respondents' mental health and had positive impacts on their knowledge, attitudes, and behaviors around vaccinations and other protective behaviors. Trust in *Dear Pandemic's* content was parallel that of WHO and higher than trust in CDC. In this presentation, we will describe the demographic profile of respondents, quantify the impacts of *Dear Pandemic* as reported by readers, and reflect on lessons learned from the project.

Non-health institutions (business, political, education systems)**Information without Trust, Knowledge without Institutions: What's Missing in Infodemic Research** Douglas William Hanes* Douglas William Hanes,

In February 2020, the World Health Organization (WHO) began using the term “infodemic” to name and address the circulation of (mis)information about the then-nascent COVID-19 pandemic. Defining it as “an overabundance of information—some accurate and some not—that occurs during an epidemic”, the WHO adopted the term to identify, study, and address information during disease outbreaks. But, at the same time that infodemics are characterized by excessive amounts of information, the WHO also identifies “the absence of accurate, credible information” from trustworthy sources as part of the problem. This tension positions trust and mistrust at the center of the infodemic crisis: there is an excess of information, even as more good information is needed *and* trust can help steer people toward the latter. In this sense, we argue, trust is the articulation point between individuals as information-consumers and institutions as knowledge-generators and -disseminators. And, despite this centrality of trust to understanding and addressing infodemics, it remains undertheorized and understudied. This is especially glaring, given the larger decline in the public’s trust of major institutions, including political-representative bodies, the newsmedia, science, and medicine. This is, we posit, part of a larger shortcoming in infodemic research, namely, that it treats the problem of misinformation and mistrust without due attention to institutions and their history. Larger historical changes in institutions under neoliberalism have generated mistrust—often well-founded—in the public. This often-justified mistrust influences whether individuals trust those sources’ information and so accept it, or whether they will be susceptible to misinformation when exposed to it—or even seek out misinformation. What is needed, we conclude, is a more holistic approach, including larger policy guidelines to restore public control and trust over information-generating and -disseminating institutions.

Policy**Estimating the Effect of Timing of Earned Income Tax Credit Refunds on Perinatal health**

Deborah Karasek* Deborah Karasek, Daniel Collin, Caitlin Turner, Akansha Batra, Rita Hamad,

Background: A strong evidence base exists linking poverty with adverse perinatal outcomes, including preterm birth, with persistent stark racial/ethnic disparities. Policy interventions, including the earned income tax credit (EITC), the largest US poverty alleviation program, provide tax refunds to low-income working families and have been shown to increase gestational age and birthweight. Using a quasi-experimental design, we examined whether the trimester of income receipt affects likelihood of and racial/ethnic disparities in perinatal outcomes, and if these relationships differed by state EITC generosity. **Methods:** The sample was drawn from National Center for Health Statistics (NCHS) birth certificate data from 2010-2019 (N= 36,946,027). To predict eligibility, we created a probabilistic algorithm in the Panel Study of Income Dynamics and apply it to the NCHS data. We used difference-in-difference models, comparing perinatal outcomes among EITC-eligible births exposed to the EITC in different trimesters, while controlling for seasonal trends and state differences in outcomes among non-eligible births. **Results:** EITC receipt during any trimester compared to preconception was associated with increased birthweight, with the strongest association during the third trimester (17.81 grams, 95%CI: 16.78, 18.88). EITC receipt during any trimester was also associated with lower likelihood of preterm birth with the strongest association in the third trimester (-2.16 percentage points, 95%CI: -2.21, -2.10). Preconception receipt of EITC appeared to be protective towards SGA, gestational diabetes, and gestational hypertension compared to receipt in pregnancy. Stratified analyses revealed stronger results among states with more generous EITC programs, as well as US-born compared to foreign-born birthing people, although with some exceptions. **Conclusion:** As interest in income policies as a poverty alleviation strategy is increasing, these results could be used to determine optimal timing of interventions.

Health equity

Mapping Intersectional Inequities in Mental Health Over Time: Can State EITC Policies Mitigate Disparities? Kieran Blaikie* Kieran Blaikie, Steve Mooney, Isaac Rhew, Heather Hill, Anjum Hajat,

Background:

Mental distress is a leading cause of disease burden in the United States, yet our understanding of how this burden has changed over time, varied across social groups, and correlated with social assistance policies is limited. To address this need and advance health equity, we quantify how complex social inequities in mental distress have varied over recent decades, and examine whether State Earned Income Tax Credit (EITC) policies modify these inequities.

Methods:

Using information on 7 million working-age adults from the 1993-2019 Behavioral Risk Factor Surveillance System (BRFSS), we calculate age-standardised past-month prevalences of frequent mental distress (FMD, defined as ≥ 14 mentally unhealthy days in the past month) at the national level overall and stratifying individually and intersectionally by gender, race and ethnicity, educational attainment, and household poverty status. For each year, we calculate absolute and relative inequities in FMD comparing each social group to the national average prevalence. To examine effect modification by State EITC policies, we repeat all analyses stratifying by State EITC availability, generosity, and likely individual eligibility.

Results:

Compared against 1993, FMD prevalence has risen overall (Prevalence, 95% CI: 1993: 8.9%, 8.5% to 9.2%. 2019: 14.9%, 14.6% to 15.2%) and in most social groups defined individually and intersectionally. Nationally, inequities in FMD have remained broadly constant in size, except by race and ethnicity where Hispanics have shown improvements relative to the national average over time, having 7% higher FMD prevalence in 1993 (95% CI: -5% to +20%) and 11% lower FMD prevalence in 2019 (95% CI: -16% to -7%). Compared to states without State EITC policies, FMD prevalence has risen to a lesser extent over time in states with State EITC policies and social inequities in FMD have narrowed, particularly by educational attainment.

Conclusions:

At the national level, mental distress has become more prevalent over recent decades while social inequities in mental distress have remained stable. States with State EITC policies however have fared better, with social inequities in mental distress often narrowing.

Race/Ethnicity

Does history repeat itself? Racial disparities in emergency department visits for schizophrenia/psychosis following the police killing of George Floyd. Parvati Singh* Parvati Singh, Geoffrey Carney-Knisely, Marquianna Griffin, Abhery Das, Tim-Allen Bruckner,

In the United States, Black persons are disproportionately diagnosed with schizophrenia relative to Whites. Clinician bias stemming from racialized diagnostic criteria for schizophrenia/psychosis, and inappropriate contextualization of attributes among Black persons as pathological, may underlie this disparity. Symptoms of schizophrenia such as agitation, delusion, and non-compliance, were part of the (now discontinued) disorder termed the “protest psychosis” as a type of reactive psychosis stemming from racial tensions during the Civil Rights movement in the 1950s and 1960s. This disorder included the rejection of “Caucasian values” and a “repudiation of white civilization”, and was utilized to characterize Civil Rights protestors as severely mentally ill. The legacy of these targeted and discriminatory diagnostic criteria may continue to permeate the modern context.

In May 2020, the police killing of George Floyd sparked widespread protests through the Black Lives Matter Movement against police brutality and racial injustices in the US. Given the historical precedence of “protest psychosis” in response to the Civil Rights Movement, we sought to examine disparities in schizophrenia-related Emergency Department (ED) visits immediately following the police killing of George Floyd in May 2020. We used monthly data on ED visits from January 2016 to December 2020 across 5 University of California health systems and examined whether ED visits with a diagnosis of schizophrenia increased selectively among Black persons in June 2020, controlling for (1) all other psychiatric ED visits among Black persons, and (2) ED visits for schizophrenia among White persons. Results from time-series AutoRegressive Integrated Moving Average (ARIMA) analyses indicate 47 additional ED visits for schizophrenia/psychosis among Black persons in June 2020 ($p < 0.01$). These results indicate perpetuation of historical trends and align with expectations from the legacy of “protest psychosis”.

Race/Ethnicity**Sex-Selective Abortion Bans: Structural Stigma, Xenophobia, and the Birth Outcomes of Asian Immigrants** Emma Zang* Emma Zang,

The pro-life movement to restrict abortion access in the United States has achieved significant legislative victories in recent years. However, efforts to prohibit abortions sought based on the fetus' sex, known as sex-selective abortion bans (SSABs), have attracted little attention in the sociological literature. Advocates of SSABs justify the policy by invoking invidious xenophobic stereotypes about Asian immigrants and their alleged penchant for aborting female babies because of a cultural preference for sons. This paper explores the potential health consequences of such policies. Examining 2005-2019 natality data from the National Vital Statistics System using a triple-difference strategy, we find that SSABs had an adverse effect on Asian immigrant infant birth outcomes—specifically, low birth weight and preterm birth. We argue that the successful enactment of SSABs helped amplify a negative social climate in which anti-Asian-immigrant stereotypes and sentiments became more salient in Asian immigrants' everyday lives. We advance the concept of structural stigma to argue that social policies can amplify negative health effects for vulnerable minorities by fostering an environment that deepens their stigmatized status.

Race/Ethnicity

Spillover Effects of the 2021 Atlanta Mass Shooting on the Population-level Mental Health of Asian Americans Carlos Irwin Oronce* Carlos Irwin Oronce, Rachel Banawa, Erin Manalo-Pedro, Michele Wong,

Background/Significance

Amidst rising anti-Asian hate crimes during the COVID-19 pandemic, the Atlanta mass shooting that killed six Asian American (AA) women on March 16, 2021, underscored the urgent need to address racialized and sexualized violence directed towards AA women, and the broader impact this violence has on the AA community. Longstanding intersectional oppression, such as hypersexualization and fetishization of AA women, is associated with poor mental health among AA women, including suicidal ideation. Given the intersectional dimensions of the mass shooting, this hate crime may have worsened mental health for the AA population, and AA women specifically, through mechanisms like vicarious racism.

Data/Methods

Using data from the US Census Bureau Household Pulse Survey (HPS), we used a pre-post study design to examine changes in mental health among AAs nationally compared to non-Asian Americans, before and after the Atlanta mass shooting (January 6, 2021 to June 21, 2021). Our outcomes included clinically-significant depressive symptoms, defined as a score of 3 or more on the Personal Health Questionnaire 2-item screener, and clinically-significant anxiety symptoms, defined as a score of 3 or more on the Generalized Anxiety Disorder 2-item screener. Additionally, we conducted a subgroup analysis among Asian women respondents. All analyses incorporated survey weights.

Preliminary Results

We examined 818,433 adult responses from the HPS. Of the adult respondents, 43,336 (weighted N=14,700,702) self-identified as Asian and 49.3% were women. Nationally, there were secular trends with declining prevalence of clinically-significant depressive or anxiety symptoms, across all racial and sex groups. Asian respondents reported a significant worsening in symptoms relative to non-Asians in the 2 weeks immediately after the Atlanta mass shooting. Findings were similar among Asian women.

Race/Ethnicity**Discrimination, Racial Trauma, and Mental Health Among Black Couples** Sierra Clark*

Sierra Clark, Alexandra VanBergen,

The COVID-19 pandemic had devastating effects on the mental health and well-being of Americans and had disproportionate negative health effects for Black Americans. In the midst of the pandemic, the murder of George Floyd ignited anger and grief and resulted in an increase in depression and anxiety symptoms, particularly for the Black population. This paper explores how experiences of discrimination and racial trauma from the murder of George Floyd shaped Black Americans' depression, anxiety, and life satisfaction during the COVID-19 pandemic using a population-representative study of couples in America that contains representative samples of sexual, racial, and ethnic diverse individuals (National Couples' Health and Time Study). We also consider how social support, community support, identity centrality, and relationship satisfaction may shape mental health for Black Americans. Preliminary results indicate that racial trauma and experiences of discrimination were significantly associated with higher depression and anxiety symptoms and lower life satisfaction. Higher levels of family support and relationship satisfaction were significantly associated with lower depression and anxiety symptoms, and higher life satisfaction. These results suggest that the racial trauma that resulted from the murder of George Floyd and experiences of discrimination had a negative impact on the mental health of Black Americans during the COVID-19 pandemic and the quality of relationships with one's family and partner may have curbed these poor mental health outcomes.

Policy**Structural Racism and Worker Health: The Inequitable Health Effects of Wage Theft****Policies** Kevin Lee* Kevin Lee, Amani Allen, Maria-Elena de Trinidad Young, Mahasin Mujahid,

Background: Pervasive structural racism in the labor market places immigrants and workers of color at disproportionate risk of exploitative work conditions such as wage theft where employers fail to pay workers. States have enacted wage theft policies to provide legal protections for workers, yet few empirical studies have assessed how these protections impact worker well-being. This study examines the associations between state-level wage theft policies and the health of immigrants and workers of color, and by extension, the effectiveness of policies at dismantling structural racism.

Methods: We used a dataset of 70 state-level wage theft policies enacted between 2005 and 2017 to construct policy scores based on the total number of wage theft policies in each state. We also used the 2019 Annual Social and Economic Supplement of the Current Population Survey to examine US workers ages 18 to 64 (N=49,214). We assessed the association between wage theft policy scores and self-rated health (SRH) by race/ethnicity and immigration status. We also examined the relationship between specific categories of wage theft policies and SRH.

Results: For states with more wage theft policies, White (aOR=0.97, 95% CI: 0.94-0.99) and US-born (aOR=0.97, 95% CI: 0.95-1.00) workers were less likely to report poor SRH. Conversely, having more wage theft policies was associated with greater odds of non-citizen workers reporting poor SRH (aOR=1.03, 95% CI: 0.99-1.07). Across distinct policy categories, penalty (aOR=2.02, 95% CI: 1.45-2.81), worker complaint (aOR=1.57, 95% CI: 1.09-2.25), and expanded liability (aOR=1.35, 95% CI: 0.99-1.85) policies were associated with a greater odds of poor SRH among non-citizen workers.

Conclusions: The differential health effects of wage theft policies among immigrants and workers of color demonstrate how these policies fail to protect the workers they are intended to help. Policymakers should be cautious of designing policies that create unintended harm.

Structural factors**Racial-citizenship status disparities in unmet needed paid leave among Californians** Alein Haro-Ramos* Alein Haro-Ramos, Adrian Bacong,**Abstract**

Paid leave has been a critical policy recommendation to allow workers to take time off when ill and for family-related reasons, including taking care of a sick family member or tending to a newborn.

Research Objective: To examine racial-citizenship status disparities in unmet paid leave—or needing but not being able to take paid leave—among employed Californians in 2021.

Study Design: This cross-sectional study used a representative sample of California residents. Weighted, multivariable logistic regressions were used to assess disparities in foregone paid leave across racial-citizenship status categories, including noncitizen, naturalized, and citizen Latinxs and Asians, relative to US-born Whites, controlling for demographic, familial, health-related, and work-related covariates.

Population Studied: We examine a representative sample of Californians using the 2021 California Health Interview Survey (CHIS). A total of 24,453 people completed the CHIS from March to October 2021. We restrict our analysis to those who had complete data, were employed at the time of the survey, and were part of our race and ethnic groups of interest for an analytical sample of 11,9515 adult respondents.

Principal Findings: While 16.9% of employed Californians reported forgoing needed paid leave, disparities across race/ethnicity and citizenship status were evident. Specifically, 31.8% of Noncitizen Latinxs, compared to 11% of US-born Whites, did not use paid leave when they needed it due to fear of job loss or hurting job advancement, employers denying it, lack of information or knowledge regarding the process, or ineligibility. In the fully adjusted analyses, Noncitizen Latinxs (Odds Ratio (OR) = 2.93, 95% Confidence Intervals (CI) = 2.22 - 3.89), Noncitizen Asians (OR = 2.5, 95% CI = 1.81 - 3.43), noncitizen Whites (OR = 1.85, 95% CI = 1.07 - 3.19), naturalized Latinxs (OR = 2.05, 95% CI = 1.58 - 2.65), naturalized Asians (OR = 1.82, 95% CI = 1.39 - 2.38), and US-born Latinxs (OR = 1.39, 95% CI = 1.13 - 1.70) had a statistically significant higher odds of experiencing foregone needed paid leave compared to US-born Whites.

Conclusions: Despite its importance for health, disparities across race/ethnicity and citizenship status exist in those who experience unmet paid leave.

Implications for Policy or Practice:

While California has established its state-based paid sick and family leaves, we find disparities in who takes paid leave, signaling a need for better implementation and enforcement efforts to ensure equitable access to paid leave. Targeted outreach to marginalized workers and a simplified application process are needed to ensure that every Californian can take time off for health- and family-related reasons without fearing economic insecurity.

Health equity**Finding the ethical commitments required by population health science's theoretical commitments** Sean Valles* Sean Valles,

Previous scholarship has worked to synthesize the core theoretical commitments that make population health science a unique scientific framework. Keyes and Galea (2016) propose six Foundational Principles of Population Health Science, and Valles (2018) proposes that humility (about health knowledge and expertise) plays a special role in the field. This presentation expands on previous work by showing how the core theoretical elements of population health science also push the field toward accepting certain ethical commitments as guiding norms.

Population health science historically grew out of a 1993 edited book asking “why are some people [in the sense of population] sick and others not?” That focus on disparities meshes with Rose’s foundational 1992 book, *The Strategy of Preventive Medicine*, which begins by declaring, “There is no known biological reason why every population should not be as healthy as the best.” The group Public Health Liberation later described this type of statement as a rejection of the “fallacy of the health inequity fatalism”—an important step towards liberatory social reforms. The combined focus on between-population disparities, and the rejection of poor population health as inevitable, leads population health science to an inherent ethical commitment to seeking to ameliorate disparities.

Other theoretical developments point the field toward additional specific ethical commitments, including : 1) life course theory’s centrality leads to an ethical obligation to intervene across stages of human development and also intergenerational traumas (e.g. reparations for plantation slavery and genocide against indigenous peoples); 2) the field’s focus on upstream prevention of health ills via reforming social conditions requires opposing political and ethical critiques that say population/public health must ‘stay in its lane’ by keeping such considerations out of most social policymaking (gun regulation, housing reform, urban design, etc.).

Reproductive health**Evaluation of the Mediating Role of Neighborhood Deprivation on the Relationship Between Racial Residential Segregation and Hypertensive Disorders of Pregnancy**

DaShaunda Taylor* DaShaunda Taylor, Robert Perera, Emily Zimmerman, Karen Hendricks-Munoz, Derek Chapman,

Background. Hypertensive disorders of pregnancy (HDP) occur in 5-8% of pregnancies in the United States, and recent trends indicate a rise in this condition. HDP can have lifelong and transgenerational consequences, such as poor later-life cardiovascular health for mothers. Research on upstream social determinants of health, including racial residential segregation (RRS) and neighborhood deprivation, suggests that these factors have a substantial influence on perinatal health outcomes. **Objective.** Hence, this study evaluated the mediating role of neighborhood deprivation on the relationship between RRS and HDP. **Methods.** Birth certificate data from singleton births in Richmond, Virginia from 2011-2019, neighborhood-level indicators from the U.S. Census Bureau's 2006-2010 American Community Survey, and the 1990 census were utilized to examine these associations. Principal component analysis was conducted for variable inclusion in the neighborhood deprivation index. Mediation was assessed using multilevel structural equation modeling, specifically path analysis. **Results.** In analyses stratified by race/ethnicity, the Index of Dissimilarity and the Interaction Index - measures of RRS - were associated with HDP among non-Hispanic White women [odds ratio (OR): 0.63, 95% confidence interval (CI): 0.46-0.88 and OR: 1.73, 95% CI: 1.37-2.17, respectively], and the Index of Dissimilarity was significantly related to HDP for non-Hispanic Black women (OR: 1.60, 95% CI: 1.17-2.19). Among non-Hispanic Black women, higher RRS was associated with increased likelihood of HDP; approximately 70% of this relationship was mediated by neighborhood deprivation. Non-Hispanic White women experienced reduced odds of HDP when RRS was higher. **Conclusions.** Findings indicate that RRS is detrimental to non-Hispanic Black women but beneficial for non-Hispanic White women regarding HDP likelihood. Future studies should continue to explore the impact of RRS on HDP among differing racial/ethnic groups.

Economic development

Male twin live births following a universal basic income program in Alaska: A population-level test of selection in utero Parvati Singh* Parvati Singh, Nicholas Mark, Kiara Douds, Sarah Cowan,

Economic certainty and optimism about the future may underlie birth patterns in a population. In the US, the Alaska Permanent Fund Dividend (PFD), disbursed to all persons residing in the state of Alaska, exhibits a sizeable fertility response. PFD disbursements began in 1982 following operationalization of the Trans-Alaska Oil Pipeline System, with annual payments ranging from \$600 to \$2500, and continues to the present day. Increased economic certainty from the PFD may increase optimism about the future, with implications for birth cohort composition and fitness. The theory of selection *in utero* posits that unfavorable external circumstances increase sex-specific spontaneous abortions (or miscarriages) during pregnancy, with higher likelihood of male fetal loss relative to female. As a corollary, periods of social prosperity may precede an increase in male live births owing to better survival and reproductive success during favorable external circumstances. Male twin gestations appear particularly sensitive to selection *in utero* and occupy the left tail of the gestational frailty distribution. Multiple studies report changes in the patterning and volume of male twin live births as a strong marker of external circumstances, including ambient stress and collective optimism.

We examine whether the odds of male twin live births increased within 3-6 months (consistent with prior research) following month and magnitude of amounts disbursed through the Alaska PFD using Alaska vital statistics birth data from 1980 to 2019. We use Autoregressive Integrated Moving Average (ARIMA) time-series methods to account for autocorrelations in births. Results from ARIMA analyses indicate an increase in the odds of male twin live births 3 months following \$1000 increments in PFD receipt (coefficient = 0.0016, $p < 0.05$). These results remain consistent upon outlier adjustment. Our finding supports reduced selection *in utero* following increase in income receipt from the Alaska PFD.

LGBTQ+**Economic marginalization, intersecting oppressions, and HIV health inequities among trans and nonbinary people: Community leader perspectives** Emily Paine* Emily Paine, Dennis Rivera-Cash,

Compared to cisgender peers, trans and nonbinary (TNB) people in the U.S. experience severe economic hardships, including high rates of homelessness and housing precarity, unemployment, food insecurity, and debt. Disadvantages are concentrated among those who have sex with men, and racial and ethnic minorities. Additionally, TNB people who have sex with men (TSM) experience high HIV prevalence, low engagement in care, and suboptimal rates of adherence to HIV medication, among other poor HIV health outcomes. How and what multiple, simultaneously occurring forms of economic hardships—termed economic marginalization—are shaping TNB people’s abilities to avoid HIV acquisition and engage in the HIV care continuum, however, is not known. We interviewed 37 TNB community leaders in three U.S. cities with dense populations of TNB people and high HIV prevalence: New York City, the San Francisco Bay Area, and Atlanta. Interviews were conducted in 2021 and 2022 and took place over Zoom. We took an abductive analytic approach and used a flexible coding strategy. Participant narratives emphasized processes through which intersecting forms of structural oppression resulted in key forms of economic marginalization of TNB people. For example, leaders identified how TNB young people facing family rejection lost their homes and family economic safety net and transitioned into homelessness, housing precarity, and lack of access to safe employment, education, and savings. Leaders further shared processes through which economic marginalization inhibited TNB people’s engagement in HIV prevention and the HIV care continuum. For example, that TNB who simultaneously lacked access to safe housing and safer employment options engaged in forms sex work that increase HIV risk, and housing precarity diminished the ability of TNB people manage HIV medications. Study results can better inform interventions designed to improve HIV outcomes among TNB people.

LGBTQ+

Sexual orientation disparities in pregnancy-related morbidities Payal Chakraborty* Payal Chakraborty, Bethany Everett, Tabor Hoatson, Jennifer J. Stuart, Colleen A. Reynolds, Sarah McKetta, Kodiak K.R.S. Soled, Aimee K. Huang, Jorge E. Chavarro, A. Heather Eliassen, Juno Obedin-Maliver, S. Bryn Austin, Janet Rich-Edwards, Sebastien Haneuse, Brittany M. Charlton,

Background: Sexual minority women (SMW; *e.g.* those with same-sex/gender attractions/partners or who identify as lesbian/gay/bisexual) experience structural inequities that result in adverse obstetrical and perinatal health. Yet, little is known about disparities in pregnancy morbidities among SMW.

Methods: We used data from the Nurses' Health Study II—a cohort of nurses across the US—restricted to those with pregnancies ≥ 20 weeks gestation (70,781 women; 162,403 pregnancies). Our primary outcomes were gestational diabetes (GD), gestational hypertension (gHTN), and pre-eclampsia (PRE-E), which participants reported for each of their pregnancies. Participants also reported their sexual orientation identity and same-sex attractions/partners. We compared the odds (age-adjusted) of each outcome in pregnancies among completely heterosexual women (reference) to those among the following groups: (1) heterosexual, had past same-sex attractions/partners/SMW identity, (2) mostly heterosexual, (3) bisexual, and (4) lesbian. We used weighted logistic generalized estimating equations to account for multiple pregnancies per person over time and informative cluster sizes.

Results: The prevalence of each outcome was $< 5\%$ in pregnancies among all sexual orientation groups. Compared to pregnancies among completely heterosexual women, those among SMW had higher estimated odds of GD (OR[95% CI]: 1.33[1.17-1.52]) and gHTN (1.15[1.03-1.30]) but not PRE-E (1.09[0.97-1.22]). Of note, among SMW subgroups, mostly heterosexual women had higher odds of gHTN (1.29[1.04-1.59]) and heterosexual women with past same-sex attractions/partners/SMW identity had higher odds of GD (1.47[1.26-1.71]), compared to completely heterosexual women.

Conclusions: SMW experience a disparate burden of gHTN and GD. Elucidating the modifiable mechanisms (*e.g.*, structural barriers, discrimination) for reducing pregnancy morbidities among SMW, who remain understudied, is critical for achieving reproductive health equity.

LGBTQ+

Perinatal outcomes and cardiovascular health during pregnancy among birthing people in same-sex and different-sex relationships in Louisiana Dovile Vilda* Dovile Vilda, Emily Harville, Isabelle Lian,

Background: Little is known about perinatal outcomes among birthing people in same-sex relationships compared to people in different-sex relationships, despite differences in preconception risk factors. In addition, while sexual minority women (lesbian, bisexual, and queer) experience higher cardiovascular disease risk, no study so far has investigated the risk of cardiovascular complications during pregnancy in this population.

Methods: We conducted a cross-sectional analysis of vital records data on singleton live births in Louisiana from 2018-2020. We classified births in the female-female relationship as same-sex and female-male relationship as different-sex relationships. Using logistic regression, we estimated associations between having a birth parent in same-sex relationship and cesarean delivery, preterm birth, low birthweight, and low Apgar score, and cardiovascular morbidities (i.e., gestational hypertension, preeclampsia). We adjusted for sociodemographic, preconception, and pregnancy-specific perinatal risk factors. We also examined whether these associations were modified by race/ethnicity.

Results: Compared with birthing people in different-sex relationship, people in same-sex relationships were more likely to have cesarean delivery (adjusted odds ratio (aOR)=1.23; 95% CI=1.01-1.49), preterm birth (aOR=1.43; 95% CI=1.09-1.86), low birthweight infants (aOR=1.39; 95% CI=1.04-1.88), and have newborns with a non-reassuring Apgar score (aOR=1.78; 95% CI=1.05-3.01). No differences were found in cardiovascular complications during pregnancy between the two groups. Effect modification by race/ethnicity was significant for low birthweight, cesarean delivery, and spontaneous delivery ($p<.0.01$).

Conclusion: Birthing people in same-sex relationships experience disparities in several perinatal but not cardiovascular health outcomes. Further research is needed to investigate these differences, particularly at the intersection of sexual identity/orientation and race/ethnicity.

LGBTQ+**Life-course exposure to structural cisheterosexism and subsequent mental health outcomes among sexual minorities in the Growing Up Today Study, 1996-2016** Ariel Beccia*

Ariel Beccia, Madina Agénor, Dougie Zubizarreta, Colleen Reynolds, Sarah McKetta, Brittany M. Charlton, S. Bryn Austin,

Anti-LGBTQ policies harm sexual minority youth's (SMY) health, yet whether and how life-course exposure to this form of structural cisheterosexism (SCH) contributes to mental health inequities remains unknown. We thus quantified the effects of cumulative exposure to state-level SCH from childhood through young adulthood on depressive symptoms among sexually diverse US-based youth. Participants were from the Growing Up Today Study (GUTS), a cohort of 16,875 children aged 9-14 years at baseline in 1996 who we followed to 2016. Using an index of relevant policies (e.g., "Don't Say Gay" laws) from the Sexual & Gender Minority State Law Database, we assigned states a year-specific SCH score; we linked this information to GUTS and calculated participants' cumulative exposure to SCH by averaging the scores associated with states they had lived in during the study period, weighted according to duration of time spent in each. Sequential conditional mean models estimated demographic-adjusted associations between cumulative exposure and subsequent depressive symptoms (CESD-10) in the full sample and across sexual orientation groups (completely heterosexual, mostly heterosexual, bisexual, gay/lesbian), with additional models exploring differences by gender identity/expression. Cumulative exposure to SCH was not associated with depressive symptoms overall or among completely heterosexuals. However, a 1-unit increase in cumulative exposure was associated with a 72% increased risk (95%CI:12-121%) of depressive symptoms for bisexuals and a 64% increased risk (21-118%) for mostly heterosexuals. There were further differences by gender identity/expression, as effects were largest for girls/women and gender nonconforming people. Our findings suggest that long-term residence in structurally cisheterosexist states may disproportionately increase depression risk for SMY. Eliminating these inequities will require addressing SCH in laws and political environments.

LGBTQ+

State policy climate and mental health among sexual and gender minority youth: The mediating role of school climate and safety Samantha Moran* Samantha Moran, Meg Bishop, Ryan Watson, Jessica Fish,

Background. Sexual and gender minority youth (SGMY) are at risk for poor mental health due to structural and interpersonal stigma. The link between SGM state policy climate and SGMY mental health is well-established. Less well-known are the mechanisms through which state policy climates contribute to SGMY mental health. Such knowledge can inform policy implementation and its potential for addressing SGMY mental health inequities. The current study uses a recent national data source of SGMY to understand whether the association between state policy climate with mental health operates through proximal experiences of SGM-specific school climate and school safety.

Method. Data are from a subsample of the 2022 LGBTQ+ Teen Survey ($n=3,540$). The PHQ-4 assessed youth *mental health symptomology* (i.e., depression,). *SGM school climate* was measured by the presence of a Gender/Sexuality Alliance club, SGM-inclusive sex education and history, and “out” SGM educators; *school safety* assessed feelings of safety in nine school contexts (e.g., classrooms, bathrooms). *SGM state policy climate* used the 2020 Movement Advancement Project LGBTQ policy tally, which ranks policy climates as negative, low, fair, medium, and high (i.e., positive).

Results. Using linear regression, SGM state policy climate was significantly associated with SGMY mental health ($b=-.019$, $p=.036$). Tests for mediation showed that SGM school climate and school safety jointly mediated this association ($b=-.029$, 95%CI $[-.037,-.021]$, $p<.001$). Once accounting for mediating pathways, the relationship between state policy climate and mental health was not significant ($p=.257$).

Discussion. This study extends understandings of how state policies impact the daily lives and mental health of SGMY. More positive state policies are associated with better SGM school climate and more student safety, which are positively related to SGMY mental health. Implications for research and application will be discussed.

Mortality**Electoral Democracy and Working-age Mortality** Jennifer Karas Montez* Jennifer Karas Montez, Kent Jason Cheng, Jacob M. Grumbach,

Working-age mortality rates are rising in the U.S., an alarming trend that predates the COVID-19 pandemic. Reasons for the rise are not fully understood, although several have been hypothesized. The potential role of democratic erosion has been overlooked, despite warnings about the deleterious consequences. This study estimated the association between electoral democracy and working-age mortality within U.S. states and examined how economic, behavioral, and social factors contributed to the association. **METHODS:** We used the State Democracy Index (SDI), an annual summary of each state's electoral democracy from 2000 to 2018. We merged the SDI with annual age-adjusted mortality rates for adults 25-64 years in each state. Regression models estimated the association between SDI and working-age mortality within states, using a 1-year lag and controlling for stable characteristics of states and annual measures of political party control, safety net policies, and share of the population that were immigrants. We examined how poverty, employment, alcohol consumption, sleep, marriage, violent crime, and incarceration may account for the association. **RESULTS:** Within a state, each unit increase in the SDI was associated with a significant 1.5% decrease in women's mortality and 1.2% decrease in men's mortality one year later, net of controls. Increasing the SDI from the 10th to 90th percentile of the SDI distribution may have resulted in 24,751 fewer deaths in 2019. Among the factors examined as contributors to the SDI-mortality association, only violent crime and incarceration rates were important. Taken together, those two factors accounted for 33% and 45% of the association among women and men, respectively. **CONCLUSION:** The erosion of democracy is a significant threat to population health. Improving electoral democracy could potentially avert many deaths among working-age adults.

Mortality**The Delta Wave: An Upper Bound on How COVID-19 Vaccination Shapes Population**

Mortality Patterns? Kaitlyn Berry* Kaitlyn Berry, Andrew Stokes, Rafeya Raquib, Keeley Morris, Elizabeth Wrigley-Field,

Background: Compared to other waves of the COVID-19 pandemic, the Delta wave was unique because it occurred (1) shortly after vaccine availability expanded to the full US adult population, (2) concurrently with initial booster dose recommendations for some groups, (3) before infection-induced immunity became ubiquitous, and (4) during summer rather than winter months.

Aim: We evaluated whether the unique features of the Delta wave resulted in demographically distinctive population-level COVID-19 mortality patterns.

Methods: We used provisional mortality statistics from the National Center for Health Statistics (NCHS) and single-race population estimates from the US Census Bureau to produce age-standardized COVID-19 mortality rates for each month between March 2020 and July 2022 by age and by US Census region. We identified mortality peaks using the month with the highest absolute number of COVID-19 deaths within each wave: initial (April 2020), Alpha (January 2021), Delta (September 2021), and Omicron (January 2022).

Results: Only 14% of Delta peak deaths in the US were among adults aged 85+ compared with 32% of initial, 30% of Alpha, and 24% of Omicron peak deaths. Similarly, the mortality surge during the Delta wave was substantially higher in the South compared with other regions; 62% of all US deaths during the Delta peak occurred in the South, compared to 14% of initial, 40% of Alpha, and 40% of Omicron peak deaths.

Next Steps: We will evaluate state-level factors such as age-specific vaccination rates and monthly temperatures as predictors of the observed mortality patterns during the Delta wave.

Conclusion: Populations that were less vaccinated, including middle-aged adults and people living in the South, experienced greater mortality peaks during the Delta wave than other groups. Because of its temporal proximity to widespread vaccine availability, the Delta wave may represent an upper bound on how COVID-19 vaccination shapes population mortality patterns.

Mortality**The historical and contemporary role of housing in maintaining the Black-white mortality gap** Nick Graetz* Nick Graetz, Sonya Porter, Danielle Sandler, Matthew Desmond,

Despite a vast literature on structural racism in the housing market producing and maintaining socioeconomic advantage for White Americans, housing remains understudied in explanations of racial mortality gaps. We describe how housing relations, particularly tenure (renting/owning) and home valuation, are central to explaining contemporary and historical income gradients in all-cause mortality and longevity gaps between Black and White Americans. First, we link millions of records from the long-form Decennial Census (2000) and American Community Survey (2014-2018) with death records from the Social Security Administration to estimate period life expectancy in 2001 and 2015-2019 by race, tenure, income, and home values. We examine period life expectancy over the past two decades using standard life table methods. We show that most improvement in Black life expectancy is driven by gains for Black homeowners, though White owners still have the highest life expectancy by far across the income distribution. Life expectancy has improved much more slowly for renters, and in some cases declined. Second, we link individuals (ages 0-20) in the 1940 Census to redlining maps from the Homeowners' Loan Corporation (1935-1940) and similar death records (1974-2022), estimating cohort life expectancies based on intergenerational housing trajectories (e.g., parent tenure, parent income, redlining grade). Last, we use a recently developed methodology for assessing the causal effects of the redlining maps that compares cross-boundary differences along boundaries to a comparison group of boundaries that had statistically similar pre-existing differences as the actual boundaries. Results from these analyses have not yet been disclosed by the Census Bureau. This study has important implications for health/housing policy, including the population health consequences of using private homeownership as the primary vehicle for American opportunity hoarding and wealth accumulation.

Policy**Is a state-level harm reduction policy score similarly predictive of opioid overdose deaths among racialized subgroups? Extending validation of the state Opioid Environment Policy Scale.**

Samantha Doonan* Samantha Doonan, Katherine Wheeler-Martin, Corey Davis, Silvia Martins, Magdalena Cerdá,

Background. Racialized disparities in opioid-related overdose deaths are widening. From 2010 to 2019, the Black-white opioid mortality ratio increased from 0.50 to 0.99.¹ Yet, few studies examine if opioid laws are equally effective across different racial/ethnic groups. **Methods.** As part of the development of an Opioid Environment Policy Scale, we used a modified Delphi process to obtain expert-ratings of 8 opioid laws on Likert scales of very harmful (0) to very helpful (4) and impact (0 to 4). Ratings were collated into policy domains and standardized. We tested whether the harm reduction domain that included naloxone access laws, overdose Good Samaritan laws, and drug-induced homicide laws (the latter reverse-coded) was differentially associated with overdose mortality across racial/ethnic groups. We used 2012-2019 legal data from the Prescription Drug Abuse Policy System and Carroll and colleagues² and 2013-2020 mortality data from the National Vital Statistics System for 50 states and D.C. We fit Poisson GEE models with state and year fixed effects and state clustering (autoregressive correlation) with policy exposures lagged by one-year. **Results.** There was no association between the state harm reduction domain score overall and the relative risk of overdose mortality, nor evidence of heterogeneity by race: Black/African American (0.95, 95% CI: 0.88, 1.02), Hispanic/Latino (0.98, 95% CI: 0.79, 1.21), White (1.05, 95% CI: 0.96, 1.15). The three harm reduction laws were also not associated with overdose deaths. **Discussion.** States rated by experts as having enacted more helpful harm reduction laws did not experience a reduction in overdose deaths associated with these laws. Unmeasured confounding and measurement error in capturing laws and mortality outcomes is possible. We are exploring alternate model specifications and future work will also consider local heterogeneity in implementation.

Reference doi's:

1. [10.1176/appi.ajp.2021.21040381](https://doi.org/10.1176/appi.ajp.2021.21040381)
2. [10.2139/ssrn.4171058](https://doi.org/10.2139/ssrn.4171058)

Place/Communities**Spatial and neighborhood data in the Collaborative Cohort of Cohorts for COVID-19**

Research (C4R) Jana Hirsch* Jana Hirsch, Lilah Besser, Talea Cornelius, Stephen Dickinson, Stephen Francisco, Marcia Jimenez, Hoda Abdel Magid, Yvonne Michael, Elizabeth Oeslner,

Neighborhood factors may create and reinforce geographic differences in COVID-19 experiences and long-term pandemic impact. These factors include social environments (e.g. employment landscapes), policy implementation (e.g. differences in COVID-19 mitigation mandates), built environment (e.g. housing quality and health care access), and natural environments (e.g. air quality and greenspace). To examine the health impact of neighborhood factors, we need longitudinal datasets of pre-pandemic neighborhood conditions and individual behaviors or health risks. A large, pooled sample with sufficient variability in geographic scope, participant diversity, and area-level neighborhood characteristics is critical to understand the role of context on COVID-19 outcomes. Our primary aim was to evaluate the value of Collaborative Cohort of Cohorts (C4R) for this purpose. C4R is a large geographically, racially/ethnically, and socioeconomically diverse study of 14 pooled cohorts in the US with harmonized data on health outcomes, including vaccination, COVID-19 infection, recovery, death, and more, from over 50,000 participants. We conducted surveys with key data staff for each of the cohorts to assess the spatial scale (e.g., tract, radial buffer, or zip code) and type of neighborhood measures within each cohort. We found that census tracts in which C4R cohort participants have lived covered 28% of the US land area, representing 52% of the US total population. Areas where participants have lived are more dense, urban, affluent, foreign-born, and educated and less car-dependent, employed, and green than the US on average. Ten of the 14 cohorts geocoded participants' addresses to identify their geographic location and collected neighborhood characteristics - most commonly social environment measures. C4R's combined sample opens numerous opportunities for well-powered research on the influence of neighborhood characteristics on COVID-19 outcomes across various geographies.

Environmental factors**Dynamic Tree Canopy Exposure and Cardiovascular Health: Insights from Mobile Phone****Location Data** Hanxue Wei* Hanxue Wei,

The relationship between green exposure and cardiovascular health has been increasingly documented, with studies showing that access to green spaces can have a positive impact on cardiovascular health. However, current research mainly focuses on measuring the tree canopy in people's home neighborhoods to represent their green exposure, ignoring the potential impact of exposure to those in their workplaces or leisure destinations.

To address this gap, this study uses millions of mobile phone location data in 20 of the most populated metropolitan areas in the United States, enabling tracking of tree canopy exposure not only in home neighborhoods but also in destination neighborhoods. A weight matrix is used to represent the mobility connection intensity between neighborhoods. This study also uses census-tract-level data on tree canopy, socioeconomic factors, and built environment as control variables.

This study seeks to answer three questions: (1) does tree canopy exposure affect cardiovascular diseases? (2) How does the impact of tree canopy exposure in home neighborhoods differ from that in destination neighborhoods? (3) How does weekday and weekend tree canopy exposure in destination neighborhoods differ in their relationship to cardiovascular diseases?

The study found that a larger difference in canopy exposure between destination neighborhoods and home neighborhoods, particularly during weekends, is positively correlated with cardiovascular health. Overall, the study provides new insights into the relationship between green exposure and cardiovascular health, which can inform urban planning and forestry initiatives aimed at promoting cardiovascular health.

Socioeconomic status

Associations between a novel measure of census tract-level credit insecurity and frequent mental distress in U.S. urban areas, 2020 Andrea Titus* Andrea Titus, Yuruo Li, Claire Kramer Mills, Benjamin Spoer, Taylor Lampe, Byoungjun Kim, Marc Gourevitch, Lorna Thorpe,

Background: Access to and utilization of consumer credit remains an understudied social determinant of health. We examined associations between a novel, small-area, multi-dimensional credit insecurity index (CII), and the prevalence of self-reported frequent mental distress across U.S. cities in 2020.

Methods: The census tract-level CII was developed by the Federal Reserve Bank of New York using Census population information and a nationally representative sample of anonymized Equifax credit report data. The CII was calculated for tracts in 766 cities displayed on the City Health Dashboard at the time of analysis, predominantly representing cities with over 50,000 population. The CII combined data on tract-level participation in the formal credit economy with information on the percent of individuals without revolving credit, percent with high credit utilization ($\geq 100\%$), and percent with deep subprime credit scores. Tracts were classified as credit-assured, credit-likely, mid-tier, at-risk, or credit-insecure. We used linear regression to examine associations between the CII and a modeled tract-level measure of frequent mental distress, obtained from the CDC PLACES project. Regression models were adjusted for neighborhood economic and demographic characteristics. We examined effect modification by U.S. region by including two-way interaction terms in regression models.

Results: In adjusted models, credit-insecure tracts had a modestly higher prevalence of frequent mental distress (prevalence difference = 0.37 percentage points; 95% CI = 0.32,0.43), compared to credit-assured tracts. Associations were most pronounced in the Midwest.

Conclusions: Local factors impacting credit access and utilization are often modifiable. The CII, a novel indicator of community financial wellbeing, may be an independent predictor of neighborhood health in U.S. cities and could illuminate policy targets to improve access to desirable credit products and downstream health outcomes.

Policy

Constructing county-level measures of sociopolitical climates that may influence the health of Latinos in the U.S. Fabiola Moncerrat Perez-Lua* Fabiola Moncerrat Perez-Lua, Maria-Elena De Trinidad Young Gabriela E. Lazalde,

U.S. and foreign-born Latinos in the U.S. experience the negative health impacts of the federal immigration system and state immigrant policies. Legal status has been linked to negative health outcomes among U.S. and foreign-born Latinos. State immigrant policies that either expand rights, protections, and benefits to immigrant residents or further criminalize and exclude immigrants have also been shown to influence the health of Latinos in the U.S. Recently, attention has been brought to the convergent influence of multiple restrictive and inclusive state immigrant policies on Latino health. However, less is known about the convergent influence of local immigrant policy implementation and social conditions on their health. Here, we constructed a composite index of local social and political climates that may influence the health of Latinos in California. Guided by the structural racism and racialized legal status frameworks, we conducted a policy scan and targeted literature review to identify policies and social inequities that have been linked to or may influence Latino health. Then, we constructed seven county-level measures of local policy climate using indicators of policy implementation in the healthcare, education, social welfare, employment, and policing and enforcement domains. We constructed 11 measures of social climate using indicators of social inequities in healthcare, education, labor, income, policing and enforcement, and environment. Policy and social measures were aggregated to generate composite scores of political and social climates. We generated maps to illustrate the county-level variation and geographical patterns in sociopolitical climates across the 58 California counties. This study provides an approach for measuring local-level variation in sociopolitical climates, and an opportunity to gain insights about the influence of local sociopolitical climates on Latino health.

LGBTQ+

Neighborhood Social Cohesion and Sleep Health among Sexual Minoritized US Adults and Intersections with Sex/Gender, Race/Ethnicity, and Age

Symielle A. Gaston* Symielle Gaston, Dana M. Alhasan, Rupsha Singh, Jamie A. Murkey, Christopher Payne, W. Braxton Jackson II, Chandra L. Jackson,

Introduction: Disparities in poor sleep health exist among sexual minoritized compared to heterosexual persons, which likely contributes to health disparities (e.g., depression) in sexual minoritized groups. Living in safe communities characterized by trust and social ties may buffer against stressors that drive sleep disparities; but neighborhood social cohesion (nSC) in relation to sleep health is understudied among sexual minoritized groups. Further, intersectionality or membership in multiple minoritized groups may exacerbate risk; yet it is rarely assessed. **Methods:** To investigate associations between perceived nSC and sleep health among US men and women aged ≥ 18 years who identified as 'lesbian or gay, bisexual, or something else', we pooled annual cross-sectional National Health Interview Survey data (2013-2018). Participants reported nSC, (categorized as low or medium vs. high) and sleep characteristics. Adjusting for sociodemographic and residence characteristics, we used Poisson regression with robust variance to estimate prevalence ratios (PRs) and 95% confidence intervals (CIs). **Results:** Among 5,158 sexual minoritized adults, 44% reported low, 31% medium, and 24% high nSC. Women, minoritized racial/ethnic groups, and young adults disproportionately reported low nSC. Adults perceiving low vs. high nSC had a higher prevalence of short sleep duration (< 7 hours: 37% vs. 29%) and poor sleep quality (e.g., insomnia symptoms: 65% vs. 55%). Overall, low nSC was associated with a 20% higher prevalence of insomnia symptoms (PR=1.20 [95% CI:1.11-1.30]) and medium nSC with a 12% higher prevalence (PR=1.12 [1.03-1.22]). Black sexual minoritized men with perceived low (PR=2.07 [1.15-3.74]) and medium (PR=2.05 [1.12-3.76]) vs. high nSC had the highest PRs for insomnia symptoms. **Conclusion:** Lower perceived nSC was associated with poorer sleep. Building relationships, safety, and trust within communities may help address sleep disparities among sexual minoritized adults.

Structural factors**City LiFe (Community Investment vs Law enforcement and Incarceration Funding): A novel database to assess the impact of local police versus social service funding on public safety**

Jonathan Burke* Jonathan Burke, Joshua Ross, Tizeta Wolde, D. Akeim George, Bryce England, Howard Chernick, Charles Cleland, Magdalena Cerda,

Introduction: Violence continues to be a major source of death and suffering in United States cities despite decades of criminalization strategies to address the issue. But, delineating the effect of city budgetary decisions on public safety outcomes is limited by data that have too few cities, short duration, and are too general in their funding categorizations.

Methods: Using the 2020 Census, we identified cities with populations >100,000 that constituted >70% of their respective county and had complete county-level data for violent outcomes in the Centers for Disease Control (CDC) Web-based Injury Statistics Query and Reporting System (WISQARS) from 2010-2019. For these cities, we perused publicly available city budgets for actual funding in the categories of police, carceral, and support services to directly (primary) and indirectly (secondary) meet essential needs like food, housing, and health care. Two reviewers independently collected the data for each city with ambiguities resolved by detailed investigation and consensus decision. We summarized budgetary allocations in the support/police funding (SPF) ratio.

Results: Among the 34 included cities, the median population was 465,264 (Interquartile Range [IQR]: 252,868-663,985). From 2010 to 2019, police funding across cities had mean 22.6% increase (Standard Deviation [SD] = 19.4), primary support service funding had mean 25.2% increase (SD = 28.4), and SPF ratios had mean 4.0% increase (SD = 26.3). 2019 SPF ratios had median 0.48 (IQR: 0.34-0.87). In simple linear regression, cities in the top 25% of SPF ratios in 2019 had 1.6 (95% Confidence Interval: -7.3-10.6) more homicides per 100,000 people than those in the bottom 25%.

Conclusion: We created a novel longitudinal database of budgetary allocations to police and support services in 34 cities that are approximately co-synchronous with their counties. This will allow more accurate assessments of the effect of local budget allocations on public safety outcomes.

Structural factors**Gender-based inequities in area-level deprivation** Alka Dev* Alka Dev, Lucy Skinner,

There is growing recognition of the instrumental role that one's context plays in determining health outcomes over the life course. Variations in people's social determinants of health can lead to gross inequities in health outcomes across communities, a policy perspective established in the U.K. decades ago. Twenty years ago in the U.S., Singh constructed a composite area-level deprivation index (ADI) based on 1990 census tract data to measure the multidimensional nature of socioeconomic complexity at the community level that could not be approximated by a single measure alone. Since then, area-level deprivation has been associated with various adverse health outcomes, including preterm birth at the census division level, and cancer patient outcomes, including depression and anxiety, and cardiac readmissions at the zip code level. Recently, researchers have found three distinct dimensions to the measure, the ADI-3, consisting of neighborhood financial strength, economic hardship and inequality, and educational attainment. We aimed to determine whether area-level deprivation has a gender lens among people of reproductive ages. Using two approaches, we analyzed the 2021 American Community Survey 5-year Public Use Microdata Sample to explore male-female differences in area deprivation for people aged 15 - 55 years. In the first approach, we calculated a single score using principal component analysis to compare the overall ADI with those specific to men and women over 982 public use microdata areas (PUMA). In the second approach, we used exploratory factor analysis to determine whether the dimensions for overall, male, and female ADIs were statistically similar. Our preliminary findings show that a global ADI based on one principal component is not consistent by gender. In at least 10% of PUMAs, the ADIs were significantly different across the two groups. We also found three dimensions to the ADI but did not find these dimensions to be stable by gender, i.e., there were compositional differences in factors measuring deprivation across men and women. In the next phase, we plan to test the construct validity of the index with respect to men and women and to present results on the gender-based structural differences at the county level. Our study has implications for whether gender-specific health outcomes are correlated with the level of deprivation experienced by men versus women.

Structural factors

Unpacking The Relationship Between Structural Racism and Intergenerational Wealth and Health Outcomes: A Spatial Regression Discontinuity Approach Shanise Owens* Shanise Owens, Edmund Seto, Anjum Hajat, Paul Fishman, Jerome Dugan, Ahoua Koné, Jesse Jones-Smith,

Background: Obesity, the second leading cause of preventable deaths in the United States (US), disproportionately impacts marginalized communities especially those impacted by systemic racism. Redlining, a form of structural racism, is a practice by which federal agencies and banks prohibited mortgage investments in predominantly racialized minority neighborhoods, contributing to residential segregation. Communities impacted by structural racism are more likely to live in obesogenic environments. We used a quasi-experimental design to explore the generational impact of redlining practices on wealth and health outcomes. **Methods:** We leveraged the longitudinal and genealogical nature of the Panel Study of Income Dynamics (PSID), a nationally representative sample of US families. To obtain our study sample we used redlining maps and census block-level data to identify first generation PSID families living in a grade C (yellow-lined) and grade D (redlined) areas, and used longitudinal data to measure income, wealth and body mass index (BMI) on third generation descendants. We exploited the geographical nature of the HOLC maps and PSID to implement a spatial regression discontinuity design, where treatment assignment is as-if random based upon the geographical boundary location of PSID families in yellow-lined vs. redlined areas. To estimate our effects, we used a location randomization approach and applied data-driven procedures to identify the most appropriate windows for valid inference. **Results:** Preliminary results reveal grandchildren with grandparents living in redlined areas have lower family income and higher BMI, yet also higher wealth outcomes than those with grandparents who lived yellow-lined areas. Further falsification and validity tests will illuminate the significance of these results. **Conclusion:** Elucidating the generational impact of structural racism can promote policies that address structural factors connected to income, wealth, and BMI inequities.

Structural factors

The impact of sanctuary policies on receipt of care among adult immigrants with diabetes living in the US Danielle Crookes* Danielle Crookes, Wanjiang Wang, Salome Goglichidze, Tarik Benmarhnia, Jennifer Lucas, David Ezekiel-Herrera, Maria-Elena De Trinidad Young, Miguel Marino, John Heintzman,

Immigrants of color experience a worsening of their cardiometabolic health with longer duration of residence in the US and have lower rates of preventive and disease management care use than the US-born. This is detrimental for disease progression among persons with diabetes. Federal immigration enforcement practices contribute to poorer healthcare access and health by increasing fear and isolation and decreasing mobility in the community. Sanctuary policies that mitigate the effects of federal enforcement in immigrant communities may improve immigrants' healthcare use. This study examines associations between 2017 county-level sanctuary policies and the receipt of recommended diabetes monitoring care among immigrant and non-immigrant patients in OCHIN, a network of community health centers across the US.

This study uses electronic health record (EHR) data from 18+ year old patients (n = 19,526) diagnosed with diabetes who were seen at OCHIN community health centers from 2012-2019. Eligible patients had to have EHR-recorded race/ethnicity, country of birth, and address. The exposure is county-level sanctuary policies in place in 2017 based on seven policies measured by the Immigrant Legal Resource Center. Policy exposure is based on patients' EHR-recorded county of residence in 2017. The outcomes are patients' receipt of four CDC-recommended diabetes monitoring care components: at least two HbA1c tests, two visits with a health provider, one cholesterol test, and one kidney test each year.

The study uses a difference-in-difference-in-difference analysis to examine differences in receipt of care between foreign and US-born patients before (2012-2014) and after (2018-2019) sanctuary policy adoption and between counties with greater and fewer policies in place. Findings from this study provide some of the first evidence regarding associations between sanctuary policies and receipt of on-going diabetes monitoring care among immigrant adults in the US.

Infants/children/youth**Primary School Context and Accelerated Epigenetic Aging in Black and White Children**

Connor Martz* Connor Martz, Aprile Benner, Bridget Goosby, Colter Mitchell, Lauren Gaydosh,

Childhood is a crucial stage of development that can impact biological susceptibility to disease later in life. Early-life education and racial inequities in school quality, achievement, and discipline can affect child health and development through stress and resource-mediated mechanisms. However, the relationship between primary school context and child health is understudied due to the infrequent occurrence of traditional risk factors for chronic disease during this developmental period. Epigenetic clocks, which are DNA methylation measures of biological aging, offer a promising tool to assess child development and health.

This study investigates associations between primary school context and biological aging among Black (n=805) and White (n=297) nine-year-olds in the Future of Families and Child Well-Being Study. Latent class analyses identified distinct race-specific typologies of primary school contexts from school and district data on segregation, discipline, achievement, resources, socioeconomic disadvantage, and racial bullying. Thirteen epigenetic clocks were used to examine cross-sectional associations between primary school context typologies and epigenetic age.

Three typologies of primary school context emerged for Black children: segregated and under-resourced (23.1%), segregated and resourced (47.6%), and integrated and resourced (29.3%). Two typologies were identified for White participants: socioeconomically disadvantaged (25.6%) and socioeconomically advantaged (74.4%). Evidence of accelerated aging was observed in four epigenetic clocks for Black children attending segregated and under-resourced schools and in two epigenetic clocks for White children attending socioeconomically disadvantaged schools. Two epigenetic clocks indicated decelerated aging for Black children attending integrated and resourced schools. Findings suggest that structural racism in early-life education may contribute to pediatric health inequities.

Interventions/Programs**Casino-based cash transfers and preterm birth among the Eastern Band of Cherokee Indians, 1990-2019** Julie Strominger* Julie Strominger, Parvati Singh,**Introduction**

The United States has seen increasing interest in using cash transfers to alleviate economic insecurity. Whereas conditional cash transfers (CCTs) have requirements, unconditional cash transfers (UCTs) provide cash without conditions. Limited research examines the impact of UCTs on birth outcomes such as preterm births (PTBs). We use a quasi-experimental UCT that began in 1995 among the Eastern Band of Cherokee Indians (EBCI) in North Carolina (NC) to examine whether exogenous income receipt impacts PTB. After a casino opened on the reservation, adult EBCI members began receiving UCTs from casino profits starting December 1995, which continue to be disbursed twice a year. We examine the impact of these cash transfers on PTB.

Methods

We obtained 1990-2019 NC singleton birth data. EBCI mothers residing in Graham, Jackson, and Swain counties (treated region) formed the treated group. Non-American Indian/Alaska Native (AIAN) mothers residing in the treated region formed the first comparison group. AIAN mothers and non-AIAN mothers in untreated regions in NC were the second and third comparison groups, respectively. We defined PTB as a birth occurring before 37 weeks of gestation. Our exposure was the total cash transfer amount an EBCI mother received by her child's birthdate. We used difference-in-difference-in-differences to examine the effect of the magnitude of cash receipt on risk of PTB in our treated group compared to the untreated groups. Analyses accounted for mother's age, education, marital status, number of prior pregnancies, infant's sex, and year and county fixed effects.

Results

Among EBCI women 21 years and older, for every thousand dollar increase in cumulative cash transfer amount, the risk of PTB increased by 0.02% (95% CI, 0.01-0.04). Exploratory analyses indicate that this increase may be due to increases in the risk of obese women giving birth. We found no relation between PTBs and cash transfer amount among EBCI women under 21 years.

Health equity

Racial and ethnic disparities in learning disabilities identification and service receipt in U.S. elementary schools. Paul Morgan* Paul Morgan, Eric Hu, George Farkas, Yoonkyung Oh, Marianne Hillemeier,

We analyzed a population-based cohort of U.S. elementary schoolchildren (N=15,140) followed from kindergarten entry to the end of fifth grade using survival analysis to examine whether and to what extent disparities attributable to race or ethnicity were occurring. Analyses adjusting for independently assessed indicators of academic and behavioral functioning, family socioeconomic status, and additional potential confounds indicated that Black and Hispanic children were less likely (adjusted odds ratios of .38 and .34, $p < .01$ and $.001$, respectively) to be identified and receiving supports for learning disabilities than observationally similar White children. Academic and behavioral functioning were strongly associated with the likelihood of learning disabilities identification. Results suggest health disparities attributable to race and ethnicity in learning disabilities identification and service receipt are currently occurring in U.S. elementary schools.

Health equity**Socio-demographic Disparities in Attention-deficit/Hyperactivity Disorder Diagnosis and Medication Use Among U.S. Elementary Schoolchildren** Paul Morgan* Paul Morgan, Eric Hu,

Importance: Whether socio-demographic disparities in ADHD diagnosis and treatment are occurring among U.S. elementary schoolchildren is currently unclear and in dispute.

Objective: We examined which groups of U.S. elementary schoolchildren are relatively less or more likely to be diagnosed and treated for ADHD.

Design: We analyzed observational data collected from a population-based cohort of schoolchildren ($N=10,920$) participating in the Early Childhood Longitudinal Study, Kindergarten Class of 2010-2011 (ECLS-K: 2011). The cohort was followed from kindergarten entry in 2010 or 2011 until the end of fifth grade.

Setting: Participating children were individually assessed as they attended kindergarten as well as first, second, third, fourth, and fifth grade.

Exposures: Parental report of children having an ADHD diagnosis and using prescription medication for ADHD from first to fifth grade.

Methods: We predicted ADHD diagnosis using race and ethnicity, age, socioeconomic status, birthweight, individually assessed academic, behavioral, and executive functioning, family language use, mental health, health insurance coverage, marital status, school composition, and geographic region. Additional analyses were stratified by biological sex. We predicted prescription medication use among those diagnosed with ADHD including separately for boys and girls.

Results: About 8% of children in the full sample were diagnosed with ADHD between first and fifth grade. Children who are Black (aOR, 0.60), girls (aOR, 0.55), and emergent bilinguals (aOR, 0.29) were less likely to have an ADHD diagnosis. Additional explanatory factors included maternal depression, mathematics achievement, inhibitory control, and externalizing problem behaviors. Black children's under-diagnosis occurred among boys. Emergent bilingual children's under-diagnosis occurred among both boys and girls. Girls (aOR, 0.52) and emergent bilinguals (aOR, 0.24) with ADHD were less likely to use prescription medication.

Conclusions: Socio-demographic disparities in ADHD diagnosis and treatment are occurring among U.S. elementary schoolchildren. Measured confounds including independently assessed symptomatology and impairment do not explain these disparities. Our findings provide additional support for cultural, linguistic, and biological sensitivity in ADHD diagnostic and treatment procedures currently in use for the U.S. pediatric population.

Health equity**Structural Racism and Cause-Specific Infant Mortality in Milwaukee County, Wisconsin**

Jessica Bishop-Royse* Jessica Bishop-Royse, LaShawn Murray,

Racial inequities in infant mortality persist, despite absolute declines to 5.6 deaths/1,000 births in 2020. Non-Hispanic Black infants are over twice as likely to die in the first year of life than Non-Hispanic white infants. Low levels of infant death suggest that solutions to addressing racial inequities may lie in understanding the composition of causes of infant mortality. Much of the health equity literature has been devoted to understanding the individual-level infant and maternal characteristics associated with infant death and its racial inequities. Little research has investigated the role of structural racism in cause-specific infant mortality, much less investigated its concurrent impact with individual infant and maternal characteristics.

Our analyses examine the direct effect of structural racism on cause-specific infant mortality and whether this impact by individual infant and maternal factors. We examined linked birth and infant death files for infants born in Milwaukee County from 2016-2018. Index of Concentration at the Extremes (ICE) scores were calculated for maternal residential zip codes. Using updates to the Dollfus cause of death classification scheme proposed by Nakamura, we combined several causes that we believe have etiological pathways that may be comparable. Deaths due to prematurity related conditions, obstetric conditions, and birth asphyxia were combined (POCBA) into one group of causes while the remaining causes were combined into "other causes".

Initial multinomial regression analysis found relative risk ratios that were higher for deaths due to other causes than deaths for prematurity, obstetric conditions, and birth asphyxia (POCBA) for infants whose mothers resided in areas with the most concentrated disadvantage. Covariates included infant race, maternal age, marital status, and education, as well as plurality and payment type. A model adjusted for only race found that black infants had higher RRR of deaths due to other causes than for POCBA causes. Fully adjusted multinomial logistic regression models found that ICE was significantly related to deaths due to prematurity, obstetric conditions, and birth asphyxia, but not to deaths of other causes. Interestingly, the association of infant race on risk of death due to both POCBA causes and other causes is ameliorated in the fully adjusted model.

These results suggest the continued influence of structural racism for infant health and survival in a hyper-segregated urban area like Milwaukee. These analyses also underscore the importance of measures of structural racism compared to individual maternal characteristics.

Mental health/function**Sexual Identity Centrality and Health Across Age Cohorts** Kristen Gustafson* Kristen Gustafson, Wendy Manning, Monica Longmore, Claire Kamp Dush,

Younger people more often report sexual minority (SM) identities such that about 20% of individuals ages 18-25 identify as LGBTQ+ (Jones, 2023). While many studies examine LGBTQ+ identities and health outcomes, only a handful of studies consider how central these identities are to individuals. Identity centrality (IC) is the importance of psychological attachment that individuals place on their identities and among those with SM identities linked to mental and physical health outcomes (Quinn et al., 2014). The objective of this study is to examine differences in sexual IC across two age groups and assess the role of IC on mental and physical health. We draw on a population-based data source, the National Couples' Health and Time Study (NCHAT), which oversampled partnered sexual and gender diverse populations ages 20-60. We examine variation in IC for respondents with specific SM identities (gay/lesbian, bisexual, and another) (n=1,612) across two age groups (20-39 and 40-60). We expect respondents who identify as gay or lesbian and in the younger age group will have higher levels of sexual IC than those in the older age group. We also anticipate that IC will amplify the association between sexual identity and health outcomes for both age cohorts. We find IC is greater for gay and lesbian respondents for the whole sample (mean = 3.72; range 1-5) when compared with bisexual (3.11) and those reporting another sexual identity (3.29). This holds up across age groups who reported greater IC levels. Among younger respondents, IC is associated with higher levels of depression and worse physical health for gay and lesbian respondents, but not for other sexual identities or for older respondents. These results illustrate key sexual identity differences across different birth cohorts and the implications for health outcomes. This work showcases the importance of considering more than simply identity and focusing on the saliency of identities across age groups.

Mental health/function**Asian American & Pacific Islander LGBTQ+ Emerging Adult Mental Health: Current Trends and Next Steps** Sasha Zhou* Sasha Zhou,

Asian American and Pacific Islander (AAPI) LGBTQ+ adolescents and emerging adults are an especially high-risk group to consider in mental health research, often holding multiple marginalized statuses, and report discrimination based on race/ethnicity and immigration status at nearly double the rate of overall LGBTQ+ youth. There is a need for large, national studies that capture the experience of AAPI LGBTQ+ young and emerging adults to comprehensively elucidate the mental health burden on this often-overlooked population in the COVID-19 era. The objective of this study is to describe the national landscape of AAPI LGBTQ+ college and university student mental health using large scale data from the most recent administration of the Healthy Minds Study, conducted between September 2021-May 2022 (n=89,255) across 133 campuses in the United States. We used bi-variate analyses and cross-sectional logistic regression models to evaluate mental health symptoms, risk/protective factors, and treatment utilization across AAPI LGBTQ+ students. Preliminary findings indicate nearly 78% of AAPI LGBTQ+ respondents report the presence of one or more positive screen for depression, anxiety, eating disorder, suicidal ideation or non-suicidal self-injury. Among these students, approximately 57% report utilizing therapy or psychotropic medication. Experiences of discrimination and financial stress were the strongest correlates of mental health symptoms. Self-reported experiences of discrimination based on race, culture and sexual orientation were associated with higher odds of treatment utilization for AAPI LGBTQ+ domestic students, but not for international students. The data underscore the need to consider the adequacy of current approaches in supporting AAPI LGBTQ+ mental health, as well as unique ways to foster protective institutional and intrapersonal factors and increase investments to culturally responsive, gender affirming treatment and prevention programs that address mental health disparities already looming in minoritized communities.

Mental health/function**Rising Serious Mental Illness in Highly Educated Midlife and Older Adults** Kelsey Shaulis*

Kelsey Shaulis,

Mental illness prevalence is rising for all ages, but these trends are especially notable at midlife and older ages. Recent work highlights serious mental illness (SMI) prevalence is increasing especially quickly among older adults with any postsecondary education. The current study applies the concept of demographic metabolism (the theory that societies change as a result of the changing composition of their members) to model multi-dimensional population projections of US adults aged 35 and older who live with SMI from 1990 to 2050. The study aims to examine how the age, sex, and education structures of the population shape the prevalence of SMI in midlife and older adults. Base population projections are gathered from the Wittgenstein Centre for Demography and Global Human Capital. Corresponding prevalence rates of SMI are estimated using data from the 2005-2019 National Survey on Drug Use and Health based on a sample of approximately 40,000 adults per wave. Projections show an increase in the total number of midlife and older adults living with SMI by 2050. Growth in the number of adults living with SMI by education level mirrors the growth of the total population of adults by education level. Among adults with a postsecondary education, the prevalence of SMI remains stable. These results suggest that previously observed changes in SMI prevalence by education level can be understood through the movement of a greater number of adults into higher levels of education.

Place/Communities**Associations between Mobility-Based Green Space Exposure and Emotional Experiences****Differ by Gender** Samantha Gailey* Samantha Gailey, Huyen Le, Yingling Fan,

Background: Population research on the health and emotional benefits of green space largely delimits exposure to the residential environment. This approach does not account for additional (i.e., “mobility-based”) settings in which people experience and benefit from green space. Emotional responses to mobility-based green space exposure, moreover, may differ by gender. Women typically report lower levels of happiness in public spaces but greater belongingness in natural spaces than men. As such, greater exposure to green space in mobility-based settings may reduce the gender gap in happiness.

Methods: We used a GPS-enabled smartphone application (*Daynamica*) to collect data on participants’ locations, travel episodes, and activities for 1 week in the Minneapolis-St. Paul metropolitan area, 2016-2017. Participants (n=362) completed real-time mobile surveys (ecological momentary assessments; EMA) about emotions during each activity/travel episode (n=10,421). We linked environmental data from Open Street Map on green space within a 50-meter buffer along daily routes to operationalize a mobility-based measure of green space exposure. Longitudinal fixed-effects models estimated within-person associations between mobility-based green space exposure and self-reported happiness, controlling for time-varying individual, trip, and area-level characteristics. We further stratified models by gender to explore differences in emotional responses to mobility-based green space exposure among self-identified men and women.

Results: Mobility-based green space exposure varied positively with self-reported happiness among women but not men.

Conclusions: Findings support our hypothesis that exposure to green space in mobility-based settings conferred emotional benefits to women. Methodologically, results suggest that smartphone-based GPS tracking paired with EMA can capture more granular spatial and emotional experiences that may hold relevance for population health and gender equity.

Environmental factors**Association Between Self-Reported Lack of Access to a Neighborhood Park and High Blood Pressure** Stephanie Kjelstrom* Stephanie Kjelstrom, Richard Hass, Russell McIntire,

Prior studies found a lower risk of high blood pressure (HBP) with proximity to green spaces. Several studies have connected neighborhood environment and area deprivation to physical activity and park usage. We considered access to and feeling comfortable visiting neighborhood parks and their association with self-reported HBP. As well as effect modification by race, education, and poverty status.

A representative sample of adults from the 2018 Southeastern Pennsylvania Household Health Survey was asked if they had ever been told they had HBP by a healthcare provider, and if there is a neighborhood park or outdoor space they are comfortable visiting during the day. Response options for the park question were "Yes, there is a park in your neighborhood that you are comfortable visiting", "No, there is no park in your neighborhood" and "No, there is a park in your neighborhood, but you are not comfortable visiting it". To assess the association between HBP and park access and perceptions, we built multivariable multi-level logistic models to account for variation by zip code. Interactions were added to the model to analyze effect modification.

In our unadjusted model, not having a neighborhood park and having a park but not feeling comfortable visiting were associated with 70% and 90% higher odds of HBP, compared to having a park and feeling comfortable visiting. After adjustment, the odds ratios for both park answers remained significant (aOR 1.4 (1.1, 1.7), aOR 1.4 (1.03, 2.0)). Compared to Whites with a park, Blacks' odds of HBP increased with less access (95% (with park), 169% (no park), 250% (park not comfortable)). No effect was observed for education or poverty.

We can infer from our results that even after accounting for other risk factors for HBP, not having a park in a neighborhood or having a park but not feeling comfortable visiting may influence individual BP. Neighborhood factors that deter park access may contribute to racial disparities in HBP.

Environmental factors**Rural-Urban Differences in Associations between Air Pollution and Cardiovascular Disease Mortality** Yue Sun* Yue Sun,

Geographic disparities in cardiovascular disease mortality are large in the United States. Recent explanations focus mainly on differences in the population composition of health behaviors and social determinants of health, such as socioeconomic composition. While air pollution is also a known factor in individual-level heart disease burden, it is unclear what role physical environmental conditions, such as air pollution, play in explaining geographic disparities in heart disease mortality. Moreover, the effects of air pollution may be stronger in rural areas because rural residents are more likely to work outdoors and be exposed to outdoor air pollution. In this study, I examine associations between air pollution and county-level cardiovascular disease mortality and how these associations vary across rural and urban areas. To answer these questions, I merged county-level data from multiple sources. Fine particulate matter (PM 2.5) concentration as of 2013-2015 was from the Center for Air, Climate, and Energy Solutions. I calculated age-adjusted cardiovascular disease mortality as of 2016-2018 using the restricted death certificate files of National Vital Statistics System. Using spatial regression models, I find that higher concentrations of PM 2.5 are associated with higher cardiovascular disease mortality rates, controlling for counties' rural-urban status, gross domestic product, median household income, racial/ethnic composition, health care resources, and prevalence of smoking and excessive drinking. However, the association between PM 2.5 and cardiovascular disease mortality varies across rural and urban counties. PM 2.5 predicts higher cardiovascular disease mortality in rural than in urban areas. These findings reveal the importance of air quality on the cardiovascular disease burden in both urban and rural areas, but raises concerns about the disproportionate burden in rural areas and how PM 2.5 may be contributing to the rural mortality penalty.

Environmental factors**Who Bears the Cost? Leveraging Community-Academic Collaborative Efforts to Advocate for Environmental and Data Justice for North Denver Communities** Carla Nyquist* Carla Nyquist, Ruth Mekonnen,

Achieving progress towards environmental justice relies on broad-based action and policy change. Colorado's North Denver communities have led the fight for these changes, calling attention to the disproportionate burden of environmental health impacts their communities have faced for decades and demanding accountability. "Who Bears the Cost?: The North Denver Environmental Justice Report & Data Audit" resulted from a multi-year partnership between community organizers at environmental justice non-profit GreenLatinos and researchers at the Colorado School of Public Health. The primary goal was to obtain comprehensive information on the wide range of services and infrastructure located in this heavily industrialized area, as well as the environmental and health consequences for nearby community members, to support environmental justice advocacy and policy change. Data accessibility is key to environmental justice and community-led advocacy. Information about environmental pollution and impacts on communities' well-being is often not collected, collected in siloed ways, and/or held by private entities or research organizations but not shared in transparent ways with communities. "Who Bears the Cost?" summarizes key findings in the following areas: Land Use & Violations, Power Generation & Transportation Energy Production, Goods Production, Roads & Rail, and Waste Management. Any of these sectors poses a significant environmental health burden on communities; all of these interconnected sectors existing in this relatively small geographic area exposes North Denver residents to a compounding and cumulative set of burdens, while the benefits of these sectors largely flow to communities in surrounding areas. The report also highlights data and information gaps that prevent community members from knowing the true magnitude of impacts. An interactive ArcGIS StoryMap was also created to present findings in a format accessible to both communities and decision-makers.

Structural factors**Understanding the Legacy of Redlining on Contemporary Inequities in Birth Outcomes: Strengthening Causal Evidence using a Sibling Comparison Approach** Samantha Gailey*
Samantha Gailey, Theresa Osypuk,

In the US, birthing people racialized as Black remain more than twice as likely to experience adverse birth outcomes than other racial/ethnic groups. Scholars and policymakers have recently sought to understand how upstream discriminatory policies and practices, including historical redlining, adversely affect perinatal health. However, research on redlining—or the structural denial of mortgage financing based on neighborhood racial composition in the 1930s—has largely relied on ecological designs in geographically restricted areas, which limit causal understanding of whether redlining underlies contemporary population health inequities. This study improved upon past redlining/population health work by applying a rigorous identification strategy; we used a longitudinal sibling-linked dataset to test whether within-person changes in neighborhood HOLC grade due to moving affected risk of 6 birth outcomes, controlling for unobserved confounders and contemporary neighborhood disadvantage. Results show that moving to “riskier” neighborhoods, defined by historic HOLC grade, is deleterious for infant birthweight and risk of small-for-gestational age among Black, but not white or Hispanic, birthing people. For example, moving from a greenlined (“A” or “Best”) to a redlined (“D” or “Hazardous”) neighborhood corresponds with an average within-person decrease in birthweight of nearly 70 grams among Black birthing people between births. Findings are consistent with evidence that the federal practice of redlining systematically disadvantaged Black families so profoundly that racialized patterns of adverse health remain observable nearly a century later.

Health behaviors**Association of Suboptimal Sleep and the Prevalence of Type 2 Diabetes Mellitus among African Americans: The Jackson Heart Study** Rashun Miles* Rashun Miles, Jennifer Reneker, Elizabeth Heitman, Nelsona Atehortua De La Pena,

Background: Sleep is vitally important for physical and mental health. Suboptimal sleep (SS), characterized as sleep durations of 9 hours per night, is associated with an increased risk for Type 2 Diabetes Mellitus (T2DM). The association between SS-T2DM may differ by race/ethnicity. This research sought to examine the association between suboptimal sleep and T2DM among African Americans in the Jackson Heart Study.

Methods: Data from the Jackson Heart Sleep Study, an ancillary study of the Jackson Heart Study was utilized. The sample for the analysis totaled 673 African American adults. A logistic regression model was used to explore the association between T2DM (Yes/No) with sleep duration (<7, 7-9, or >9 hours). Covariates included in the analysis were age, sex, education, perceived health, income status, BMI, depression, and hypertension.

Results: There was no significant association between sleep duration and T2DM (OR=1.01, p=.70, 95% CI [0.81, 1.47]). Significantly increased odds of T2DM were associated with BMI (OR=1.05, p<0.03, 95% CI [1.02,1.08]), age (OR=1.04, p<0.000, 95% CI [1.021, 1.06]), hypertension (OR=3.07, p=0.002, 95% CI [1.53,6.18]), and depression (OR=2.10, p=0.02, 95% CI [1.03,4.32]). Significantly decreased odds of T2DM were associated with income status (OR =0.78, p = 0.03, 95% CI [0.63, 0.97]).

Conclusion: In this sample, there was no association between sleep and T2DM. Strong associations between known risk factors (i.e., BMI, age, and blood pressure) and T2DM were found as expected. An additional factor, which has not been well-demonstrated in the literature among an African American cohort, is depression and its association with T2DM. More research on the association of depression and T2DM among African Americans is needed, as increased depression and T2DM are associated with increased disability, poorer quality of life, and difficulties with self-management.

Health behaviors

Facilitating farmers market use among SNAP parents by collaboratively designing the FM Engage app Callie Ogland-Hand* Callie Ogland-Hand, Katie Poppe, Regan Gee, Tim Ciesielski, Maggie Switzer, Owusua Yamoah, Jillian Schulte, Darcy Freedman, Shannon Walker,

Background: Fruit and vegetable (FV) consumption is low among adults, particularly those receiving Supplemental Nutrition Assistance (SNAP) benefits. Among low-income working adults, SNAP users are more likely to be women and have children. Children in low-income households are less likely to meet recommendations for FV, but SNAP use has been shown to increase consumption. Farmers markets can improve access to FV, and nutrition incentive programs help alleviate healthy food access barriers. Limited awareness of these programs and farmers market operations is a common, though modifiable, barrier.

Objective: Our goal was to develop a web app FM Engage (Farmers Market Engagement), through an iterative, community-engaged process in order to facilitate the integration of farmers markets into food shopping routines for SNAP users with children.

Methods: Following a human centered design approach, development included three phases. (1) Inspiration: with our community nutrition partners, we established the goal of and target audience for FM Engage. (2) Ideation: Interviews with SNAP users and farmers market managers informed the design and functions of FM Engage version 1. We piloted FM Engage version 1 to test functionality, design, and utility. (3) Implementation: a randomized trial study is forthcoming.

Results: Core features identified in interviews were incorporated into FM Engage version 1, which alleviate existing challenges for SNAP parents accessing farmers markets. These features include: market information (GPS-link address, hours), likely available inventory and vendors, family-friendly events, shopping lists, and real-time updates from market managers.

Conclusions: There is a need for tools to help low-income families increase FV consumption by reducing barriers to farmers markets and nutrition incentive programs. Collaboration with SNAP participants helped us design an app that is user-informed; this may result in higher app adoption and increase FV purchases.

Health behaviors**Digital Intervention Development to Increase HIV/STI Home Testing, Linkage to Care, and Linkage to PrEP among Black Women in Texas** Liesl Nydegger* Liesl Nydegger, Camila Gaudin Gonzalez, Mandy Hill, J Mark Eddy,

Black women in Southern states are disproportionately impacted by HIV; Black women account for 67% of new HIV cases among women in the US and over half of new HIV diagnoses occur in Southern states. Travis County, Texas—which includes Austin and has a population of over 1.2 million—is one of 48 US counties identified by US DHHS as an HIV hotspot (i.e., high HIV diagnoses). There are dramatic racial disparities in these diagnoses: Black women make up 8.2% of women in Travis County yet account for 51% of women living with HIV. Among all women in Travis County, over 20% who are HIV-positive learned about their diagnosis one year after transmission as a result of failure to seek or access HIV/STI testing. We conducted formative research to finalize a digital intervention that combines the situated, information-motivation-behavioral skills (sIMB) model, mental contrasting, and implementation intentions to increase home testing, and linkage to care and pre-exposure prophylaxis (PrEP) for Black women at high risk for HIV. To date, we conducted 5 virtual focus groups with N = 15 participants. Data collection is still underway. Preliminary results indicated low perceived HIV risk, and barriers to home testing, linkage to care, and linkage to PrEP. Examples of barriers included conducting the HIV/STI home test incorrectly, finding time to take the test, anxiety regarding receiving results, cost of treatment and transportation, lack of information about PrEP, and overall distrust due to past mistreatment of marginalized communities. Participant suggestions for overcoming barriers include having tutorials for conducting the home test, reminder emails and texts, telemedicine, and having empathetic providers deliver important results. Guided by sIMB, mental contrasting, and implementation intentions, results will inform the finalization of a digital intervention. Next steps include pilot testing the intervention to assess accessibility and feasibility, and then evaluate efficacy.

Health behaviors**Adolescent Substance Use as a Robust Predictor of Young Adult Substance Use Disorders among Women in the United States: Results from the Add Health Study** Sarah Sharmin*
Sarah Sharmin, Johnelle Sparks,

Substance use disorders (SUD) are critical public health concerns because of their multilevel adverse impacts linked to individual negative health outcomes, declining life expectancy at the national level, and intergenerational health. The development trajectory of SUD differs by sex, where women are less likely to use substances than men, which led to limited research on SUD of women. This paper examines the early onset of adolescent (12-17 yrs) substance use as a predictor of young adult (18-26 yrs) SUD among women in the United States. The outcome, SUD, was operationalized as those who have experienced drunk driving, absence in school, problems with friends, families, and romantic relationships, and fighting due to drinking or the use of drugs (illegal and prescribed drugs). The primary predictor, the onset of substance use, was categorized into three categories: 1) never used, 2) used before/at 14 years, and 3) used after/at 15 years. We analyzed the association using Waves I and III from the National Longitudinal Study of Adolescent to Adult Health (Add Health), with a final analytic sample of 8,015 women. Results show that 33.9% were adolescent substance users, and 18.5% were women with substance use disorders. Using complex-survey weighted logistic regression models, we found that the onset of substance use before or at 14 years is more likely to lead to substance use disorders in early adulthood (OR=2.02, 95% C.I.=1.65-2.48) than non-users, net of individual characteristics such as race/ethnicity, marital status, academic performance, religiosity. Studying women's SUD prognosis will help develop policies focusing on women and not relying on overall SUD research outcomes for men.

Health behaviors**Reducing the Impacts of the Opioid Crisis on the Behavioral Health Underserved****Population** Jenny Bernard* Jenny Bernard, Victor Carrillo, Jazmin Cascante, Chinwe Ogedegbe,

Substance Use Disorder (SUD) produces significant harm to patients; as a medical condition that does not discriminate (CDC, 2022; Fine et al., 2020). Unsurprisingly, the USA polysubstance and opioid crisis continues to claim many lives. The catastrophic economic ramifications of overdoses and the cost of opioid misuse exceed \$78.5 billion (Luo et al., 2021; Stein et al., 2020). To make matters worse, health inequities disproportionately impact underserved communities struggling with SUD. As a result, a large healthcare network has invested in finding solutions to best meet the needs of this patient population. A Transitions of Care (TOC) program was created to provide comprehensive Behavioral Health (BH) care and community referrals at 10 different Acute Care Hospitals. The program offers care coordination, transportation, medications, discharge phone calls, equipment, etc. A fishbone diagram was used to visualize brainstorming ideas and examine cause-and-effect relationships. The information was also used to develop an improvement plan to address identified needs. **Findings:** Demographics: 687 patients (463 males, 220 females, and 4 transgender), ages ranged between 20 and 60 years old, and races included Black, White, and Hispanic. The McNemar Test determined a statistically significant difference between the readmission rates of patients not enrolled in the TOC program and those that were enrolled. The readmission rate for those not enrolled was 26%, and for those enrolled was 16% with a $P < 0.005$. Several obstacles were overcome, including leadership engagement, trust, and resource management. This project can be duplicated by following the workflow shared in this model. A strategic plan focused on utilizing savings from readmission prevention penalties to sustain improvement made will be discussed. Communities can flourish when targeted interventions are implemented.

Socioeconomic status**Health in Midlife in the UK and USA: Comparison of Two Nationally Representative****Cohorts** Jennifer Dowd* Jennifer Dowd, Charis Bridger Staatz, Iliya Gutin, George Ploubidis, Andrea Tilstra, Lauren Gaydosh,

International comparisons typically show that the USA has worse health than the UK. However, previous comparisons are typically in older age, with little understanding of differences in midlife. Socioeconomic inequalities in health have been demonstrated in both countries, but how inequalities in midlife health vary across the USA and UK is not known.

We compare mid-life health in the USA and UK using data from the 1970 British Cohort Study (BCS70) (N= 9,665) and the National Longitudinal Study of Adolescent to Adult Health (Add Health) (N=12,297), when cohort members were aged 34-46 and 32-42, respectively. Health is measured by sedentary time, smoking status, alcohol consumption, body mass index, self-rated health, cholesterol, blood pressure, and glycated haemoglobin (HbA1c) using modified Poisson regression. We also test whether associations vary by parental education, and own income and education level in midlife.

Midlife USA adults had worse health, particularly for unhealthy levels of cholesterol (RR 1.98, 95% CI: 1.27 to 3.1), alcohol consumption (RR 2.06, 95% CI: 1.80 to 2.37) and HbA1c (RR 3.61, 95% CI 2.11 to 6.19). Sedentary behaviour and smoking were the only outcomes with lower risk in the USA.

We find that for the majority of outcomes, the USA health disadvantaged was confirmed in mid-life. Moreover, there were smaller socioeconomic inequalities in midlife health in the UK. This may reflect different UK social policies such as the national health care and welfare that attenuate the impact of socioeconomic inequalities on health.

Socioeconomic status

Savings, income, and depression across the pandemic: the experience of Four Americas from 2020 - 2022 Catherine Ettman* Catherine Ettman, Gregory Cohen, Salma Abdalla, Brian Castrucci, Rachel Bork,

The prevalence of depression in U.S. adults during the COVID-19 pandemic has been high overall and particularly high among persons with fewer assets. Building on previous work on assets and mental health, we document the burden of depression in groups based on income and savings during the first two years of the COVID-19 pandemic. Using a nationally representative, longitudinal panel study of U.S. adults (N=1183) collected in April-May 2020 (T1), April-May 2021 (T2), and April-May 2022 (T3), we estimated the adjusted odds of reporting Clinically Relevant Depression (CRD)—defined as a score of ≥ 10 on the Patient Health Questionnaire-9 (PHQ-9)—at any time during the COVID-19 pandemic using generalized estimating equations (GEE). The prevalence of CRD was consistently high in Spring 2020, Spring 2021, and Spring 2022 with 26.8% of U.S. adults reporting CRD in Spring 2022. We found that there were four distinct “Americas” that experienced different CRD trajectories over the COVID-19 pandemic, grouped by income ($\geq \$65,000$) and savings ($\geq \$20,000$) categories. Low income-low savings (low-low) America had the highest level of CRD across time, reporting 4.9 times the odds (95% CI 3.32, 7.21) of CRD at any time relative to high income-high savings (high-high) America. The prevalence of CRD across T1, T2, and T3 was 41% for low-low America, 24% for high-low America, 19% for low-high America, and 12% for high-high America. Four Americas defined by income and savings groupings experienced different depression trajectories over the course of the COVID-19 pandemic. Persons with low income and low savings reported 4.9 times the odds of clinically relevant depression as persons with high income and high savings over the course of the pandemic. While discussions on equity often focus on income, incorporating savings may provide insights into population experiences and mental health.

Socioeconomic status**Education Disparities in Dual-Function Life Expectancy: Variation by Gender and Race-Ethnicity** Shawn Bauldry* Shawn Bauldry, Patricia Thomas, Madison Sauerteig-Rolston, Kenneth Ferraro,

Background: Recent work has developed a new concept, dual functionality, that represents the combination of physical and cognitive functioning. Both domains of functioning are important for independent living and quality of life among older adults. This study analyzes education-based disparities in dual functionality and dual-function life expectancy with a focus on how any disparities differ by gender and across racial-ethnic groups.

Methods: Using data from the Health and Retirement Study and the National Health Interview Study Linked Mortality Files, this study constructs a measure of dual functionality based on the absence of limitations in activities of daily living and dementia. Logit models are used to predict the prevalence of dual functionality across different levels of education, gender, and race-ethnicity (foreign-born Hispanic, US-born Hispanic, non-Hispanic Black, and non-Hispanic White) in five-year age intervals beginning at age 50 and top coded at age 85. The predicted dual-function rates are then used in Sullivan life tables to estimate age-50 dual-function life expectancy for various subgroups with bootstrapped standard errors.

Preliminary Results: Preliminary analyses reveal substantial disparities in the prevalence of dual functionality by education, gender, and race-ethnicity. For instance, at ages 50 to 54, we estimate a 5 to 10 percentage point gap between non-Hispanic Black older adults and White older adults. These gaps translate into substantial inequalities in age-50 dual-function life expectancies ranging from 2 to 12 years depending on the groups being compared.

Contributions: Dual-function life expectancy provides a measure of population health that accounts for quality of life and the capacity for independent living in a broader framework than past studies focusing on physical (e.g., disability free life expectancy) or cognitive (e.g., dementia free life expectancy) health in isolation.

Socioeconomic status**The Price of Success: Racial Differences in the Health Benefits of Graduate-Level****Education** Alexis C. Dennis* Alexis C. Dennis, Robert A. Hummer,

The education-health gradient is well-documented, such that higher educational attainment is generally associated with more favorable health status. Yet, much extant research on education-health gradients collapsed those who attained a bachelor's degree (BA) or higher into a single analytical group, leaving uncertainty about the existence of health inequality among those with graduate-level training. Moreover, Black Americans with a college degree do not always reap the same health benefits as White Americans with a college degree. It remains unclear whether these "differential returns" extend to minoritized racial groups with graduate-level training. This study addresses these gaps by testing hypotheses related to education-health gradients and "differential returns" among a nationally representative sample of White, Black, Hispanic, and Asian American adults (n=5,027). Preliminary findings show strong education-health gradients among Whites, such that when compared to White respondents who did not attain a BA, attaining a BA, some post baccalaureate training (post-bacc), a master's degree (MA), or a PhD is associated with fewer depressive symptoms, better self-rated health (SRH), lower cardiometabolic risk (CMR), and lower odds of obesity. In contrast, we found "differential returns" across health outcomes for minoritized racial groups who attained graduate-level training. In comparison to White adults who did not attain a BA, Hispanic Americans who attained a BA or some post-bacc and Asian Americans who attained a PhD reported worse SRH. Moreover, Black Americans who attained a BA, some post-bacc training, or a MA reported higher average depressive symptoms, CMR, and odds of obesity, and worse SRH. Collectively, our findings challenge the notion that high educational attainment is the "great equalizer" for racial/ethnic health inequality and suggest the graduate training experience may increase health-related risks for some minoritized racial groups.

Socioeconomic status**SES-Based Disrespect, Discrimination and Shaming: A Potential Source of Health****Inequalities?** Bruce Link* Bruce Link, Rengin Firat, Junita San Garcia, Shayna La Scalla, Jo Phelan,

Observing an association between socioeconomic status (SES) and health reliably leads to the question, "What are the pathways involved?" Despite enormous investment in research on the characteristics, behaviors and traits of people disadvantaged with respect to health inequalities, the issue remains unresolved. We turn attention to actions of more advantaged groups by asking people of lower SES to self-report exposure to disrespect, discrimination, exclusion, and shaming (DDES) from people above them in the SES hierarchy. A review by Link and Garcia (2021) found very few studies of health inequalities addressing these issues and no major publicly available data sets that incorporate them. As a result, we use fundamental cause theory's elaboration to racism and stigma and to the idea that an enduring desire to keep other people down (exploit/dominate them), in (control them), or away (exclude or segregate them) might also apply to SES health inequalities. In light of this reasoning, we developed measures of SES-based DDES and administered them to a cross-sectional US national probability sample (N= 1209). Variables assessing DDES accounted for substantial percentages of the association between SES and anxiety (100%), self-reported health (43.8 %), and cardiovascular-related conditions (49.4%). Sensitivity analyses reveal that unmeasured confounding or reverse causation processes would need to be extremely large to account for the results. While this turns to a relational perspective - to what people do to each other - requires further elaboration and testing our results suggest its potential value in understanding socioeconomic inequalities in health.

Gender**CMS OMH's Multifaceted Approach to Addressing Health Disparities** Nancy Chiles Shaffer*
Caroline Wagner,

Sexual and gender minorities are among the target populations for which the Centers for Medicare & Medicare Service Office of Minority Health (CMS OMH) is dedicated to identifying, understanding, and addressing the impact of health disparities. While LGBTQI+ individuals often collectively experience stigmatization for their sexual orientation or gender identity and expression, the intersectionality of race, ethnicity, income, and other social determinants of health, make sexual and gender minorities especially susceptible to poor health outcomes.

During this session, CMS OMH will highlight how we're working consistently and conscientiously to address these disparities. We'll begin with an overview of how we operationalize health equity through CMS's Framework for Health Equity, before highlighting ongoing initiatives, including strategies to improve sexual orientation and gender identity data collection to better understand barriers to care and help improve the health of LGPTQI+ populations. Additionally, CMS OMH will emphasize the importance of using a multifaceted approach to accelerate health equity, highlighting how we're working across sectors, expanding our stakeholder engagement strategy, focusing on soliciting feedback from those working directly on the frontlines, and using the feedback we receive to guide our strategies.

Finally, we'll close by addressing the work ahead of us, particularly our continued efforts to ensure health equity is embedded within the Agency's policies and programs. To do so, CMS OMH will continue to expand our data collection efforts to ensure CMS OMH is developing policies and programs that meet the needs of LGBTQI+ communities and address the barriers they face.

Gender**Critical Approaches to Transgender Population Construction** Dylan Felt* Dylan Felt,

Effective population health research requires meaningful population definition. Per Krieger, “meaningfulness” is constructed in relation to the intrinsic and extrinsic dynamics which constitute populations. As transgender (trans) population health research has grown, there has been a correspondingly increased focus on developing “best practice” measures to identify trans populations. However, work in this area is limited by the imposition of cisnormative approaches to gender and sex measurement onto trans people, who often defy binary, discrete conceptualizations of gender and sex.

This session places critical trans theorizing in conversation with public health practice to interrogate the ways in which trans population health research has been limited by cisnormative biases in population measurement. First, drawing on the field of Trans Studies, I use Stryker’s reclamation of the transsexual-as-monstrous to consider the extent to which normative measures of sex and gender can be readily applied to groups deemed “unnatural” for their refusal to conform to expectations of gender and sex. I then explore real-world examples of how this manifests in research, focusing on the causes and consequences of trans population miscategorization—for example, how assumptions about trans people’s sex organs and sex lives have led to trans men being excluded from populations of “men who have sex with men” and from clinical trials for HIV pre-exposure prophylaxis. I use these examples to illuminate areas of subjectivity and researcher agency in creating trans populations, and draw on Karkazis’ framework of “The Gerrymandering of Sex” to explore how the borders of sex and gender are drawn through sociopolitical processes, locating population health research as one such process. I close by making recommendations for flexible, critical approaches to creating meaningful trans populations in survey data, focused on surfacing the role of the researcher in processes of population creation.

Gender

The use of structural stigma as a concept for research on the health effects of cissexism: A scoping review Evan L. Eschliman* Edwina Kisanga, Evan Eschliman, Danielle German, Sarah Murray, Michelle Kaufman,

Despite the proliferation of research's use of "structural stigma" to uncover and document the negative health effects of cissexism, the use of this concept to date has yet to be formally characterized. This scoping review aims to identify all usages of the term 'structural stigma' in health-related peer-reviewed empirical research on cissexism to elucidate trends in how the term has been defined and operationalized. The search syntax "structural stigma*" was used to identify all peer-reviewed articles that contain the term 'structural stigma' in five databases (i.e., PubMed, PsycINFO, Embase, Web of Science, and CINAHL) before September 1, 2022. Duplicates were removed, and two reviewers screened all title and abstracts, then reviewed full-texts. Articles were eligible for inclusion if they were empirical, peer-reviewed research articles written in English that included the term 'structural stigma' anywhere in the main text and had a focus on the health of transgender, nonbinary, intersex, or other gender-expansive people. Of the 37 included articles, all were published within the past 10 years and 79% were published in 2020 or later. 16 (43%) used solely quantitative methods, 14 (38%) used solely qualitative methods, and 7 (19%) used multiple or mixed methods. A majority of these articles (n = 27, 73%) were in the U.S., and most studies looked at either cissexism's effects on mental health or experiences of stigma and discrimination. 35% of the studies did not provide a definition of structural stigma, and just over one-fifth (n = 8, 22%) of the articles engaged with intersectionality. Participants in these studies were overwhelmingly white and high socioeconomic status, and few studies included gender expansive individuals outside of transgender women and transgender men. No articles focused solely on nonbinary people's health or intersex people's health. The concept of structural stigma is increasingly being used to examine the negative health effects of cissexism, yet gaps remain in its operationalization. Furthermore, there is a need for more diverse representation within studies that discuss structural cissexism, as well as greater utilization of intersectionality to understand the ways that intersecting axes of stigma and oppression shape gender expansive people's experiences of cissexism.

Gender

The Way to a Man's Heart (Disease): Exploring Connections between Male Adherence with Gendered Behavior and Cardiovascular Disease Risk Nathaniel Glasser* Nathaniel Glasser, Harold Pollack, Jacob Jameson,

Objective: Cardiovascular disease (CVD) is a major source of modifiable morbidity and mortality. Rates vary by gender. We examine associations between male gendered behaviors (GB) in adolescence and early adulthood, and outcomes related to CVD risk conditions (hypertension, diabetes, and hyperlipidemia) in middle adulthood.

Methods: Prospective cohort study uses Wave I (1994-1995, participants aged 12-18), Wave IV (2008-2009, participants 23-32), and Wave V (2016-2018, participants 33-43) data from National Longitudinal Study of Adolescent to Adult Health. Associations between empirically-derived measure of male GB and hypertension, diabetes, and hyperlipidemia diagnoses, bio-measure data, and medication use modeled using multivariable regression, adjusting for participant and neighborhood covariates.

Results: among 1,476 males included, increased GB among males in Wave IV was associated with lower odds of diagnosis with all three conditions in Wave V: hypertension ($\beta = -0.21$, $p < 0.01$), diabetes ($\beta = -0.27$, $p < 0.01$), and hyperlipidemia ($\beta = -0.16$, $p = 0.01$). Lower odds of diagnoses were not explained by bio-measures, which did not signal significant associations between male GB and physiologic outcomes. However, male GB in Wave IV was significantly associated with lower marginal rates of Wave V medication use in men with poorly controlled blood pressure ($dy/dx = -0.04$, $p = 0.03$) and self-reported diagnoses of hypertension ($dy/dx = -0.08$, $p = 0.03$). Increased male GB in Wave I was also significantly associated with decreased Wave V anti-hypertensive use in men diagnosed with hypertension ($\beta = -0.10$, $p < 0.01$).

Conclusions: Consistent with prior data that men are less likely to utilize preventive health care, we find that male GB are significantly associated with under-diagnosis and under-treatment of CVD-risk conditions.

Gender

Evolution of depression and anxiety over the COVID-19 pandemic across gender and other demographic groups in a large sample of U.S. adults Catherine Ettman* Catherine Ettman, Elena Badillo Goicoechea, Elizabeth Stuart,

Poor mental health has been highlighted during the COVID-19 pandemic. However, there is little understanding of how mental health evolved over the course of the pandemic and whether trends differed across populations. In particular, there are few studies that have separately documented the evolution of mental health of male, female, and non-binary persons in the U.S. during the pandemic. We aimed to document trends of feelings of depression and anxiety over the course of the COVID-19 pandemic across age, gender, education, and employment groups. Using a large, national, serial cross-sectional sample of adult Facebook users in the U.S. collected through the COVID-19 Trends and Impact Survey (CTIS) in partnership with Facebook/Meta, we examined trends in feelings of depression and anxiety from April 2020 through June 2022 (n=21,359,165). We found that non-binary persons reported the highest levels of depression or anxiety at any time during the pandemic relative to all other groups studied. Over time, differences in feelings of anxiety and depression widened for educational attainment, stayed consistent between employment groups, and narrowed for female v. male and age groups. By the end of our study period (April-June 2022), non-binary persons reported 5 times the odds, younger persons reported 6-7 times the odds, persons with a high school degree reported 2 times the odds, and persons who were not employed reported 1.3 - 1.5 times the odds of feelings of depression or anxiety relative to counterparts who were older, male, had graduate degrees, or who were employed, respectively. The risk factors most highly associated with poor mental health two years into the pandemic were non-binary gender, young age, and low educational attainment. Findings suggest that efforts to reduce disparities in mental health and address ongoing population mental health needs beyond the pandemic should focus on persons identifying with a non-binary gender, younger persons, and persons with lower educational attainment.

Reproductive health

Exploring insurance as a key predictor of contraception choice Monika Nayak* Monika Nayak, Elizabeth Ranson,

Preventing unintended pregnancy is both essential to individual health and self-determination and increasingly salient in national policy discourse. Though the Affordable Care Act improved coverage of contraceptive services, inequities persist in insurance coverage, provider counseling, and use.

This study uniquely uses the most recent 2017-2019 National Survey of Family Growth (NSFG) to disentangle the relationships between insurance coverage and contraceptive use across the life course among those concerned with preventing pregnancy. We used multivariate multinomial logistic regression and related sensitivity analyses to understand population-wide determinants of prescribed and non-prescribed contraceptive use.

After holding influential demographics constant, we found robust evidence that insurance status and type are associated with differential contraceptive use at the population level. Insured respondents used scheduled methods, such as birth control pills, and long-acting reversible contraception (LARC), such as intrauterine devices, more often (64.4%) compared to uninsured (51.9%). Privately insured respondents used scheduled methods at higher rates (31.9%) than uninsured or Medicaid recipients (18.6% and 18%, respectively). However, Medicaid recipients used LARCs at higher rates (23.5%) than privately insured respondents (19%). While significantly more white respondents used prescribed methods overall, Black respondents reported higher LARC usage than their white counterparts or those of other racial identities. We also found disparate usage across additional demographics (age, religion, religiosity, race, Hispanic ethnicity, relationship status, and income).

Given increasing restrictions on reproductive health in the U.S., addressing inequities in contraception access is of immediate concern. And, while contraception choice is influenced by individual identities and values, insurance is one variable more amenable to policy change at the population level.

Place/Communities**Neighborhood-level aggressive policing and racialized inequities in preterm birth in****Seattle, Washington** Taylor Riley* Taylor Riley, Anjum Hajat,

Most studies capturing the health effects of police violence focus on the direct effects on individuals, but a burgeoning field of study is capturing the community-level and vicarious health effects of policing. Police violence is a reproductive justice issue, but few empirical studies have examined policing as a determinant of racialized inequities in preterm birth. We conducted a multilevel study on the association between neighborhood-level aggressive policing, including use-of-force and stop-and-frisk practices, on preterm birth (< 37 weeks) in Seattle, Washington from 2017-2019. We hypothesized racially minoritized birthing people in neighborhoods with higher rates of aggressive policing will experience increased preterm birth risk due to the hypothesized mechanism of elevated levels of stress of living in heavily surveilled neighborhoods. Geocoded data from Seattle Police Department was spatially and temporally linked with all singleton births from the Washington Department of Health Birth Certificate data for the following exposure windows: cumulative average of 1 year before pregnancy and each trimester of pregnancy, which have been identified as sensitive periods. For the time periods during gestation, birth will be analyzed as a time-to-event outcome using multilevel Cox proportional hazard models. The pre-pregnancy exposure window will be analyzed with a modified Poisson regression model with a binary preterm birth outcome. All models will include random effects for zip code and adjust for individual (age at birth, education, insurance status, parity, infant sex, and the year and season of conception) and neighborhood covariates (measure of racial segregation and proportion of households with incomes below the federal poverty line). We will assess effect modification by birth parent race and country of birth because aggressive policing is conceptualized as a racialized stressor.

Reproductive health**Using sequence and cluster analysis to characterize U.S. state abortion policy trajectories from 1970 - 2014** Leah Koenig* Leah Koenig, Lucia Pacca, Rita Hamad, Anusha Vable,

Context and Objective: The 2022 *Dobbs v. Jackson Women's Health* U.S. Supreme Court ended a federal protection for abortion. However, in recent years, states have increasingly implemented policies restricting and protecting abortion. We sought to characterize U.S. states' abortion policy trajectories from 1970-2014.

Methods: We examined state policy data from all U.S. states from 1970 to 2014, and calculated a continuous index of abortion policy permissiveness. The index reflected the total number of protective abortion policies minus the number of restrictive abortion policies each year in each state, and was re-scaled from 0-1. We categorized this measure into quintiles ranging from very restrictive to very protective. We used sequence analysis to assess similarities between state abortion policy trajectories across the study period, and hierarchical clustering to group states with similar policy trajectories.

Results: State abortion policies were largely moderate or protective from the 1970s to 1990s. In several states, abortion policies grew more restrictive starting in the mid-1990s. We identified four abortion policy trajectory clusters: 1) states that were initially moderate and became restrictive in the 1990s, 2) states with initially protective policy environments that became restrictive in the 1990s, 3) states with protective policy environments that became restrictive in the mid-2000s, and 4) states with protective abortion policies throughout the study period. States that grew more restrictive (clusters 1-3) were predominantly located in the South and Midwest. Consistently protective states were most likely to be on the East and West coasts.

Conclusions: Even prior to the *Dobbs* decision, abortion policy had been growing more restrictive in many U.S. states, especially in the period between the mid-1990s and 2014. Abortion policies have become increasingly polarized over time. Reproductive autonomy is increasingly curtailed and determined by state of residence.

Reproductive health

Sexual Orientation Disparities in Pregnancy Loss Colleen Reynolds* Colleen Reynolds, Payal Chakraborty, Tabor Hoatson, Jarvis Chen, Lori Chibnik, Janet Rich-Edwards, Brittany Charlton,

Background: Pregnancy loss (e.g., miscarriage, stillbirth) is the most common pregnancy complication—roughly 20% of clinically recognized pregnancies end in a loss. However, little research has examined disparities in pregnancy loss by sexual orientation.

Methods: We used data from all pregnancies, excluding induced abortions, reported in the Nurses' Health Study 2 (NHS2), a longitudinal cohort (146,652 pregnancies to 52,212 participants). Participants reported whether each pregnancy ended in induced abortion, loss (ectopic/tubal, miscarriage, stillbirth), or live birth. Using weighted log-binomial generalized estimating equation (GEE) models, we compared the risk of pregnancy loss for pregnancies among completely heterosexual participants (reference) to those among four sexual minority (SM) groups: completely heterosexual with same-sex attraction/partners/prior SM identity (heterosexual SM), mostly heterosexual, bisexual, and lesbian participants. Weights were constructed based on (a) inverse probability of treatment conditional on demographic characteristics (addressing confounding); (b) inverse probability of censoring (to account for causes of selection, e.g. induced abortion); and (c) the inverse of the number of pregnancies per participant (to address informative cluster size).

Results: 17% of pregnancies ended in a loss. Pregnancies among SM participants were more likely to end in a loss (RR[95% CI]: 1.19[1.13-1.26]), including ectopic/tubal (1.43[1.15-1.78]) and miscarriage (1.19[1.12-1.26]). Pregnancies among lesbians were most likely to end in loss (1.83[1.34-2.49]), including ectopic/tubal (2.70[1.09-6.69]), miscarriage (1.66[1.17-2.37]), or stillbirth (3.56[1.53-8.30]).

Conclusions: Pregnancies among SMs are disproportionately likely to end in a loss. Future research should evaluate potential mechanisms driving these disparities (e.g., heterosexist discrimination, pelvic inflammatory disease, assisted reproductive technology, prenatal care).

Policy

Moral distress among obstetrician-gynecologists in states with restrictive abortion laws: Preliminary findings from the Study of OB-GYNs in Post-Roe America Erika Sabbath* Erika Sabbath, Mara Buchbinder, Kavita Arora, Samantha McKetchnie,

Background: In June 2022, the U.S. Supreme Court issued the *Dobbs v. Jackson* decision, eliminating the federal right to an abortion and allowing states to ban abortion outright. Bans have had wide-ranging impacts on many aspects of reproductive health care, putting obstetrician-gynecologists (OB-GYNs) in positions of having to choose between appropriate clinical care for patients and their own legal jeopardy. Such situations are likely to create moral distress: a situation in which a healthcare provider knows the right course of clinical action, but is barred from taking that action by external constraints. The purpose of study is to characterize experiences of moral distress among OB-GYNs in states with the most restrictive abortion laws post-*Dobbs*, and to describe the impacts of this moral distress on OB-GYNs's health and wellbeing.

Methods: The Study of OB-GYNs in Post-Roe America (SOPRA) is a qualitative study consisting of semi-structured interviews with 54 OB-GYNs from 13 of the 14 states that had banned abortion as of March 2023. Data were collected from March through August 2023.

Findings: Fifty of 54 OB-GYNs described situations in which they knew the right course of clinical action, but were barred from taking it due to state laws. Morally distressing situations fell into four categories: needing to wait longer than necessary to provide lifesaving care; restrictions on counseling patients about options for a given pregnancy or directly discussing abortion; inability to provide needed care or direct referral; and conflicts with colleagues due to different levels of risk tolerance with respect to abortion bans. These morally distressing situations impacted participants both professionally (e.g. desire to leave one's state) and personally (e.g. sleep difficulties, mental health).

Conclusions: Findings reveal deep and widespread impacts of the laws on OB-GYNs, with implications for physician wellbeing and care availability in large parts of the United States.

Aging**COVID-19 Test, Vaccination, and Social Participation in Older Adults: The Moderating Role of Gender** Weidi Qin* Weidi Qin,

Recommended social distancing during COVID-19 pandemic has led to reduced social participation among older adults. The availability of COVID tests and vaccinations may have also influenced older adults' social participation. Pre-COVID evidence shows that women experience increased social participation than men in late life. However, little research has examined the gender differences in social participation during COVID. This study address two research questions: 1) Is receiving COVID test and vaccination associated with social participation levels in older adults? 2) Does gender moderate the association between test and vaccination of COVID and social participation levels? This study utilized a nationally representative sample of adults aged 71 or older from Round 11 of the National Health and Aging Trend Study (2021). COVID test and vaccination were ascertained respectively (yes or no). Respondents were asked whether COVID prevented them from participating in six activities: visiting family and friends, religious attendance, club meetings, going out for enjoyment, working, and volunteering. Weighted logistic regressions were performed to test the study aims for each activity and to generate population estimates. Results shows that women were more likely to refrain from social participation due to COVID than men. Being vaccinated was associated with higher odds of not visiting family and friends (OR = 1.50, $p = 0.015$) and not going out for enjoyment (OR = 1.44, $p = 0.007$). Gender moderated the association between COVID test and social participation. Specifically, among older adults who received COVID-19 test, women were more likely than men to refrain from participating in clubs (OR = 1.80, $p = 0.005$), enjoyment (OR = 1.49, $p = 0.030$), and volunteering (OR = 1.84, $p = 0.038$). Findings suggest an urgent need to provide gender-specific services to help older women recover and engage in post-COVID social participation.

Aging**Sex and Gender Differences in Risk Scores for Mid- and Late-Life Dementia and Alzheimer's Disease** Brooke Brady* Brooke Brady, Lidan Zheng, Scherazad Kootar, Kaarin Anstey,

Few studies have explored sex and gender differences in Alzheimer's Disease (AD) and dementia risk, despite compelling evidence that sex and gender can independently impact health. This study aimed to explore evidence for overall sex and gender differences in AD and dementia risk during mid-life and late-life. Observational data were drawn from the 2019 Behavioural Risk Factor Surveillance System. A matched-cohort approach was used to develop sex- and gender identity-based cohorts for comparison. Dementia and AD risk scores were calculated using established mid-life and late-life risk score algorithms (CAIDE, LIBRA and ANU-ADRI) and available data. Compared to those assigned female at birth, those assigned male at birth had higher mid-life dementia risk assessed using the CAIDE tool, higher mid-to-late-life dementia risk based on the LIBRA tool, and lower overall late-life AD risk based on the ANU-ADRI. No gender differences in mid or mid-to-late-life dementia risk could be detected. However, gender differences were present in late-life AD risk. Post-hoc comparisons revealed that transgender men, transgender women, and non-binary adults had higher overall late-life Alzheimer's Disease risk compared to both cisgender men and cisgender women. There may be unique sex and gender differences in mid-life and late-life dementia and AD risk. Future research is needed to build the evidence base for gender differences in specific risk factors, particularly those that may be contributing to higher overall risk among understudied and underserved gender groups.

Biomarkers or biological pathways**Gender differences in the association between advanced immune aging and physical disability** Grace Noppert* Grace Noppert, Grace Noppert,

Long standing gender inequities in physical disability have been repeatedly observed, however the mechanisms underlying this relationship remain poorly understood. Using data from the Health and Retirement Study, we investigated whether a multidimensional assessment of immune aging, defined by 4 measures: (1) immunoglobulin G (IgG) antibodies to cytomegalovirus (CMV), (2) CD8+:CD4+, (3) CD4+ EMRA: Naive, and (4) CD8+ EMRA: Naive, was associated with physical disability. Physical disability was assessed by self-reported difficulty on 6 activities of daily living (1+ vs.0). We employed gender-stratified, Poisson log binomial models to estimate the prevalence of ADL disability associated with a one-standard deviation (SD) increase in each immune measure. In age-adjusted models, a one SD increase in the CD8+:CD4+ ratio was associated with a 24% (PR= 1.24, 95% CI: 1.23, 1.25) greater prevalence of ADL disability among women, but not for men. We also observed statistically significant associations between CMV IgG and physical disability prevalence. One SD increase in CMV IgG was associated with a 7% greater prevalence of ADL disability among women (PR= 1.07, 95% CI: 1.03, 1.11). No other significant associations were observed. Results suggest more advanced immune aging may serve as an important mechanism in explaining gender inequities in physical disability.

Chronic disease

Timing of cancer across the life course: long-term consequences for socioeconomic outcomes Amanda Thomas* Amanda Thomas, Eric Grodsky, Chandra L. Muller, John Robert Warren,

Over the course of a lifetime almost 40% of Americans will be diagnosed with cancer. Due to advancements of treatments and therapies, more than 5% of the US population are cancer survivors. Despite the size of this population subgroup, little is known about the influence of cancer diagnosis and treatment timing on socioeconomic attainment due in part to few datasets having the breadth of longitudinal information needed to address these questions. Moreover, prior research has not considered heterogeneity in the effects of cancer diagnosis across racial/ethnic, gender, education, and family socioeconomic background groups.

Utilizing the High School and Beyond (HSB) dataset—a large (n~25,500) nationally representative cohort study of high school sophomores and seniors followed from 1980 through 2022—we evaluate the impact of cancer diagnosis in early- and mid-life on later life social and economic outcomes, specifically occupational status, earnings, and financial security. Additionally, we consider how these effects differ across racial/ethnic, gender, education, and family background groups.

From approximately 13,900 respondents to the 2021/2022 survey, nearly 13% (n = 1770) described ever being diagnosed with cancer. Another 490 cohort members died from various forms of cancer by 2021/2022. The most common cancers reported were skin (n = 630), breast (n=350) and prostate/vaginal (n=150 each). For roughly one-third of patients their cancer was diagnosed in adolescence or young adulthood (≤ 39 years old). Our outcomes—measured at age ~60 in 2021/2022—include occupational socioeconomic standing, income, financial precarity, and marital status. Our analyses will model these outcomes as a function of age and type of cancer diagnosis (net of key confounders) and will handle selective mortality from cancer in earlier years. They will then consider heterogeneity in these processes across population subgroups.

Chronic disease

Gendered experiences of Long COVID: Voices of patients Erica Rosser* Erica Rosser, Christine Fei, Angélica Lopez Hernandez, Gloria Sun, Heang-Lee Tan, Rosemary Morgan,

This qualitative study explores experiences of Long COVID among men and women of different racial and ethnic groups. Current studies indicate that women aged 40-60 are twice as likely to develop Long COVID, while after age 60 the risk level between men and women is similar. There has been a lot of uncertainty around Long COVID, with questions around whether it is real, who is experiencing it, and what care patients need. Despite this, there have been limited qualitative studies on patient experiences of Long COVID, particularly studies that explore gender, racial and ethnic differences.

We are conducting 80-90 semi-structured interviews with people who have been diagnosed with Long COVID from different racial and ethnic groups, with about 60% of the sample being women. Participants are being recruited from the Johns Hopkins Post-Acute COVID-19 Team Program, as well as through Johns Hopkins' electronic medical record system. Recruitment is taking place between November 2022 to April 2023. We will use an intersectional gender lens to explore differences in patient experiences between men and women of different racial and ethnic groups.

Preliminary findings reveal that participants faced various challenges to seeking healthcare, including lacking a clear pathway to care, visiting multiple doctors, not being believed or listened to, and having to advocate for themselves. Participants' socioeconomic status impacted their ability to navigate the health system, and some participants also faced gender and racial bias. Moreover, many participants experienced fear and anxiety, which profoundly impacted their mental health. In addition, Long COVID dramatically altered their lives, affecting their ability to work, socialize, and carry out daily activities. This led to financial stress, isolation, and a sense of loss and grief. These findings will be analyzed for gender, racial and ethnic differences, and will shed light on ways to promote equity in Long COVID care.

Environmental factors**Spatial & Demographic Patterns of Residential Proximity to Aging Oil & Gas Infrastructure in Colorado** Hannah Walters* Hannah Walters,

In the last ten years, oil and gas (OG) production in Colorado has quadrupled due to innovations in extractive technology, namely horizontal drilling, and hydraulic fracturing. While much scholarly and press attention has been justifiably focused on these newer, more intense forms of extraction, research on aging oil and gas infrastructure will become increasingly important as the U.S. transitions away from fossil fuels and the enormous cohort of wells that were drilled in the last ten years age into disuse. Understanding patterns of inactive wells now, and which communities may be disproportionately burdened by aging infrastructure, would help illuminate the full lifecycle of risk that communities face while OG companies are continuing to seek new well construction. Using Colorado Oil & Gas Conservation Commission (COGCC) well location data and The Attitudes and Behaviors Survey (TABS) 2022 data, this secondary data analysis will combine geospatial analytic methods and statistical modeling to examine spatial patterns of abandoned and injection oil and gas wells across Colorado and whether there are statistically significant relationships between select socio-economic factors and residential proximity to these OG structures. This analysis will provide a formative picture of the landscape of abandoned/repurposed oil and gas infrastructure in the state, while setting up future research questions related to environmental justice, potential stressor exposures, and health risks associated with abandoned oil and gas wells in Colorado.

Gender**Relationship Between a Reproductive Autonomy Policy Index and All-Cause Mortality**

Zachary Cichon* Zachary Cichon, Taylor Riley, Jodie Katon, Andrew Bossick,

Policies that restrict reproductive autonomy and relate to structural sexism have been linked to increased morbidity and mortality, adverse birth outcomes, and poor self-reported health for women. However, less is known about the relationship between state-level reproductive autonomy and mortality among the general population and if this varies by gender and race. Our aim was to examine the association between state-level reproductive autonomy and all-cause mortality by race and gender.

A cross-sectional ecological study of all-cause mortality, per 100,000, in the 50 U.S. states between 1/1/2016, and 12/31/2018.

Using a validated composite index of 106 laws that characterize state-level reproductive autonomy and publicly available surveillance and survey data, we performed simple and multivariable linear regression to evaluate the association of the reproductive autonomy index and all-cause mortality. A higher score indicates more reproductive autonomy. Multilevel models were stratified by gender and race and included robust standard errors. Models adjusted for 2016 state-level rates per 100 of age (19-25, 26-34, 35-54, 55-64, ≥ 65), White race, below poverty line, unemployment, those with a college degree, and foreign born. We estimated 95% confidence intervals and a p -value < 0.05 was considered significant.

In our adjusted models a one-unit increase in the index, indicating greater reproductive rights, was associated with decreases in all-cause mortality rates among all genders and races at the state level (Women: all -2.02 CI -3.17, -0.87; Black -3.20 CI -6.14, -0.27; white -1.22 CI -2.41, -0.03; Men: all -3.23 CI -4.64, -1.82; Black -6.67 CI -10.8, -2.60; white -1.93 CI -3.38, -0.47).

The association between higher levels of reproductive autonomy and lower all-cause mortality, particularly by race and gender has health equity implications. Reproductive autonomy policies may be a critical leverage point in reducing adverse societal outcomes for the entire population.

Gender**Beyond sex/gender: unique associations of sex and gender diversity with adolescent brain structure** Carinna Torgerson* Carinna Torgerson, Jeiran Choupan, Megan Herting,

Decades of research have examined the relationship between sex and neuroanatomy across the human lifespan. Binary gender categorization makes it difficult to differentiate between sex and gender, and, as a result, few neuroimaging studies have examined the association between gender and brain structure, especially during childhood. In acknowledgement of the inability to distinguish between the two in neuroscience literature, many authors have begun to use combined terms such as “gender/sex” or “sex/gender.” Utilizing neuroimaging data and a continuous measure of gender diversity from the Adolescent Brain Cognitive Development[®] Study (ABCD Study[®]), this study sought to evaluate whether variance in brain structure is related to sex, gender diversity, or a combination of both by comparing a series of linear mixed effects models. We examined 5 common measures of brain structure: subcortical volume, cortical thickness (CTh), local gyrification index (LGI), fractional anisotropy (FA), and mean diffusivity (MD). The majority of variance in subcortical volume, LGI, FA and MD was best accounted for by the sex only model. In contrast, for CTh, the best model varied between sex alone, gender diversity alone, or a combination of sex and gender diversity. These results demonstrate that brain morphology is uniquely associated with both sex and dimensional features of gender. Furthermore, our analysis underscores the importance of testing the assumption that group differences between males and females are due to innate biological differences. Overall, these findings emphasize the need to carefully consider the role of sociocultural variables like gender in human biological research, including developmental MRI research, to improve efforts towards precision medicine.

Health behaviors**Religious Differences in Meat Consumption in India and Consequences for the Nutrition Transition** Rachel J Bacon* Rachel J Bacon, Ahmed Alavi Rashid,

Meat consumption in India is expected to increase as part of the “Nutrition Transition”, a process characterized by a shift from malnutrition to excess consumption of foods associated with chronic disease. Dietary restrictions on specific meats is common among different religious groups in India, which may keep overall meat consumption within healthy levels, but variation in meat consumption trajectories by religious group over time is not well documented. It remains unclear the extent that some people groups in India are at greater risk than others of excess meat intake and its health risks.

We compare meat intake by religion using multiple years of survey data: the 1994/2011 Household Consumption and Expenditure Surveys (HCES), and the 2005/2015/2020 Demographic Health Surveys (DHS). Our regression analyses focus on frequency of meat intake at the individual level in DHS data, and consumption of specific meat categories (chicken, beef/buffalo, pork, and others) at the household level in HCES.

Our results suggest that religious groups in India are at different stages of the Nutrition Transition regarding meat intake. Hindus eat meat less frequently and in smaller amounts than Muslims, Christians, and Buddhists, but are experiencing a similar overall rate of increase in meat intake as their higher-consuming peers, primarily in chicken. Sikhs, however, have slightly lower frequency and consumption of meat than other groups, and are also increasing at a slower rate.

Nationalistic movements may increasingly discourage eating meat other than chicken. Reported household consumption of non-chicken meat is decreasing or stable for all religious groups, possibly due to social desirability bias. Watching TV is associated with higher frequency and greater consumption of chicken and “other meat” for Hindus, Muslims, and Christians, but not Sikhs and Buddhists. Sikh traditions may encourage conformity to local norms and limit influence from global media.

Health behaviors**A Multilevel Approach to Understanding Disordered Eating Disparities by Race/Ethnicity and Gender** Radhika Prasad* Radhika Prasad,

Disordered eating is a behavioral symptom of eating disorders and is linked to other harmful health outcomes such as depression, osteoporosis, and substance abuse (Cheng et al. 2019). Much work on this topic has focused on white females. However, there is growing evidence suggesting that the risk of developing disordered eating is not restricted to a single race/ethnicity and gender. In particular, recent longitudinal studies show that Asian American and Hispanic male and female adolescents have higher prevalence of disordered eating compared to African American and White adolescents (Simone et al. 2022; Beccia et al. 2019). Little is known about the risk and protective factors shaping these disparities by race/ethnicity and gender at different levels of social context. My descriptive study aims to address this gap in the literature by using a multilevel conceptual framework to examine the following questions: (1) Which variables at the individual, family, and school level are most strongly associated with disordered eating during adolescence (2) Do the associations between variables at each level and disordered eating vary by race/ethnicity? I will use Waves 1-2 of the National Longitudinal Study of Adolescent to Adult Health dataset and multilevel regression modeling to examine correlations at the individual, family, and school level. The first level will consist of individual level measures and the level two models will have family and school measures. Separate models will be run for males and females as prevalence of disordered eating are higher at different time points by gender. A moderating effect will be included in another set of models to examine whether the associations between variables at the different levels vary by race/ethnicity.

Health behaviors**Who seek treatment and who do not: Investigating the heterogeneity among people with substance use disorder** Kiwoong Park* Kiwoong Park, Tse-Chuan Yang,

It is widely recognized that people with substance use disorder often face significant challenges in accessing and receiving treatment. However, previous research has not fully accounted for the heterogeneity among people with substance use disorders, including differences in age, gender, race/ethnicity, socioeconomic status, and health insurance coverage. These differences may contribute to disparities in treatment utilization and outcomes.

To address this issue, this study employs propensity score methods to analyze nationally representative data from the National Survey on Drug Use and Health (NSDUH). The study aims to investigate the heterogeneous effects of substance use disorder on treatment-seeking behaviors, with a focus on vulnerable subgroups such as racial/ethnic minorities and those with low socioeconomic status and/or less health insurance coverage.

The study hypothesizes that these more vulnerable groups are less likely to seek treatment for substance use disorder than their counterparts. Furthermore, they may perceive more barriers to treatment in healthcare settings, resulting in a treatment gap where individuals have a history of substance use but have not received treatment.

By identifying these vulnerable groups, this study can help inform the development of effective treatment programs that address the unique needs and challenges faced by people with substance use disorder. Ultimately, this research may contribute to reducing disparities in access to and utilization of substance use disorder treatment.

Health care/services

Healthcare experiences and satisfaction among rural LGBTQ+ individuals Wiley Jenkins*
Wiley Jenkins, Kyle Miller, Heather Tillewein, Suzan Walters, Taryn Weatherly, Hannah Wickham,
Georgia Luckey, Emma Fenner,

LGBTQ+ individuals experience significant health and healthcare disparities, which may be exacerbated in more conservative rural areas. Previous work has indicated lower healthcare satisfaction among LGBTQ+, but the association between care quality and health is poorly understood.

The 2022 Illinois Cohort recruited 84 LGBTQ+ individuals across 20 largely rural counties, and participants completed surveys regarding health and healthcare satisfaction. Identity was organized as cisgender, transgender, and nonbinary; and orientation as gay, lesbian, and bisexual (plus others). Data were analyzed by t-test, chi-square and logistic regression.

Participant mean age was 42.1 [s.d.13.7] years; gender identity was 49.4% cisgender, 25.9% transgender, and 24.7% nonbinary; orientation was 35.3% gay, 16.5% lesbian, and 47.1% bisexual; and 90.6% had attained at least some college education. Respectful treatment from clinicians and staff was low across identity and orientation ('Yes' ranging from 50-79%), but more often reported among those with good/excellent health: clinician respect at 76.0% vs 50.0% fair/poor health; $p=0.034$; and staff respect at 75.5% vs 48.1; $p=0.021$. Comparing our data with national rural LGBTQ+ surveillance data indicates more days of poor physical and mental health; with participants reporting any past month days of poor physical health by orientation at 59-80% by orientation (vs 32-48% national) and 54-81% by identity (vs 44-51%), with similar finding for any days of poor mental health at 79-100% by orientation (vs 48-58%) and 85-95% by identity (vs 39-63%).

LGBTQ+ individuals face health disparities which may be exacerbated in rural areas. Our data indicates a strong association between general health and respectful treatment, and increased frequency of poor health days in IL versus national. As rural areas have fewer healthcare options, it is incumbent upon providers to ensure that they and their staff consistently treat all patients with respect.

Health care/services**Community Health Centers: An Analysis of Racial and Ethnic Disparities in****Cardiometabolic Health** Brittany Alosi* Brittany Alosi, David Curtis,

Diabetes prevalence has increased in the US in recent decades, with socially marginalized racial and ethnic groups disproportionately affected (Cheng, et al., 2019). In 2018, the age-adjusted percentage of adults with diabetes was 12.5% for Black and Hispanic Americans compared to 7.8% for Whites. Similarly, for Black relative to White Americans, hypertension is more common (32.8% vs. 24%) and more likely uncontrolled when diagnosed (National Health Interview Survey, 2018). Diabetes and hypertension, in turn, increase mortality risk, especially when uncontrolled (Nwaneri, et al., 2013; Kung, et al., 2015). Racial/ethnic disparities in the prevalence and control of cardiometabolic conditions therefore contribute to Black-White disparities in mortality from diabetes and from heart disease; Hispanic Americans relative to Whites also have higher mortality from diabetes but lower from heart disease (Murphy, et al., 2018). Improving prevention and management of cardiometabolic conditions for Black and Hispanic Americans is essential to reduce racial/ethnic disparities in mortality.

The US Department of Health and Human Services has the elimination of health disparities as a foundational principle (Healthy People 2030), with the Community Health Center (CHC) program being an important part of this federal strategic effort (NACHC, 2015; Geiger, 2005). CHCs are located in medically underserved areas where they serve a racially and ethnically diverse, low-income population. For many of their patients, 34% of whom are uninsured, CHCs represent the only source of primary care (Shin, et al., 2013).

CHCs currently serve over 30 million patients across the United States, an overwhelming percentage of whom are poor and historically underserved (BPHC 2023). Nearly 72% of patients are living below the federal poverty level (FPL), with another 14% between 101-150% FPL and 7% between 151-200% FPL (NACHC, 2015). CHC patients are more ethnically and racially diverse than the national population (Shi, et al., 2013) with a patient population that is 24% Black and 43% Hispanic/Latino (Shi, et al., 2013). CHC patients also may be in worse health compared to other low-income patients. Health center patients are twice as likely as other low-income groups to report fair or poor health and diabetes is 50% more common among CHC patients (Shin, et al., 2013). CHCs thus represent a source of health care for a segment of the population who otherwise encounters barriers to care and has a disproportionate share of health conditions (Nelson, 2002; Adler, et al., 2002).

Although CHC patients have elevated health burdens, racial/ethnic health disparities may be smaller within CHCs relative to the national population. One study found poorer glycemic and blood pressure control for Black relative to White patients and poorer glycemic control for Hispanic relative to White patients in the CHC population, but such disparities were smaller compared to published national estimates (Lebrun, et al., 2013). Another survey of 7 health centers found no ethnic differences in glycemic control among previously diagnosed diabetic CHC patients (Maizlish, et al., 2004). While these findings on attenuated health disparities in CHCs are encouraging, prior research on health disparities in CHCs predates the recent expansion of the CHC program and increase in patients served.

Alongside efforts to expand the program, the Bureau of Primary Health care (BPHC) has implemented multiple initiatives to improve the quality of care. As part of the Affordable Care Act,

BPHC was authorized to support the adoption of the Patient-Centered Medical Home (PCMH) model of care in health centers (Shi et al., 2017). PCMH is a nationally recognized model of care emphasizing better quality and experience of care for patients. PCMH seeks to improve the quality of care by ensuring a team-based approach to care that is patient-centered, comprehensive, and coordinated across various elements of the healthcare system (Peikes, et al., 2011). PCMH also emphasizes the use of electronic health records and health information technology to promote patient engagement strategies and quality improvement activities (Peikes, et al., 2011). PCMH-recognized health centers report better performance on clinical measures than health centers that are not PCMH-recognized (Shi et al., 2017; Hu et al., 2018; Landon et al., 2007). As of today, 1,058 or 77% of all health centers have received PCMH recognition ([HRSA, 2022](#)), yet the impact of BPHC's quality improvement initiatives on racial and ethnic disparities is unknown.

This study uses 2019 data from the Uniform Data System (UDS) to describe glycemic and blood pressure control among CHC patients by racial/ethnic group and related racial/ethnic disparities. Rates of blood pressure control and glycemic control have been shown to respond to quality-of-care initiatives, such that health centers may improve levels of controlled conditions in their patient population through effective monitoring, coordinated care, and medication management (Campbell, et al., 2017; Sidorenkov, et al., 2013). In addition, because the magnitude of health disparities may vary between CHCs due to differences in resources and quality of care provided, we examine associations between CHC characteristics (i.e., number of patients served, CHC designation years, and PCMH recognition status) and racial/ethnic disparities in glycemic and blood pressure control. Not only has PCMH recognition status been shown to impact clinical outcomes (Shi et al., 2017; Hu, et al., 2018), research has shown that both length of time in the health center program and size of the organization are related to clinical performance (Lebrun, et al 2013).

By quantifying the magnitude of racial/ethnic disparities in control of cardiometabolic conditions, these findings may indicate whether CHCs attenuate health disparities. Moreover, identifying associations between CHC characteristics and control of cardiometabolic conditions by racial/ethnic group could support further BPHC quality improvement initiatives aimed at eliminating health disparities.

Results show rates of blood pressure control are 10.5 percentage points (pp) lower for Black patients with a hypertension diagnosis relative to White patients. This is equivalent to an excess of 119,942 Black hypertensive patients with uncontrolled blood pressure if rates were comparable to White patients. Rates of glycemic control are 4.6 and 5.0 pp lower for Black and Hispanic patients with diabetes relative to Whites. These differences suggest that an excess of 23,172 Black and 45,597 Hispanic diabetic patients have uncontrolled HbA1c than would be the case if rates were comparable to non-Hispanic Whites.

Results from regression model testing indicate a consistent finding of improved control of glycemia and blood pressure across racial/ethnic groups with PCMH certification. In particular, glycemic control is 1.08 to 2.27 pp higher for PCMH-certified relative to non-PCMH-certified CHCs, although the estimate for Black patients is not statistically significant. Blood pressure control is 2.54 to 3.99 pp higher for each racial group with PCMH certification. Results for other CHC characteristics did not show consistent patterns across racial groups or outcomes.

Health care/services**A Population Health Impact Pyramid for Health Care** Philip Alberti* Philip Alberti, Heather Pierce,

Although health care organizations are increasingly focused on population health and health equity, work-to-date has been largely siloed, rarely evaluated, and typically untethered from a central, cohesive theory of change and practice. In a paper to-be-published in the Spring 2023 volume of *Milbank Quarterly*, we propose that the health care system must become the best partner it can be in the multisector collaborations necessary to shift underlying structures and systems toward health opportunity for all communities. To become that best partner, health care needs an operationalizable framework that plays to medical care organizations' strengths and 'right-sizes' their roles and spheres of influence.

We have reimagined Frieden's "Health Impact Pyramid" as a "Population Health Impact Pyramid for Health Care" to demonstrate how the field of medicine can maximally contribute to the health of populations, not just patients, through specific actions and collaborations. Seven tiers of action emerged, ranging from health professions education to changing the health care context to advocacy and the political determinants of health, with opportunities for health care organizations to act across each. While tiers differ in terms of their relative effectiveness and requisite political commitments, action across each is essential to health care's comprehensive population health approach.

For this workshop we will review the current context and this new framework, discuss considerations for its implementation and refinement, and then engage the audience in a discussion about how a similar framework might apply to their own fields and sectors and discuss a process for developing a complementary research agenda.

Health equity**The Effects of Residential and School Segregation in Childhood on Midlife Physical, Mental, and Cognitive Well-Being** Rafael Achío* Hyeran Chung, John Warren, Eric Grodsky, Jennifer Manly, Adam Brickman, Chandra Muller,

Children in the United States live in racially/ethnically segregated neighborhoods and attend racially/ethnically segregated schools. In our analysis, we build on theories about early life stress and the impact of segregation on stress processes, both in residential and school contexts. We specifically ask: Can racial/ethnic disparities in later-life physical, mental, and cognitive health outcomes be attributed, in part, to early life patterns of segregation? To address this question, we use data from the High School and Beyond cohort—a large ($n \sim 25,500$), diverse, nationally representative sample followed from high school in 1980 through age ~ 60 in 2021/2022. County-level residential segregation in childhood is expressed using an entropy index; school segregation is expressed using a disproportionality index which compares each school's racial/ethnic composition to the racial/ethnic distribution of enrolled high school students in that school's county. Our outcomes include indicators of physical, mental, and cognitive well-being at age ~ 60 that are known to be impacted by stress: These include hypertension, psychological distress, and memory complaints. Our analyses are attentive to heterogeneity in effects across racial/ethnic groups since the same pattern of segregation (e.g., living in a highly segregated county and attending a disproportionately white school) may harm some students (e.g., Black or Latine students) more than others (e.g., White students). Preliminary results suggest that residential and school segregation impact these stress-related outcomes in hypothesized ways, even net of other student- and school-level covariates.

Health equity

Does Socioeconomic differences exist in health insurance coverage among men and women across India: Evidence from the National Family Health Survey 2019-2021 Rofi Shaikh* Rofi Shaikh,

Introduction: Health insurance has been accepted as one of the channels that can serve the purpose of universalisation of health care. However, coverage of insurance remains low and is substantially affected by the socioeconomic status of individuals.

Method: Principal Component Analysis was used to identify the covariates which affected coverage of insurance among Indians. Socioeconomic differences in health insurance coverage and choice of different health insurance schemes among Indians was quantified using binary and multinomial logistic regression econometric models.

Result: Huge gender and regional differentials exist in the coverage of different health insurance schemes in India. On an average, females had 3% higher chance of getting covered by any health insurance scheme as compared to their male counterparts. Coverage of health insurance was skewed towards individuals with higher age (odds-ratio=1.7 for population between 46-60 years of age), greater educational status (odds-ratio=1.11 for individuals with greater than secondary education), higher socio-economic status (odds-ratio=1.16 for population from higher economic status) and high GDP states. Population residing in rural areas and belonging to the weaker economic classes were twice as likely to get insured through central and state health insurance scheme and through Rashtriya Swasthya Bhima Yojana as compared to other public and private insurance schemes.

Conclusion: Though coverage of health insurance has improved over the years, absolute number of individuals covered through various schemes is substantially low. Awareness about various health insurance through different mass communications can be a useful reform to increase insurance coverage and reduce health inequities across India.

Health equity**Using A Lifecourse Perspective to Identify Unmet Sexual and Reproductive Healthcare Need and Its Collateral Consequences** Elizabeth Anderson* Elizabeth Anderson,

Background: Unmet sexual and reproductive healthcare (SRH) needs are a persistent problem in the United States and have cascading social, economic, and health consequences across women's lives. However, relatively little is known about how women's unmet SRH needs are connected across the lifecourse. This study addresses this gap by asking (1) what can we learn about patterns in women's unmet SRH needs with a lifecourse approach; and (2) what are the collateral consequences of unmet SRH needs in women's lives?

Methods: This study recruited 43 reproductive-aged women from the Person 2 Person Health Interview Study, an omnibus health survey of Indiana residents, for in-depth interviews with an oversample of women living in rural counties or with low-income. Each interview asked women about their engagement with SRH starting with menarche until present day, with attention to the forces enabling/constraining SRH decisions. Abductive analysis was used to identify common themes and identify surprising findings.

Results: Women living in rural counties and women with low-income often experienced unmet need for SRH *other* than contraceptive or pregnancy care, such as pelvic prolapse, fibroids, or recurrent ovarian cysts. These women were often unable to access care due to postpartum Medicaid churn, complex comorbidities, and logistical challenges in accessing specialized treatment. These unmet needs for SRH often led to continued suffering, as these women were forced to adapt to the chronic pain associated with these conditions.

Conclusion: This research highlights the utility of the lifecourse perspective in investigating disparities in women's sexual and reproductive healthcare and the urgent demand for policy interventions to alleviate women's suffering by identifying the pervasive scope of women's unmet needs to address chronic sexual and reproductive conditions.

Health equity**Demographic predictors of consent and continued participation in a longitudinal birth**

cohort study Veronica Chacko* Veronica Chacko, Audrey Urquhart, Emily Leydet, Ashley Redding, Laura Susick, Christine Cole Johnson, Sara Santarossa, Andrew Bossick,

Birth cohort study findings rely heavily on participant commitment and follow-up. We examined the associations of maternal factors with consent and continuing participation (CP) using data from the Research Enterprise to Advance Children's Health (REACH) prospective cohort (01/01/'21-01/29/'23).

Unadjusted and adjusted Poisson regression with log link and robust standard errors was used to estimate the risk ratio (RR) between demographics with consent and CP. Potential confounders included race (Black/White), ethnicity (non-Hispanic/Hispanic), marital status (married/not married), age (18-19/20-29/30-39/ ≥ 40), gravidity (1/ >1), and parity (0/ >0) in the consent models, in addition to gestational age (weeks) at consent and total participation length (weeks) in the CP models.

Analyses included 783 (72.3%) Black and 300 (27.7%) White consenting women and 225 (77.1%) Black and 67 (22.9%) White women CP. In unadjusted models, White women (RR 0.78, 95% CI 0.61-0.99) and those aged 20-29 (RR 0.77, CI 0.63-0.94) were less likely to consent and those 18-19 (RR 2.39, CI 1.76-3.23) were more likely to consent. White women and those with higher gestational age at consent were more likely to be CP (RR 1.15, CI: 1.02-1.31 1.05, CI 1.01-1.09) and those aged 20-29 were less likely to CP (RR 0.87, CI 0.76-0.99). After adjustment, race was no longer associated with consent (RR 0.78, CI 0.59-1.02) or CP (RR 1.02, CI 0.87-1.19). Those aged 18-19 were still more likely to consent (RR 2.49, CI 1.72-3.59), and those aged 20-29 were less likely to consent (RR 0.40, CI 0.28-1.28); CP among those aged 20-29 (RR 0.77, CI 0.59-1.00) was attenuated. No association was observed for gestational age after adjustment (RR 1.04, CI 0.98-1.08).

Current REACH recruitment may be most affected by maternal age. Efforts targeted towards tailored age-based participation strategies while maintaining demonstrated equitable recruitment and retention by other demographics should be prioritized.

Health equity**Changes in Sexual Orientation and Gender Identity Disparities in Access to Care and Health at Age 65** Kyle Gavulic* Kyle Gavulic, Jacob Wallace,

Background Although access and health disparities are widely documented among LGBTQ populations, there is limited knowledge of the benefits of Medicare eligibility for LGBTQ versus cisgender, heterosexual people. Recognizing the inequities faced by LGBTQ populations, in 2023, the Biden Administration published the first federal evidence agenda to advance LGBTQ equity. Given the knowledge gaps, we aimed to assess whether aging into Medicare at 65 years is associated with a narrowing of access and health disparities among LGBTQ versus cisgender, heterosexual US adults.

Methods We used data from the 2014-2021 Behavioral Risk Factor Surveillance System. To compare disparities in access and health by sexual orientation and gender identity before and after 65, we performed regression discontinuity analyses for insurance, access, and health status outcomes.

Results At age 65, we found that the share of people with insurance coverage and a usual source of care increased more for heterosexual respondents than sexual minority (SM) respondents, widening the disparities that existed below 65 for both outcomes. While Medicare was associated with small reductions in disparities in cost barriers to accessing care and in self-reported health status, SM individuals were not able to close the gap on either of these measures. Relative to cisgender people, gender minorities (GM) had worse access to care and health status, as well as a slightly lower share of insurance coverage under age 65. Medicare was associated with GMs attaining the level of health insurance coverage of cisgender people, and a narrowing of the disparity in having a usual source of care.

Conclusions Medicare eligibility at age 65 was associated with smaller gains in several coverage and access outcomes for sexual and gender minorities relative to heterosexual and cisgender people. These results highlight the importance of looking behind coverage expansion when aiming to root out inequities in the US healthcare system.

Health equity

School-level socioeconomic and racial polarization: Associations with socioemotional and nutritional well-being in adolescence Hannah Cory* Hannah Cory, Vivienne Hazzard, Jaime Slaughter-Acey, Marla Eisenberg, Dianne Neumark-Sztainer,

Inequitable school environments are known to impact young people's health outcomes, but what role school-level social polarization plays is unknown. This study examines school-level socioeconomic and racial polarization, using the index of concentrations at the extremes (ICE), in relation to socioemotional and nutritional well-being in adolescence.

In Eating and Activity over Time (EAT) 2010, 20 secondary schools in the Twin Cities metro area reported on school lunch eligibility and race/ethnicity of their students. We calculate two school-level ICE measures based on the distribution of white and Black students and the distribution of full price vs. free lunch for students. Measures of nutritional (dietary quality, restrictive weight-control behaviors [WCBs], compensatory WCBs, binge eating) and socioemotional well-being (body satisfaction, depressive symptoms, self-esteem) were self-reported by students. Generalized estimating equations assessed cross-sectional associations of school-level ICE measures with socioemotional and nutritional well-being, controlling for student age and gender. Linear and quadratic ICE terms were examined in the models.

Most schools in this study had negative ICE values—indicating greater concentrations of deprivation—based on race ($M=-0.23$, $SD=0.30$) and school-lunch eligibility ($M=-0.51$, $SD=0.33$). The school-lunch eligibility ICE measure largely exhibited linear associations, with lower ICE values associated with less favorable outcomes (e.g., higher prevalence of restrictive WCBs, lower self-esteem). ICE based on race generally exhibited quadratic associations, with ICE values near zero (i.e. balanced racial/ethnic composition) associated with the least favorable outcomes (e.g., higher prevalence of binge eating, lower self-esteem).

Our findings suggest school-level social polarization is associated with young people's nutritional and socioemotional well-being with distinct patterning by socioeconomic and racial/ethnic composition.

Health equity**Assessing Socio-economic inequalities in Catastrophic health expenditures after Caesarean section surgery In Cameroon: A decomposition analysis** Relindis Tapang* Relindis Tapang, Aya Suzuki,

Large inequalities exist in the health sector, especially in developing countries. A key goal of health systems is reducing health inequalities among all population groups for improved health outcomes. A critical component of a functional health system is access to emergency obstetric care including Caesarean section surgical care. There are limited studies assessing socio-economic inequalities and decomposing the inequalities across household characteristics after C-section surgery, and none of these studies is focused on Cameroon. The objective of this study is to examine and decompose socio-economic inequality in catastrophic health expenditures after C-section surgery in Cameroon. Data from 436 respondents were obtained from a primary cross-sectional survey conducted in Cameroon between February to April 2022 using hospital exit interviews for women who delivered through C-section surgery. We defined catastrophic health expenditures as out-of-pocket payments exceeding 10% of total household consumption expenditure. Socio-economic inequalities in catastrophic health expenditure were estimated using the Erreygers concentration curves and indices. We used decomposition analysis to examine the contributions of each factor to the overall socio-economic inequality. Preliminary results show that the Erreygers concentration index of catastrophic health expenditure was negative with a high magnitude of -0.34 indicating inequality is concentrated among the poor. The largest contributors to inequality in catastrophic expenditure were the region of residence (-27%), household head job category (28.34), marital status (11%), and employment status of the woman (9%). The results suggest that inequalities in catastrophic health expenditures are concentrated among the poor population. In addition, the results show that the inequalities are explained by households rather than health system factors.

Health systems**Data Gaps in Health Monitoring and Surveillance Systems: The Case of the United States Commonwealth of Puerto Rico** Anna-Michelle McSorley* Anna-Michelle McSorley,

An integral part of preserving the health of the United States (US) population is the maintenance of population-level health monitoring and surveillance systems (e.g., National Health Interview Survey, National Cancer Registry). In Puerto Rico (PR), a US territory since 1898, there are over 3.1 million US citizens in need of the vital public health infrastructure that maintains these data. As an entity of the US federal government, the Centers for Disease Control and Prevention (CDC) are responsible for ensuring inclusive data coverage across essential health monitoring and surveillance systems for all US citizens; however, little is understood about the CDC-supported data coverage of the US citizens residing in PR. Therefore, the purpose of this study was to assess the coverage of PR in existing CDC-supported systems with the goal of detailing existing gaps in US government-led monitoring and surveillance systems in the territory. This was accomplished through the process of data curation, which involved identifying, collecting, and categorizing data from multiple sources, including government administered health informatics platforms from the US Department of Health and Human Services, CDC, and PR Department of Public Health websites, as well as online data tools like CDC Wonder and the Surveillance Resource Center A-Z Index. This process produced a curated database of 93 active CDC-supported health monitoring and surveillance systems. These systems were then assessed to (1) quantify the inclusion/exclusion of PR and (2) compare the coverage of PR to the coverage of all 50 states in the union. Results revealed that PR was not covered in 54% of CDC-supported systems. Conversely, all 50 states were covered in 72% of CDC-supported systems. As a first step, this study provides baseline empirical evidence of significant data coverage gaps in PR. Future studies are needed to identify why these gaps persist to work towards improving data coverage for the territory.

Infants/children/youth**The separate and joint effects of place instability and family instability on adolescent mental health** Michelle Livings* Michelle Livings,

Specific types of instability, such as residential instability and parent relationship churning, are known to relate to poor mental health and behavior problems in children and adolescents. Researchers generally focus on specific instances of instability, yet instability is a complex concept, and difficult to define in research. As different types of instability often occur simultaneously or in sequence, I anticipated that experiences of instability likely interact to produce multiplicative effects harmful to adolescents' wellbeing.

To examine this, I used data from the Future of Families and Child Wellbeing Study, focusing on mother-child dyads in the year-15 survey (N=2829 dyads). I created new constructs of place instability (including residential and school moves) and family instability (including mother relationship status changes and household co-residence changes). I used structural equation models to examine how place and family instability directly affect adolescents' mental health, and whether family instability moderates the relationship between place instability and adolescent mental health.

The findings revealed significant harmful effects by both place and family instability on adolescent depressive and anxiety symptoms. Interaction models showed that family instability moderates the relationship between place instability and adolescent depressive symptoms. Specific indicators of family instability, such as changes in co-resident children, also moderate the relationship between place instability and depressive symptoms.

This study emphasizes the importance of rethinking how we define instability in research. Individual instances of instability are harmful to adolescents; adolescents who experience more place instability and more family instability are at even greater risk of poor mental health. Understanding how different instability experiences interact can inform interventions for children and adolescents with varying exposures to instability.

Interventions/Programs

A Community-Based Intervention to Address Intimate Partner Violence among Rohingya and Syrian Refugees: A Social Norms-Based Mental Health-Integrated Approach Courtney Welton-Mitchell* Courtney Welton-Mitchell, Leah James, Saja Michael, Fajar Santoadi, Sharifah Shakirah, Hasnah Hussin, Mohammed Anwar, Lama Kilkar, Alexander James,

Intimate partner violence (IPV) is the leading form of gender-based violence globally and increases during times of conflict and displacement. To reduce IPV and encourage help-seeking, a two-phase community-based intervention was co-designed with Rohingya in Malaysia and Syrians in Lebanon. Three day workshops, utilizing a social norms-based mental health-integrated approach, were implemented for women and men in each country (n = 148). Pre- to post-measures indicated reductions in beliefs about acceptability of violence and rigid gender norms, and improvements in mental health, functioning, coping, and self-efficacy for women and men following workshop participation. Workshop participation was also associated with increased help-seeking intent, for both mental health and IPV (victims and perpetrators). Workshops included community design of poster campaigns to address IPV, which were then tested in each setting using a randomized controlled trial in Malaysia (n = 240) and a matched cluster comparison in Lebanon (n = 260). Women in both settings found IPV less acceptable in the poster condition. Help-seeking preferences were also influenced by the poster for women and men in both countries. This participatory intervention research can provide a roadmap for use in other settings, emphasizing the value of community-generated solutions to IPV among displaced populations.

Interventions/Programs**A Student Movement for Student Movement: Reinventing Recess** Abigail Jeyaraj* Quinn

Valier, Kimeera Paladugu,

The WHO defines burnout as a “syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed”. A decade of studies on K-12 and college students show that these groups are at-risk for occupational burnout. The turmoil of the COVID pandemic has exacerbated these trends and we are now facing an emergent mental health crisis across our college campuses. Students are frequently the subjects of wellness research and intervention, less frequently are they architects identifying needs and designing solutions. Using principles of community engagement, particularly with communities of color - “Nothing for us without us” - our students are designing and developing upstream prevention programs to benefit themselves and their peers on campus. The first of these programs builds from the life, work, and legacy of Dr Toni Yancey inventor of *Instant Recess* and is called Student Movement for Student Movement: Reinventing Recess. In our local version, undergraduate students “reimagine recess” in several ways aiming 1) to recreate a comparable experience of the freedom that they themselves experienced as children when they were granted semi structured time with few to no expectations. While it’s easy to see how classroom issues are left at the door as the “children” (young and old) race outside to reset it is much less obvious how to sustain the benefits of short reprieve in the medium to longer term. As such, the project is 2) also part systems analysis examining the obstacles and onramps for sustainable and enduring change. Finally, as budding population health scientists, undergraduate project designers also consider risks of burnout and social exclusion as unevenly or inequitably spread across campus populations, something that affects both outreach and outcomes. In addition to qualitative reflection preliminary quantitative data presented will focus on this latter part (3) of the project.

LGBTQ+**PERSPECTIVES ON LESBIAN, GAY, BISEXUAL, TRANSGENDER (LGBT) DECISION TO DISCLOSE THEIR SEXUAL ORIENTATION TO THEIR FAMILIES AND SOCIETY IN KENYA**

Ndirangu Ngunjiri* Ndirangu Ngunjiri, Elizabeth Kingoo,

This qualitative study explored LGBTQ individual decisions to disclose sexual orientation or gender to their families and society. This paper mainly focused on the LGBTQ community aspect governing the general public, consciousness identity development that what they perceived about the LGBTQ community. The basic research lies in the contextual identity development and the problems faced by the LGBTQ community. Qualitative and quantitative approach with the exploratory fundamentals, this study has been processed. The limitation, sampling strategy mean to get a right number of sample for differencing interviews or questionnaire furnishing. The complimentary part of the study is that the higher levels of education the LGBTQ community have and by the time, they will consider as normal people, as now a day very abnormal is new normal. Participants were recruited through local LGBTQ groups' 30 lesbian females and 20 gay males participated in qualitative interviews. All participants identified racially as black African and resided in Kenya; ages ranged from 18 to 70 years old. Employment status varied: 35% were retired; 30% worked fulltime; 18% were disabled and 9% were semi-retired. Professions spanned business, educational, legal, media and medical fields. Two participants were veterans. Seven participants were partnered, one widowed and six single. Sixty four percent owned homes and 39% rented. Religious and spiritual beliefs varied. All participants could identify at least one person as family or support. All participants reported disclosing their sexual orientation to their families and friends. Participants used discretion when disclosing their sexual minority status based on relevancy, safety or openness of providers. They indicated that the in Kenya was a relatively unsafe place to disclose to families. Recommendations to increase LGBTQ consumers' disclosure to families about sexual orientation and use inclusive language in forms and conversations.

LGBTQ+**Exploring Barriers to Healthcare for Sexual Minorities by Place of Residence** Kaylee Wilson*

Kaylee Wilson, Stephanie Hernandez,

Background: Despite demonstrated benefits of sexual and gender minority (SGM) specific health care resources in cities throughout the United States, SGM specific resources exist in lower quantities in communities outside of urban centers. In addition to the lack of resources, SGM individuals are often exposed to harassment, discrimination, and abuse in healthcare settings leading to worse health outcomes for SGM individuals. This is exacerbated for sexual minorities living in suburban or rural communities compared to sexual minorities living in urban areas.

Objective: Given existing research on health disparities among sexual minorities living in non-urban areas, the objective of this research was to examine the association between place of residence and access to health care among sexual minorities.

Methods: Nationally representative data collected from the 2021 wave of the National Health Interview Survey was used to conduct descriptive and logistic regression analyses. Place of residence was operationalized as urban, suburban, or rural, according to U.S. metropolitan statistical areas and the total population in the respondent's county. Respondents were categorized as either straight, lesbian/gay, or bisexual according to their self-reported sexual orientation. The dependent variables assessed access to care across various dimensions including usual place of care, whether the respondent delayed care due to cost, financial barriers to care (e.g., needing but not affording medical care, skipping medications to save money), and trouble paying medical bills. Additional covariates included race/ethnicity, age, education, income, employment, and health insurance.

Results: Preliminary results confirmed the hypothesis that sexual minorities living in suburban and rural areas had lower access to care compared to sexual minorities living in urban areas. Examining access to care can help further explain health disparities among sexual minorities living in non-urban areas.

LGBTQ+**State-level Heterosexism, Perceived Community Climate, and Suicide Risk among LGBTQ+**

Alexandra VanBergen* Alexandra VanBergen,

Lesbian, gay, bisexual, and queer (LGBQ+) adults are at an increased risk of dying by suicide as LGBQ+ adults are more likely to report suicide thoughts and attempts than heterosexual adults. However, research examining underlying mechanisms to LGBQ+ suicide risk disparities are lacking. LGBQ+ mental health disparities are partially due to *minority stress*—stress rooted in the marginalization of LGBQ+ identities—including a lack of support from one’s community. However, limited research has examined how minority stress varies by contextual factors, including state-level policies, and whether suicide risk is associated with state-level policies via individual-level perceptions of community climate and discrimination experiences. Data from the National Couples’ Health and Time Study was used to (1) identify if LGBQ+ adults report more discrimination and worse perceptions of community climate in states that lack policies to protect LGBQ+ individuals than LGBQ+ adults in states with protective policies, (2) whether suicide risk (e.g., loneliness, suicide intent) is associated with state-level policies, perceived community climate, and discrimination, and (3) whether these associations differ by sexual identity. Preliminary findings show that LGBQ+ respondents in states without LGBQ+ protections had lower community climate scores, but similar experiences of discrimination compared to those in states with LGBQ+ protections. Furthermore, LGBQ+ adults who rated their communities as “a good place” for LGBQ+ people were less likely to report suicide thoughts and less likely to be clinically lonely (scores above 6 are associated with mortality). Bisexual respondents had the highest suicide risk but seemed to benefit the most from positive community climates: 43% reported suicide thoughts when rating their community as “not a good place” for LGBQ+ individuals, but only 16% reported suicide thoughts when rating their community as “a good place” for LGBQ+ individuals.

LGBTQ+

Social Support during the COVID-19 Pandemic by Sexual Orientation Julia Wolf* Julia Wolf, Lynne Cossman,

Social connections are imperative for good health and well-being; however, to prevent the spread of COVID-19, stay-at-home and social distancing orders were enacted for months. These mandates could have been particularly perilous for sexual orientation minorities who often rely on social support outside of their family. Using data from the 2021 Crime, Health, and Politics Survey (CHAPS) sampled from the *National Opinion Research Center's (NORC) AmeriSpeak*® panel, we explore various measures of social support and connectedness by sexual orientation. Survey responses were collected between May and June 2021—providing insight into a unique time of the pandemic when everyone over 16 years old in the US was eligible for the vaccine and many states had recently dropped capacity restrictions. Respondents also specifically considered how lonely they felt during the COVID-19 pandemic compared to before the pandemic. This study adds to the sparse literature on sexual minority risks and outcomes during the COVID-19 pandemic.

LGBTQ+

“I think the most pressing LGBTQ+ issue right now is...”: Sexual and gender minority peoples’ perceptions of social and political concerns in the American Population Panel

Autumn Bermea* Autumn Bermea, Allen Mallory, Rin Reczek,

About 7.2% of U.S. adults identify as sexual and gender minorities (SGM), which has more than doubled in the past 10 years (3.6%). Although demographic shifts have been accompanied by civil rights (e.g., enactment of non-discrimination ordinances) there are still considerable barriers to equality. Anti-SGM legislation and public figures have a negative impact on SGM health but there is not current research on which social and political events hold the most salience. We harnessed a national sample of SGM ($N=2,718$) to deductively answer the guiding research question of: what issues are seen as most pressing? Themes represented interpersonal and political issues. Theme 1: Interpersonal Interactions related to concerns on how SGM were treated (“*Remind people that LGBT people are everyday Americans who live ordinary lives—neighbors*”). Theme 2: Violence Victimization related to fears about personal safety and victimization (“*Violence against queer and trans folks, especially BIPOC queer and trans folks is the most pressing social issue. Violence in the form of excessive police force, domestic and familiar abuse, forced housing and food instability, etc.*”). Theme 3: Specific Laws and Events were pressing political events that targeted SGM rights (“*Several states are attempting to or have gone through with removing gender affirming healthcare from being required to be covered by Medicare, as well states banning any and all gender affirming care for children/making schools required to report gender diverse behavior in children to their parents*”). Theme 4: Attending to Identities was discussions of power and privilege in identifying pressing issues. The most common were related to trans experiences (“*i think the most pressing LGBTQ+ issue right now is the attack on transgender rights...*”) and intersectionality (“*social media, white cis gay men privilege, job security, trans healthcare, trans protective legislation, violence against black trans women, queer sex ed, poverty*”).

LGBTQ+**Demographic Trends for Sexual and Gender Minority Adults in a National Sample from the American Population Panel** Allen Mallory* Allen Mallory, Autumn Bermea, Rin Reczek,

Sexual orientation and gender identity (SOGI) are increasingly critical demographic characteristics to measure, given the increasing number of people who identify as sexual and gender minorities (SGM) and given the distinct demographic and health profiles across SOGI. Currently, 1 out of 6 American adults born between 1997 and 2012 identify as SGM compared to 1 out of 10 born just one generation earlier. This rapid increase in the number of people who identify as SGM has paralleled an equally rapid change in the political landscape and social acceptance of SGM people. However, science has been slow to accumulate data capable of documenting the diversity of demographic and health profiles related to SOGI. Using data from a national sample of 2,718 SGM, we find a number of demographic trends that mirror previous findings: 20% of participants reported ever experiencing homelessness, 5% reported ever being in foster care, 48% reported suicidal ideation, and 24% reported serious mental distress. Our data also provide novel insights regarding SGM populations: 26% of participants reported multiple sexual identities, 13% were intersex, 32% reported receiving healthcare affirming their SOGI-nearly all (84%) reported this for physical health care, with relatively fewer (59%) for their mental health care), 50% reported having a child, 35% were single, and 32% reported consistent involvement in community activities related to their sexual orientation. Given the changing demographics of SGM, these national data highlight important trends related to the health and demographics of SGM people. Our full presentation will provide comparisons with other national datasets of SGM people, including the Generations Study, the National Couples Health and Time Use Survey (NCHAT), and the Pride study.

LGBTQ+**State-Level Structural Stigma and Well-Being: A Focus on Policies Targeted at Sexual and Gender Diverse Individuals** Kara Joyner* Kara Joyner, Wendy Manning,

Research on the effects of structural discrimination (e.g., heterosexism, sexism, racism, and xenophobia) has proliferated in recent years, but details about the development of indices and typologies used to operationalize this concept are often missing. A core property of the minority stress framework is structural stigma. We explore the dimensions of structural stigma experienced by sexual and gender diverse individuals (also known as structural heterosexism) across states. We apply unsupervised machine learning techniques to measures that capture the level of protection that laws and policies in different states offer sexual and gender diverse populations. Specifically, we use nine measures that represent a broad array of laws and policies that were in place at the beginning of this decade. Principal Component Analysis (PCA) shows that these measures contribute equally to a dimension that explains over two-thirds of the variation in state-level policies. K-Means and hierarchical clustering alike reveal that states cluster into one of three groups that depend largely on their values for the index based on PCA scores. We compare the indices and typologies of structural stigma from our techniques to those produced by the Human Rights Campaign (HRC) and Movement Advancement Project (MAP) and find striking consistency. To validate our measures, in addition to measures constructed by the HRC and MAP, we estimate regression models of self-reported health and depressive symptoms for respondents who self-identify as gay, lesbian, or bisexual in the 2021 Behavioral Risk Factor Surveillance System. These results provide a foundation for future analyses that incorporate other routinely-used measures of structural stigma (e.g., same-sex couple concentration) and contribute more broadly to research that is capturing how structural or contextual indicators operate to further or narrow health disparities.

Mental health/function**Stressors, assets, and symptoms of anxiety in the U.S. population during the COVID-19 pandemic: a nationally representative, longitudinal study from 2020 through 2022**

Catherine Ettman* Catherine Ettman, Salma Abdalla, Ruo Chen Wang, Sam Rosen, Sandro Galea,

Mental health is sensitive to economic and social contexts; in particular, experiencing largescale disruption and individual stressors may be associated with poor mental health. We aimed to estimate changes in and risk factors for population anxiety in U.S. adults over the COVID-19 pandemic. Using a nationally representative, longitudinal panel sample of U.S. adults in Spring 2020, 2021, and 2022, we estimated the prevalence of probable anxiety using the Generalized Anxiety Disorder (GAD-7) score ≥ 10 . We used generalized estimating equations (GEE) to estimate the association of risk factors with anxiety over time, clustering at the individual level to account for repeated measures. The national prevalence of probable anxiety decreased from 24.4% in 2020 to 21.3% in 2022 ($p=0.0486$). Each additional stressor was associated with 14% increased odds of anxiety for adults across the COVID-19 pandemic. Factors associated with increased odds of anxiety were: younger age (OR 2.55 [95% CI 1.67,3.89] for ages 18-39 relative to ≥ 60 years), lower income (OR 2.06 [95% CI 1.17,3.63 for $\leq \$19,000$ relative to $\geq \$75,000$), and having COVID (OR 1.54 [95%CI 1.12,2.14]) were associated with greater odds of anxiety over time. The stressors most strongly associated with anxiety in 2022 were: job loss, difficulties paying rent, general financial difficulties, feeling alone, having family or relationship problems, being evicted, losing health insurance, and divorce or separation. Efforts to address stressors may help mitigate the effects of COVID-19 on anxiety in U.S. adults.

Mental health/function**Gender disparities in the mental health of caregivers before and during the COVID-19 pandemic** Brina Ratangee* Lucie Kalousova,

Prior research has shown that many have experienced worsened mental health during the COVID-19 pandemic. This study uses a large, nationally representative sample of caregivers interviewed by the Behavioral Risk Factor Surveillance System (BRFSS). It implements regression models to examine the changes in mental health among informal caregivers for older adults, who are a high-risk group for COVID-19 infection. We ask: (1) has the average number of poor mental health days among caregivers increased during the pandemic; (2) has the increase varied by gender; (3) the condition of the person receiving care? Our results indicate that caregivers experienced a sharp increase in poor mental health outcomes at the onset of the pandemic, much sharper than non-caregivers. In 2021 and 2022, male caregivers' mental health returned to pre-pandemic levels, while women's caregivers did not. We hypothesize that gender disparity in mental health outcomes could be attributed to differences in the types of caregiving responsibilities, the level of stress experienced, and the social support available. Furthermore, our study also shows that caregivers providing care to Alzheimer's disease (AD) patients have worse mental health outcomes on average than other types of caregivers. Women who care for AD patients have worse mental health than male AD caregivers, whose mental health does not significantly differ from other types of caregivers. Before the scheduled IAPHS meeting, we plan to explore how lockdown policies such as social distancing, quarantine, and remote work arrangements affect caregivers' mental health. The findings of this study could inform policy decisions and support the development of interventions that aim to mitigate the negative impact of the pandemic on caregivers' mental health.

Migration**The Health of Undocumented Asian Immigrants in the United States: A Scoping Review**

Sameera S. Nayak* Sameera S. Nayak, Amanda Cardone, Meghan Dhond,

Background & Aims: Undocumented immigrants from Asian countries (UAI) are the fastest-growing undocumented population in the United States (U.S.), yet little is known about their health status. We conducted a scoping review to identify and summarize the existing literature on the health and well-being of UAI.

Methods: We implemented a systematic literature search of published peer-reviewed articles using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. Inclusion criteria were English language studies that included UAI living in the U.S. and explored the epidemiology or lived experiences of a health-related outcome or construct. Studies could be qualitative or quantitative. Three independent reviewers conducted the screening and data abstraction.

Results: The search initially identified 1,790 articles. After removing duplicates and screening for eligibility, the final sample was reduced to 17 peer-reviewed articles. Participants were primarily young UAI and/or those who had received temporary immigration relief under the Deferred Action for Childhood Arrivals policy. Outcomes most commonly studied were depression, HIV, and health behaviors such as contraceptive use and barriers to healthcare access. Studies highlighted healthcare access challenges encountered due to the lack of services for UAI and the damaging consequences of the model minority myth.

Conclusions: Findings from this review suggest a significant research gap in understanding the health of UAI. Existing studies indicate that UAI have similarly poor mental health outcomes and barriers to services as undocumented Latinx populations but might face some unique challenges at the intersection of racism and xenophobia. Given the small number of empirical studies, future research is needed to better understand this vulnerable population's health and develop targeted interventions to reduce inequities.

Migration**Elevated Blood Pressure Among Migrant Women in South Africa: Evidence from A Longitudinal Cohort Study** Chantel Pheiffer* Chantel Pheiffer, Stephen McGarvey, Michael White, Carren Ginsburg,

Demographic and health transitions have simultaneously resulted in urbanization and a rise in the non-communicable disease (NCD) burden in low- and middle-income countries (LMICs). Yet, we know relatively little about whether and how urbanization is contributing to the rise in NCDs in such contexts. This paper demonstrates that internal migration, responsible for much of urban growth in LMICs, may be contributing to NCD risk as assessed by elevated blood pressure (BP) in LMICs in gendered and geographically differentiated ways. We use data collected in 2018 (baseline) and in 2022 (follow-up) from the Migrant Health Follow-Up Study in this analysis. The Migrant Health Follow-Up Study is a cohort study of residents aged 18-40 at baseline who are members of households within the Agincourt Health and Socio-Demographic Surveillance System in rural northeast South Africa. We investigate the relationship between internal migration and elevated BP among 2,163 men and women in South Africa for whom we have valid BP and anthropometric measures. Using a fixed effects approach, and stratifying by sex, we find that a migration event results in elevated BP among women controlling for socioeconomic, demographic, health, and health behavior characteristics. We observe no parallel increase in BP with a migration event among men. Further, we find that the magnitude of the migration-BP relationship depends on the specific urban destination to which migrants move. These findings are robust and statistically significant for both systolic and diastolic blood pressure, and regardless of model specification. Our research shows that the intersection of race, gender, and migration status is creating a distinct health penalty for women in South Africa in terms of elevated blood pressure. These findings underscore the importance of investigating the social determinants of NCD risk in low-resource rapidly urbanizing settings.

Mortality

Socioeconomic and psychosocial predictors of all-cause mortality in the MIDUS Study David Curtis* David Curtis, Ming Wen, Sara Grineski, Amelia Herder, Yehua Dennis Wei, Yue Zhang,

Trends in life expectancy in the US plateaued, even declining in years, during the two decades prior to the COVID-19 pandemic. First reported for White working-age adults, “deaths of despair” was cited as an explanation as job opportunities worsened for less educated Whites. Later research showed rising mortality across racial/ethnic groups and for an expanded set of causes of death that challenged the narrow explanation of despair. This study tests affective, social, and psychological predictors on mortality, and the extent to which they explain the socioeconomic influences on mortality.

Data come from the Midlife in the United States (MIDUS) study. Participants were interviewed in 1995-1996 with follow-up data collection in 2004-2006 and 2013-2014 and mortality tracing through 2019. The sample includes 6,115 participants and 1,531 deaths observed.

Risk of all-cause mortality is modeled using Cox proportional hazards analysis with repeated observations. We find large differences in mortality risk by education and employment. Adults with less than a high school diploma had 29-34% higher hazard relative to adults with a diploma through a 2-year college degree/vocational school and 53-56% higher hazard than individuals with a 4-year degree or graduate degree. Unemployment was associated with more than two times higher mortality hazard relative to part- or full-time employment. Adjusting for psychosocial measures reduced hazard ratios for higher education categories by 4-9% and for unemployment by 35%. Multidimensional composite measures of affect and stress were associated with all-cause mortality, equivalent to 1 SD higher negative affect and stress predicting 17% and 11% greater mortality hazard.

Our results are consistent with vast, interdisciplinary research literatures that identify negative affect, psychosocial stress, and social support as predictors of morbidity and mortality, and demonstrate plausible mechanisms for socioeconomic inequities in mortality.

Mortality**Global perspective on sex differences in COVID-19 mortality** Katarzyna Doniec* Katarzyna Doniec, Mine Kuhn, Jennifer Dowd,

The goal of this study is to examine sex gaps in COVID-19 mortality from longitudinal and cross-country, comparative perspective. Earlier studies focused primarily on cumulative sex differences in Covid-19 mortality, comparing a small number of countries, mainly from the Global North. To address this gap, we used 2020-2022 official COVID-19 mortality data from 20 countries worldwide, located across four continents and representing 25% of the global population. We examined country-level monthly trends in sex- and age-disaggregated (20-59, 60-79 and 80+) mortality rates and cumulative deaths, as well as monthly trends in the mortality sex gap, operationalised either as a rate ratio (male mortality/female mortality) or a rate difference (male mortality - female mortality). Results demonstrate considerable variation in the magnitude of rate difference over time and between age groups and countries. On average, time trends in rate ratios correlated highly with the Covid-19 mortality rates of each country. The largest rate differences were observed in Brazil, the United States and Colombia. Regarding age differences, the largest rate differences, on average, were observed among the 60-79 group, but some countries deviated from this general pattern. The magnitude of rate ratios was comparable between age groups and for the majority of countries varied little over time. Finally, using a multilevel generalised least squares model, we found that male mortality rate, as compared to female, varied more over time and between countries. To conclude, cross-country sex differences in Covid-19 mortality are considerable, but our sample size (20) limits our capacity to investigate drivers of these trends via a conventional multiple regression analysis. Instead, we conducted a series of bivariate correlations between two types of the sex gap measures (rate ratio and rate difference) and GDP per capita, urbanization, smoking rates, female labour participation and gender equality.

Mortality

Impact of decarceration, alcohol, substance use, and mental health screening on life expectancies of Black sexual minority men and Black transgender women (BSMM/BTW) living with HIV in the United States: A Simulation Study based on HPTN 061 Maria Khan* Jonathan Feelemyer, Scott Braithwaite, Joy Scheidell, Russell Brewer, Typhanye Dyer, Charles Cleland, Christopher Hucks-Ortiz, Amy Justice, Kenneth Mayer, Ames Grawert, Jay Kaufman, Anna Bershteyn, Maria Khan,

Background

Black sexual minority men and Black transgender women with HIV (BSMTW-HIV) experience high rates of incarceration, substance use, overdose, and lower life expectancies (LE) than the general US population. We estimated the impact of decarceration (i.e., the effort to limit the number of people who are detained) and screening for psychiatric conditions and substance use on life expectancy of US BSMTW-HIV using a microsimulation model of the HIV Prevention Trials (HPTN) 061, which enrolled BSMTW from six US cities.

Methods

We augmented a microsimulation model previously validated to predict life expectancy and leading causes of death in the US with estimates from HPTN 061 for how recent incarceration (past six months) independently predicts subsequent binge drinking (RR=1.14), stimulant use (RR=1.53), tobacco use (RR=1.77), depression (RR=1.09), and anxiety (RR=1.09). Data from another large US HIV cohort, the Veterans Aging Cohort Study, were used to estimate independent associations among psychiatric and substance use disorders, such that we were able to simulate the influence of treatment of one condition on improvement on others (e.g., treating depression reduces opioid use). The simulation also incorporated relationships gleaned from systematic reviews regarding how substance use and depression, anxiety, and pain lead to non-adherence to treatment for HIV and other conditions. We used this augmented simulation to estimate LE for BSMTW-HIV with a history of incarceration under alternative policies of decarceration (i.e., reducing the fraction of the cohort exposed to incarceration), screening for psychiatric conditions and substance use, or both.

Results

At baseline, mean age of this microsimulation analytic dataset was 39.9 years old (median: 42 years, IQR: 31-48). LE (at birth) for BSMTW-HIV was 61.3 years (95% confidence interval (CI): 61.2-61.4) without reductions in incarceration or improving screening and treatment. Reducing incarceration by 25%, 33%, 50%, and 100% increased LE by 0.29 years, 0.31 years, 0.53 years, and 1.08 years, respectively, versus no reductions in incarceration. When reducing incarceration by 33%, a feasible decarceration target, and implementing screening for alcohol, tobacco, substance use, and depression, in which a positive screen triggers diagnostic assessment for all psychiatric and substance use conditions and linkage to treatment, LE increased by 1.52 years compared to no screening or decarceration.

Discussion/Interpretation

LE among BSMTW-HIV is short compared with other people with HIV (range depending on risk factors and antiretroviral treatment initiation and adherence: 70-80 years). Reducing incarceration

and improving screening and treatment of psychiatric conditions and substance use could substantially increase LE in this population, but further research is needed to identify other factors contributing to the lower LE.

Non-health institutions (business, political, education systems)**State-level payday loan restrictions and preterm births in the US, 2000 to 2019: An ecological analysis** Parvati Singh* Parvati Singh, Samantha Gailey, Tim-Allen Bruckner,

Payday loans are high-interest, short-term loans that are often used by individuals who have limited access to traditional credit. Whereas payday loans can provide immediate financial relief, the predatory nature of these loans can also correspond with increased financial strain and adverse public health consequences. Poorly-regulated payday lending practices may drain resources from communities and reduce social and economic capital. Prior research reports a positive relation between spatial exposure to payday lenders and all-cause mortality, and a decline in substance use-related mortality following state-level restrictions on payday lending.

We examine whether state-level temporal variation in payday loan restrictions (exposure) over a 20 year period (2000 to 2019) corresponds with a reduction in the rate of preterm births (<37 weeks of gestation; outcome)- a leading cause of infant mortality in the US. Between 2000 and 2019, 10 US states imposed restrictions on payday lending at varied time points. We use data on preterm birth rates provided by the CDC Wonder database (2000 to 2019) and apply staggered difference-in-difference and event study approaches to examine whether preterm birth rates decline among states that imposed payday lending restrictions (“treated group”) relative to states that never imposed any restrictions (“never treated group”). We control for state-level annual unemployment rate, median household income, and the national time-series propensity of preterm births in the US. We do not control for factors that lie on the causal path between payday loan restriction and preterm births. Analytic results indicate a decline in preterm birth rate by 0.36% ($p < 0.01$) within the first 3 years of payday loan restrictions, which corresponds to about 3400 fewer preterm births statistically attributable to the exposure. Our study provides preliminary, ecologic evidence that state-level payday loan restrictions may reduce preterm births in the US.

Place/Communities

“I lost a job because I went to the doctor”: A qualitative study of interpersonal relationships and professional roles among Black adults with lupus Rachel Bergmans* Rachel Bergmans, Deena Aboul-Hassan, Johari Summerville, Bhaavna Yalavarthi, Nikki Farahani, Christine Yu, Lillian Xiao, Sia Rajgarhia, Daniel Clauw, J. Michelle Kahlenberg, Melissa DeJonckheere,

BACKGROUND: Systemic lupus erythematosus (SLE) is a disabling disease with relapsing-remitting pain and fatigue episodes that can make day-to-day activities challenging. SLE is also more common among Black women than other population groups. In the USA, Black communities and Black women are marginalized within society and employment settings due to systemic racism and sexism. Characterizing the experiences of Black adults with SLE may inform care approaches and public policies that can alleviate inequities within patients’ lives.

AIM: We aim to characterize the intersection of SLE with interpersonal relationships and professional roles among Black adults.

METHODS: We are using an interpretive description approach, involving one-on-one semi-structured interviews and focus groups with Black adults who have SLE. The interview guide and focus groups included topics related to diagnosis, the impact of symptoms on day-to-day life, and symptom management. We analyzed the de-identified transcripts using inductive, thematic analysis to create a preliminary coding scheme. Our theme development focuses on how SLE intersects with interpersonal relationships and professional roles.

RESULTS: We completed 30 interviews (96% female, mean age = 41 years) and 7 focus groups ($n=6-8$). Our preliminary coding scheme included 3 categories: (1) Connecting with other people who have lupus; (2) Friends and family; and (3) Employment.

NEXT STEPS: The next step is using the preliminary coding scheme to finalize our main themes within the semi-structured interviews. Once the codebook is complete, we will apply it to the focus group transcripts so that we can include additional examples and context for the main themes.

CONCLUSIONS: Our findings reveal that SLE symptoms affect the capacity to engage in interpersonal relationships and professional roles. Additionally, the nature of relationships with friends and family and the extent of employer accommodations profoundly impacts patients’ lives.

Place/Communities**One-child policy in place: Community context, gender, and child nutrition in China** Yingyi

Lin* Yingyi Lin, Emily Smith-Greenaway, Laura Ferguson,

China's one-child policy (1979-2015) is known to have benefited the health of some, but not all children. Indeed, the one-child policy has also created health disadvantages for some children, either through discrimination or over-investment. The literature to date has nearly exclusively focused on the implications of the policy for children's own family composition, and the corresponding impact of having no siblings. However, there exists substantial heterogeneity in the extent of policy-uptake across places in China—a reality that is rarely acknowledged in research, yet may further influence investment in, and ultimately the physical health of, children. Thus, in this paper, we work to put the one-child policy into "place" using nine waves of China Health and Nutrition Surveys (1991-2015) to analyze the standardized body mass index (BMI) of 7,481 children under 19 years living in 310 local communities. We find that the spatial variation in the community prevalence of singleton boys versus singleton girls respectively, and that these varied family contexts correspond with distinct child health patterns. Most children living among a higher prevalence of singleton boys have a lower risk of being overweight; however, girls who have male siblings experience the lowest BMI. Alternatively, children living around a higher prevalence of singleton girls corresponds with over-investment in all children, regardless of their own family composition, leading to their higher risk of being overweight. This paper demonstrates that the one-child policy not only changed families themselves but also the landscape of family contexts. Leveraging the diversity by which the one-child policy was experienced and situating children's health experiences in their broader social contexts, the findings emphasize the need to adopt a layered lens, a more localized perspective, when studying the one-child policy to fully identify the various unintended consequences it can have for children's health.

Policy**Structural Racism and Worker Health: The Inequitable Health Effects of Wage Theft****Policies** Kevin Lee* Kevin Lee, Amani Allen, Maria-Elena de Trinidad Young, Mahasin Mujahid,

Background: Pervasive structural racism in the labor market places immigrants and workers of color at disproportionate risk of exploitative work conditions such as wage theft where employers fail to pay workers. States have enacted wage theft policies to provide legal protections for workers, yet few empirical studies have assessed how these protections impact worker well-being. This study examines the associations between state-level wage theft policies and the health of immigrants and workers of color, and by extension, the effectiveness of policies at dismantling structural racism.

Methods: We used a dataset of 70 state-level wage theft policies enacted between 2005 and 2017 to construct policy scores based on the total number of wage theft policies in each state. We also used the 2019 Annual Social and Economic Supplement of the Current Population Survey to examine US workers ages 18 to 64 (N=49,214). We assessed the association between wage theft policy scores and self-rated health (SRH) by race/ethnicity and immigration status. We also examined the relationship between specific categories of wage theft policies and SRH.

Results: For states with more wage theft policies, White (aOR=0.97, 95% CI: 0.94-0.99) and US-born (aOR=0.97, 95% CI: 0.95-1.00) workers were less likely to report poor SRH. Conversely, having more wage theft policies was associated with greater odds of non-citizen workers reporting poor SRH (aOR=1.03, 95% CI: 0.99-1.07). Across distinct policy categories, penalty (aOR=2.02, 95% CI: 1.45-2.81), worker complaint (aOR=1.57, 95% CI: 1.09-2.25), and expanded liability (aOR=1.35, 95% CI: 0.99-1.85) policies were associated with a greater odds of poor SRH among non-citizen workers.

Conclusions: The differential health effects of wage theft policies among immigrants and workers of color demonstrate how these policies fail to protect the workers they are intended to help. Policymakers should be cautious of designing policies that create unintended harm.

Race/Ethnicity

Adverse childhood experiences across Multiracial and monoracial groups: investigating differences by Indigenous ancestry Tracy Lam-Hine* Tracy Lam-Hine, Corinne Riddell, Patrick Bradshaw, Michael Omi, Amani Allen,

Adverse childhood experiences (ACEs) are linked to increased risk of a host of health outcomes in adulthood. Descriptive studies of ACEs prevalence using data from the Behavioral Risk Factor Surveillance System have shown that Multiracial people have higher mean ACE scores than any other racial group, but offer few explanations for these disparities. Multiracial people form one of the fastest-growing populations in the US, and the largest subgroup of Multiracial people is those that claim American Indian/Native American (AI/NA) ancestry. Mean ACE counts (scores) are also high among the AI/NA population, which may reflect impacts of land occupation and systemic racism. This descriptive disaggregation study used data from the National Longitudinal Study of Adolescent to Adult Health (Add Health) to test the hypothesis that mean scores are higher among Multiracial participants with (M AI/NA) compared to without AI/NA (M not AI/NA) ancestry. Mean scores were highest among the AI/NA (3.16, 95% CI: 2.47, 3.85), M AI/NA (2.93, 95% CI: 2.70, 3.16), M not AI/NA (2.87, 95% CI: 2.57, 3.17), and Black (2.84, 95% CI: 2.66, 3.02) groups. Pairwise comparisons of mean differences were significant for Black-White (0.49, 95% CI: 0.24, 0.75, $p < 0.001$), M AI/NA-White (0.59, 95% CI: 0.04, 1.13, $p = 0.025$), and Black-Asian (0.54, 95% CI: 0.07, 1.01, $p = 0.014$) comparisons. Results from this study did not support our hypothesis, suggesting that the Multiracial population's high ACE scores may not be driven primarily by those with AI/NA ancestry. Limited sample sizes in this study limited our ability to draw more conclusive inference. Future studies should repeat this disaggregation analysis in larger datasets, and explore other determinants to explain the high mean ACE scores among the Multiracial population.

Race/Ethnicity**Interactive Effects of Racism-related Worry and Racial Discrimination on Sleep Disturbance among African American Women** Amanda Perez* Amanda Perez, Tyan Parker-Dominguez, Thu Nguyen, David Chae, Amani Allen,

Sleep disturbance is an important predictor of racial health disparities with studies showing greater sleep disturbance among African Americans compared to Whites. Chronic racism-related stress has been linked with poor sleep, and may help explain racial disparities in sleep disturbance. Whereas most studies examine actual stress experiences, few have investigated the links between anticipatory racism-related stress and sleep. Anticipatory stress results in a heightened state of prolonged vigilance, potentiates the stress response, and has been proposed as a critical yet understudied component of racism-related stress. African American women have previously reported a pervasive sense of vigilance in anticipation of potential racism experiences. We examined the effect of racism-related worry (one domain of anticipatory racism stress) on difficulty staying asleep and interactive effects with racial discrimination among a nationally-representative sample of African American women aged 25-64 in the US (N=615). Racism-related worry is a 5-item scale indicating the degree to which African American women worry about their race and stereotypes ($\alpha=.71$). Racial discrimination was measured using the 8-item experiences of discrimination scale ($\alpha=.91$). Sleep disturbance was measured using a single item asking about difficulty staying asleep. All 3 measures were assessed on a 5-point scale with higher numbers indicating higher agreement on the construct of interest. We performed a weighted multivariable regression and found a significant positive interaction between racism-related worry and lifetime experiences of racial discrimination ($b=0.004$, $SE=0.002$, $p=0.005$). Among African American women with previous racial discrimination experiences, anticipatory racism stress is potentially exacerbating the negative effects of stress activation on health. Our findings affirm the need to consider anticipatory racism threat as an important aspect of the racial stress experience.

Race/Ethnicity**Race/Ethnicity, Caregiving and the Mental and Physical Health of US Women** Andrea Goodwin* Andrea Goodwin,

There are varied responses to the stressors people experience due to the challenges of caregiving. And previous research has shown that race is associated with health consequences of stress, in which stress manifests physically in individuals of color and mentally in White individuals. Women account for 60-70 percent of the 48 million Americans providing unpaid care to an adult with health or functional needs, and they are at two times greater risk than men to experience high caregiver burden. Thus, I focus on women to assess if there are disparities in health among US caregivers in different racial/ethnic groups. With consideration for the extent these disparities are affected by caregivers' sociodemographic characteristics, this cross-sectional study examines if racial/ethnic disparities are patterned differently for mental and physical health.

My sample includes women ages 25-74 from the National Study of Caregiving (NSOC). NSOC is a study of family and other unpaid caregivers to participants in the National Health and Aging Trends Study (NHATS), a nationally representative sample of Medicare beneficiaries ages 65 or older. My sample of 3,635 women from three pooled NSOC rounds is classified into four ethno-racial groups: non-Hispanic White, non-Hispanic Black/African American (AA), Hispanic, and non-Hispanic Other. Physical health is assessed with a self-rated measure consisting of a 5-point scale, and mental health is measured using a combination of two questions assessing depressive mood indicators from the Patient Health Questionnaire (PHQ-2) and two questions assessing anxiety indicators from the General Anxiety Disorder Questionnaire (GAD-2). I use linear regression models that are adjusted to account for confounding and mediating factors. Preliminary findings are consistent with previous literature, as Black/AA caregiving women displayed the poorest physical health scores of all groups, and White caregiving women displayed the poorest mental health scores.

Reproductive health

“I waited years for an option other than vasectomy”: Interest in new contraceptive methods for sperm among people with vasectomies Madeline Mahoney* Madeline Mahoney, Asha Hassan, Alison Ojanen-Goldsmith, Christy Boraas,

People who can get pregnant currently have many more effective and reversible contraceptive options than those who produce sperm. Increasing options for people who produce sperm is important in expanding reproductive agency. Several novel hormonal and non-hormonal methods of contraception for sperm are in development, yet the perspectives of people who have had vasectomies as to whether and why they would have preferred a contraceptive alternative over vasectomy have not been previously explored. We recruited participants who had undergone vasectomies at family planning clinics in the upper Midwest United States and advertised this anonymous, cross-sectional, self-administered web-based survey on social media. We analyzed quantitative results using descriptive statistics and bivariate analysis. We analyzed two open-text questions using thematic analysis. Inclusion criteria were age 18 or older, had a vasectomy, able to read, write, and speak English, and was willing to participate. Among the 266 respondents, 34.2% of participants reported they likely or very likely would have chosen highly effective, non-surgical, and fully reversible emerging contraceptive technologies for sperm if they had been available instead of vasectomy. Reasons for this choice include the reversibility of a future method (47.1%), the desire to avoid surgery (42.5%), greater accessibility of a future method (12.6%), and anxiety around the surgery itself (4.6%). Abortion restrictions, gender dysphoria, and intergenerational trauma emerged as novel motivators in the decision to have a vasectomy. Nearly half of participants had no children at the time of their vasectomy. People choosing vasectomy may prefer reversible and non-surgical emerging methods of contraception targeting sperm. Clinical researchers, industry sponsors, and healthcare institutions should work to provide more contraception options for people who produce sperm to further their reproductive agency.

Reproductive health**Current Preconception Health Status of Individuals Who Could Become Pregnant and The Impact of Geographic Region and Rurality Status in the United States** Madison Haiman*

Madison Haiman, Catherine Cubbin,

As the maternal health crisis remains a significant problem, there has begun to be an increased recognition of the need for preventative healthcare before someone becomes pregnant to reduce the risk of maternal mortality and severe morbidity, otherwise known as preconception healthcare. Prior research has addressed independent preconception health factors, but there has been no large-scale analysis of individual-level comprehensive preconception health in the United States. The current study analyzed the 2019 Behavioral Risk Factor Surveillance System data from 37 states to answer the following question. What is the preconception health status of individuals who could become pregnant in the United States and how is it impacted by geographic region and rurality? A preconception health index was created based on the preconception health recommendations of the American College of Obstetrics and Gynecology and the American Academy of Family Physicians and included pregestational diabetes status, pregestational blood pressure status, body weight, mental health, risk of unintended pregnancy, risk of HIV contraction, alcohol use, nicotine use, nutrition behavior, and physical activity. For each measure reported, a score of one was added to the total score, for a potential total score as high as ten.

The final sample size is 33,381. Preliminary findings suggest that there is a difference in preconception health based on both geographic region and rurality status. The average preconception health score of participants living in rural areas (2.88) was worse than that of participants living in urban areas (2.59) nationally. Within each geographic region, it was also found that the average score of participants living in rural areas was worse than that of participants living in urban areas, with the biggest difference found in the Northeastern region. The worst ranking geographic regions overall were the Southern (2.67) and Midwestern (2.67) regions.

Socioeconomic status

Degrees of Decline: Race and Gender Disparities in the Precarious Employment Trajectories and Mid-Life Health of College-Educated Workers in the United States Anita Minh* Anita Minh, Sarah Andrea, Jessie Seiler, Shanise Owens, Kieran Blaikie, Anjum Hajat,

Background: Higher education has had limited success with mitigating labour market discrimination and health disparities by race and gender. Higher education has typically buffered against exposure to precarious employment (PE), but this protection has weakened with widespread growth of PE. This study examines how race and gender shape exposure to PE in the early working trajectories of college-educated workers in the United States, and how these trajectories are associated with health in mid-life.

Methods: We used the National Longitudinal Survey of Youth 1979 (Years: 1979-2018; n=2,751). With multichannel sequence analysis, we identified 20-year trajectories of PE across indicators of material rewards, working time arrangement, employment instability, workers' rights and protections, and collective organization. We examined the association with depressive symptoms, and self-rated physical health at age 40, 50, and 60, controlling for age, baseline disability status, and family composition. Analyses were stratified by race and gender.

Results: Trajectories differed by race and gender. Women were more likely to have trajectories characterized by part-time work, family care, and labour force disconnection than men. Black and Hispanic men and women were more likely to have trajectories with greater employment instability and fewer material rewards than white men and women. Black and Hispanic women were less likely to have trajectories characterize by self-employment than white women. Trajectories with greater PE (e.g., low pay, employment instability, workers' rights) were related to worse health and depressive symptoms at age 40, 50, and 60.

Conclusions: Education offers limited protections against exposure to PE for racialized populations, particularly for racialized women. To effectively address race- and gender- disparities in health, policies and programs promoting educational attainment should be supplemented with interventions that improve employment quality.

Methods: Data came from college-educated respondents of the National Longitudinal Survey of Youth 1979 (Years: 1979-2018; n=2,751). Using multichannel sequence analysis, we identified 20-year trajectories of PE across indicators representing five domains from the date of respondents' college graduation (material rewards, working time arrangement, employment instability, workers' rights and protections, and collective organization). We examined the association with depressive symptoms, and self-rated physical health at age 40, 50, and 60, controlling for age, baseline disability status, and family composition. Analyses were stratified by race and gender.

Results: Unique trajectories were identified for race and gender subgroups. Trajectories characterized by part-time work, family care, and labour force disconnection were more frequent among women than men. Compared with white men and women, Black and Hispanic men and women were more likely to have trajectories with greater employment instability and fewer material rewards. Compared with white women, Black and Hispanic women were less likely to have trajectories characterized by self-employment. Trajectories characterized by worse employment across multiple dimensions of PE over time (e.g., low pay, employment instability, workers' rights) were related to worse health and depressive symptoms at age 40, 50, and 60.

Conclusions: Education has unequal returns, having limited protections against long-term exposure to PE, particularly in the early working lives of women and racialized populations. Interventions to directly improve employment quality should supplement education-focused interventions to address race- and gender-based disparities in health.

Structural factors**Gender-based inequities in area-level deprivation** Alka Dev* Alka Dev, Lucy Skinner,

There is growing recognition of the instrumental role that one's context plays in determining health outcomes over the life course. Variations in people's social determinants of health can lead to gross inequities in health outcomes across communities, a policy perspective established in the U.K. decades ago. Twenty years ago in the U.S., Singh constructed a composite area-level deprivation index (ADI) based on 1990 census tract data to measure the multidimensional nature of socioeconomic complexity at the community level that could not be approximated by a single measure alone. Since then, area-level deprivation has been associated with various adverse health outcomes, including preterm birth at the census division level, and cancer patient outcomes, including depression and anxiety, and cardiac readmissions at the zip code level. Recently, researchers have found three distinct dimensions to the measure, the ADI-3, consisting of neighborhood financial strength, economic hardship and inequality, and educational attainment. We aimed to determine whether area-level deprivation has a gender lens among people of reproductive ages. Using two approaches, we analyzed the 2021 American Community Survey 5-year Public Use Microdata Sample to explore male-female differences in area deprivation for people aged 15 - 55 years. In the first approach, we calculated a single score using principal component analysis to compare the overall ADI with those specific to men and women over 982 public use microdata areas (PUMA). In the second approach, we used exploratory factor analysis to determine whether the dimensions for overall, male, and female ADIs were statistically similar. Our preliminary findings show that a global ADI based on one principal component is not consistent by gender. In at least 10% of PUMAs, the ADIs were significantly different across the two groups. We also found three dimensions to the ADI but did not find these dimensions to be stable by gender, i.e., there were compositional differences in factors measuring deprivation across men and women. In the next phase, we plan to test the construct validity of the index with respect to men and women and to present results on the gender-based structural differences at the county level. Our study has implications for whether gender-specific health outcomes are correlated with the level of deprivation experienced by men versus women.

Structural factors**How work compromises health: A qualitative study among young adults identified as sexual and gender minorities in the San Francisco Bay Area who currently or formerly smoked cigarettes** Emily Kaner* Emily Kaner, Emile Sanders, Mark D. Fleming, Tamar MJ Antin,

Work has been established as an important but underacknowledged social determinant of health. Though work has the potential to both promote and harm health, this analysis focuses on the health-compromising elements of work in a sample of sexual and gender minority (SGM) young adults in the San Francisco Bay Area who participated in a study investigating nicotine and tobacco use practices. Survey and interview data were collected from 100 participants ages 18-25 who reported current or former NT use. In-depth qualitative interviews explored their experiences of daily life, social identities, practices of NT use, and perceptions of health and wellbeing. A thematic analysis of the narratives highlighted the centrality of work in daily life. Participants described how work structures time and becomes a site of daily exploitation, and exposed the structural barriers that shape employment opportunities for SGM young adults. Analysis revealed how work may compromise health, and shape NT use. Results elucidate the harmful practices embedded in daily work and the inequities within the structure of work itself which underscore the need to shift focus away from individual behaviors like NT use and towards the structures of people's everyday lives that compromise their health and wellbeing.

Structural factors**Homeownership is a strong predictor for the leading chronic conditions in United States**

Shams Rahman* Shams Rahman, David Steeb, Nicole Doyle, Sylvester Orimaye, Maya Tabet,

Introduction: Homeownership is an essential pathway to stability, economic security, social mobility and healthy life. The objective of this study was to examine the role of homeownership in predicting the prevalence of leading chronic conditions in the United States.

Methods: The Behavioral Risk Factor Surveillance System (BRFSS) 2020 data (N=401,958) were analyzed. BRFSS is the largest telephone survey in the U.S. which collects self-reported data on chronic conditions, risk behaviors, and preventive services utilization. Outcome variables included: self-reported ever diabetes, asthma, cancer (other than skin), coronary heart disease (CHD), stroke, and kidney disease. Exposure variable included: homeownership (own/rent). In this paper we present preliminary findings from descriptive and regression analyses. Odds ratios (OR) and corresponding 95% confidence intervals (CIs) were adjusted for age and sex. To account for the survey design, all estimates were weighted.

Results: Sixty-seven percent of the participants reported living in their own houses, and 33% in rentals. Mean age for homeowners was 53 years vs. 38 years for renters. Homeownership was slightly higher among women than men. The prevalence for self-reported ever diabetes was 16%, asthma 13.5%, cancer 9.2%, CHD 5.7%, stroke 3.9%, and kidney disease 3.7%. The odds of diabetes were 1.5 times higher among renters than homeowners (OR **1.50**; 95%CI: 1.41 - 1.57). The odds of asthma were 1.28 times higher among renters than homeowners (OR **1.28**; 95%CI: 1.23 - 1.35). The odds of CHD were 1.3 times higher among renters than homeowners (OR **1.33**; 95%CI: 1.22 - 1.44). The odds of stroke were two times higher among renters than homeowners (OR **2.00**; 95%CI: 1.82 - 2.19). The odds of kidney disease were 1.68 times higher among renters than homeowners (OR **1.68**; 95%CI: 1.53 - 1.85). The prevalence of self-reported cancer (other than skin) did not differ significantly by homeownership (OR 0.97; 95%CI: 0.90 - 1.04).

Conclusion: Homeownership is a strong predictor for self-report ever prevalence of multiple leading chronic conditions in the United States. Given its importance, future public health programs should address the issues of housing to improve health for all.

Structural factors

Individual-level dimensions of structural racism and disability disparities in Massachusetts

Emmanuella Asiedu* Emmanuella Asiedu, Jennifer Tjia, Sarah Forrester,

Background: Structural racism, plays a large role in the everyday experiences of Black men and women in the United States by impacting how resources are distributed and accessed. Structural racism leads to individual level economic hardship, prolonged exposure to poor working conditions, physically demanding jobs, and poor social structural factors that can increase risk of disability.

Objectives: The purpose of this study is to determine if and how the individual-level dimensions (education, employment status, health insurance type, household income, poverty) of structural racism impact disability disparities in Massachusetts.

Methods: We used the 2020 5-year estimate American Community Survey (ACS) data to compare disability status for Black (n = 7,278) and White (n = 138,526) participants aged 45 and older, living in Massachusetts. We used logistic regression to analyze the impact of the individual-level dimensions of structural racism and disparities in 4 dichotomous (yes/no) disability types (cognitive difficulty, ambulatory difficulty, vision difficulty, hearing difficulty).

Results: 27% of Black participants and 20% of White participants indicated having at least one disability. Black participants had higher odds of any disability and individual disabilities for all except hearing. After adjusting for sex, age, and US citizenship status, the association between race and cognitive disability (OR = 1.39, 95% CI: 1.24 - 1.55) was attenuated when poverty was added to the model (OR = 1.07, 95% CI: 0.95 - 1.20) The association between race and all other disabilities remained significant even after dimensions were added.

Conclusion: Our analysis of the individual-level dimensions of structural racism indicate that the poverty dimension may account for much of the relationship between race and cognitive disability in a Massachusetts sample. Future research should explore associations between a multidimensional measure of structural racism and disability disparities.

Substance Use

“It depends on the population”: Harm reduction service provider and community member perspectives on utilization of fentanyl test strips Kaylin Sweeney* Kaylin Sweeney, Danielle Russell, Madeline Hooten, Elizabeth Palmer, Haley Coles, Raminta Daniulaityte,

Continuing increases in opioid-related overdose deaths have been linked to the growing contamination of the illicit opioid and other drug supply with illicitly manufactured fentanyl (IMF).^{1,2} Fentanyl test strips (FTS) provide a low-cost form of drug checking that can be implemented at the point of consumption by the user to indicate if their drugs contain IMF.³⁻⁵ This qualitative study conducted with harm reduction service providers and people who use illicit opioids (PWUO) in Arizona aims to explore their views and experiences with FTS use.

Qualitative, semi-structured interviews were conducted between 10/2021 and 08/2022 with PWUO (N=26) and harm reduction service providers (N=7). All interviews were audio recorded, transcribed, and qualitatively coded with NVivo. The study was approved by ASU IRB.

Harm reduction providers indicated FTS utility in empowering people who use drugs but noted reduced interest in FTS among PWUO due to most knowingly using IMF. Greater interest in FTS use was noted in people who use stimulants like methamphetamine or MDMA. Some harm reduction providers noted limitations of FTS including their inability to provide information on IMF concentration and IMF analogs. Most PWUO interviewed had little knowledge about FTS, and only 40% reported ever using them. The majority indicated choosing to use IMF due to easier access, giving FTS limited utility in those situations. Among those who used FTS, all reported having used them to test heroin, and some also tested methamphetamine and cocaine. Most who had used FTS reported modifying their behaviors on those occasions, including smoking instead of injecting, going slower, lowering their dose, or seeking another drug source.

There is a need for more advanced drug checking technologies to help PWUO have more information about the composition and risks of street opioids and other drugs. Expanded drug checking education and FTS access is needed for people who use stimulants and other non-opioid drugs.

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Aging**Not All Sandwiches are Created Equal: Health Disparities and Heterogenous Sandwich Generation Experiences** Kent Jason Cheng* Kent Jason Cheng,

The term 'sandwich generation' typically refers to middle-aged individuals who are responsible for caring for both their underage children and aging parents simultaneously. Although the media often suggests that being sandwiched between two generations can have negative consequences, there is little research that has quantified the types, magnitudes, and direction of intergenerational exchanges within these families and their resulting health. To address these gaps, this study used the Panel Study of Income Dynamics Rosters and Transfers module to investigate health disparities by typologies of sandwich generation created using latent class analysis on time and money transfers (1) to and from parents and (2) to and from children. Preliminary results revealed four types, in ascending order of exchange frequency: (1) low probabilities of providing time to parents and money to adult children (prevalence=21.5%), (2) slightly higher compared to previous type but almost equal probabilities of providing time to parents and money to adult children (22.0%), (3) intense time and money transfers to adult children (34.8%), (4) intense time and money to both adult children and parents (21.7%). Logistic regression controlling for age, sex, and race-ethnicity revealed that while there were no statistically significant differences in terms of reporting fair/ poor health and having two or more chronic illnesses by sandwich types, the type with most intense time and money transfers to both parents and children had 2.4x higher odds of reporting distress compared to the group with least transfers.

Aging**Neighborhood Social Cohesion and Cognitive Impairment Across Racial/Ethnic Groups in the United States** Dana Alhasan* Dana Alhasan, Symbielle Gaston, W. Braxton Jackson II, Chandra Jackson,

Neighborhood social cohesion (nSC) may lower risk for cognitive impairment through social support and promoting healthy norms, for example. The disproportionate impact of cognitive impairment on minoritized racial/ethnic groups emphasizes the need to understand how modifiable factors like nSC may buffer against cognitive impairment and mitigate racial/ethnic disparities. Yet, few studies have assessed this relationship among a large, racially/ethnically diverse, and nationally representative sample of the United States population. Therefore, we used the 2018 National Health Interview Survey to determine overall and racial/ethnic-specific associations between nSC and cognitive impairment among 87,189 adults. Based on a 4-item scale from the Project on Human Development in Chicago Neighborhoods Community Survey, we categorized nSC as low, medium, and high. Cognitive impairment (yes vs. no) was based on the Washington Group Short Set on Functioning. We used Poisson regression with robust variance to estimate prevalence ratios (PRs) and 95% confidence intervals (CIs) while adjusting for sociodemographic confounders. Mean age \pm standard error was 47.1 \pm 0.1 years, 69.2% self-identified as NH-White, 11% as NH-Black, 14.5% as Hispanic/Latinx, and 5.4% as NH-Asian. Minoritized racial/ethnic adults were overrepresented in low nSC: 13.8% NH-Black, 19.5% Hispanic/Latinx, 5.2% NH-Asian, and 61.5% NH-White adults. More NH-Black (2.4%) and Hispanic/Latinx (2.4%) reported cognitive impairment compared to NH-White (2.2%) and NH-Asian (1.6%) adults. Low vs. high nSC was associated with a 43% higher prevalence of cognitive impairment (PR=1.43 [95% CI: 1.23-1.65]), and there were differences by race/ethnicity: NH-White (PR=1.54 [1.30-1.82]), NH-Asian (PR=1.33 [0.57-3.11]), NH-Black (PR=1.16 [0.79-1.71]), and Hispanic/Latinx (PR=1.04 [0.70-1.55]). Lower nSC was associated with poorer cognition. Improving nSC may be an intervention target to help address cognitive impairment.

Aging**The Effect of Education on Midlife Cognitive Health: The Mediating Role of Occupational Complexity** Jessie Himmelstern* Jessie Himmelstern, John Rob Warren, Chandra Muller, Eric Grodsky,

Over the last few decades an increasing number of individuals in the United States have been diagnosed with Alzheimer's Disease and related dementias (ADRD). As the population ages there is an expectation that the number of people with ADRD will increase three-fold (Langa et al 2017). Previous work has examined how social factors, including educational attainment and work, impact cognitive health later in life (Hyun et al. 2021; Lee et al. 2010; Lövdén et al. 2020). However, prior research has not carefully considered how the cognitive complexity of paid jobs might mediate the effects of education on ADRD risk. What is more, prior research has almost exclusively considered the quantity of schooling people complete. This ignores the complex experience of education in the United States; people with the same terminal degree may be very different with respect to educational opportunities, quality of schooling, peer attributes, and curricular exposures.

For this project, we use comprehensive measures of education from High School and Beyond—a large (n=~25,500), diverse, nationally-representative sample of Americans followed from high school in 1980 to age ~60 in 2021/2022—to explore the relationship between education and cognitive health. Beyond using more comprehensive measures of educational contexts, opportunities, and outcomes, we examine the mediating role of occupational complexity in this relationship.

Preliminary results indicate that educational attainment, parental income, and occupational complexity are significantly associated with cognitive health when controlling for demographic and educational measures. We also find that occupational complexity does mediate the relationship between education and cognitive health. However, once we include the comprehensive educational measures the amount of mediation is smaller than previous studies have indicated.

Biomarkers or biological pathways**Sociodemographic Disparities in Biomarkers of Aging in Young Adulthood** Jennifer Momkus*

Jennifer Momkus, Allison Aiello, Rebecca Stebbins, Yuan Zhang, Kathleen Mullan Harris,

Intro: Biomarkers in population-based studies serve as indicators of incremental physiological deterioration. They also allow us to identify populations at higher risk of future adverse health outcomes before the onset of morbidity. However, there are major gaps in our understanding of key social and economic disparities in markers of disease risk earlier in the life course.

Methods: We examined several biomarkers of inflammation (interleukins-1 β , -6, -10, 8, TNF- α , hsCRP), and neurodegeneration (NfL, Tau) in the National Longitudinal Study of Adolescent to Adult Health (Add Health) cohort using serum blood samples from Wave V (ages 33-44). Overall and sociodemographic-stratified descriptive statistics of log-transformed biomarker measurements were calculated. Analysis of Variance (ANOVA) tests were conducted to test for statistically significant differences of biomarker mean levels by biological sex, BMI, smoking status, current region, educational attainment, household income, race/ethnicity, nativity, and age. To account for the large proportion of left-censoring at the limit of detection, Tobit regressions were used for IL-1 β . Analyses were survey-weighted to account for sampling procedures and differential participation.

Results: Higher mean levels of biomarkers of inflammation and neurodegeneration were associated with indicators of socioeconomic disadvantage, indicating increased physiological deterioration among lower SES groups. For example, the inflammatory marker TNF- α was higher among those with a high school diploma/GED or lower compared to those with a college degree. Similarly, NfL and Tau were higher among lower income and educational attainment groups. Significant differences in the mean levels of IL-6:IL-10 ratio, hsCRP, and TNF- were observed by race/ethnicity, sex, census region, BMI and smoking status. Higher mean concentrations of IL-8, NfL, and total Tau were seen among those with normal BMI compared to overweight and obese participants.

Conclusions: Even during the relatively disease-free period of young adulthood, disparities in biomarkers of aging and neurodegeneration are beginning to emerge. These physiological measures may contribute to understanding the biological underpinnings of the emergence of social disparities in health.

Chronic disease**An Intersectional Exploration of Factors Associated with Uncontrolled Hypertension** Fatima Fairfax* Fatima Fairfax,

Hypertension affects almost half of the U.S. adult population. Despite universal guidance for hypertension management, rates of uncontrolled hypertension remain high. The limited literature that addresses hypertension management often neglects a holistic account of factors that may contribute to an individual's ability to manage their blood pressure. Furthermore, previous literature is either general, examining the whole of the population, or focused on one axis of identity, such as race or gender, missing the opportunity to explore how factors differ by race-gender identity. In this exploratory descriptive study, I aim to reveal what health behavior, healthcare access, and social factors distinguish those with controlled hypertension from those with uncontrolled hypertension. Using data from the 2017 National Health Interview Survey (NHIS), extensive weighted descriptive statistics and chi-square significance testing, I reveal patterns of difference between those with controlled versus uncontrolled hypertension. I take an intersectional approach, examining these factors within and between race-gender identities to explore the consequences of a racialized and gendered process of health and healthcare. Preliminary findings show that, among non-Hispanic Black and White hypertensive adults ($n = 6,941$), indirect factors such as depression, patient-provider interactions, and SES differentiates between those with controlled versus uncontrolled hypertension more consistently than any health-related behavior barring smoking. I also find that the factors that distinguish between hypertension status differ across race-gender identity groups such that traditional management guidance may only be sufficient among hypertensive white women. Approaches for other race-gender identity groups may necessitate an examination of healthcare providers' treatment of patients, increased access to quality healthcare, and a recognition of social factors that act as barriers to management.

Environmental factors

Exploring predictors of the decisions to initiate PrEP among cisgender Black women Mandy Hill* Mandy Hill, Sarah Sapp, Shadawn McCants, Jeffrey Campbell, Diane Santa Maria,

Background: Black women account for 67% of new HIV diagnoses among all women in the South. Optimal progress toward ending the HIV epidemic require strategies that will interrupt transmission pathways among women in HIV hotspot locations. This qualitative work explores predictors of the decision to initiate pre-exposure prophylaxis (PrEP) among cisgender Black women.

Methods: Qualitative methods were used to explore how culture, race, and gender influence individual decisions to use PrEP among 20 Black women through focus group discussions.

Results: Themes identified from focus groups during an interim data analysis highlighted PrEP knowledge, public PrEP awareness, awareness of peers who take PrEP, self-advocacy with providers about health, and PrEP accessibility. Several participants highlighted that their PrEP knowledge was rooted in media campaigns, which indirectly conveyed that PrEP was not for cis Black women. One participant stated, 'What I know of PrEP is the one commercial where they said PrEP has not been studied in cis women, which I feel was a little shady.' In regards to awareness of peers who take PrEP, one participant stated, "Most of my friends who are gay men take PrEP, but that is as much as I know about it. None of my female friends hear about it, know about it, and if they do, they think of it as like the 'gay drug'...taking the 'gay man's drug' would be admitting to the community that I have sex with gay or bisexual men."

Conclusions: Study findings point to gaps in media marketing regarding who can benefit from PrEP. Healthcare providers should be aware that some of their patients may perceive that PrEP is not for them. This information elucidates the urgency of provider-led sexual health discussions to bridge the gap between PrEP-eligibility and initiation among cisgender Black women.

Gender**Missing pieces: A Critical Review of Social Science Research on Forced Marriage** Aarushi Shah* Jessie Ford, Jennifer Hirsch,

This article highlights an urgent need to better understand the social and structural drivers of forced marriage in the US. In recent decades there has been increased media and research attention to forced marriage. However, much of this work has positioned the phenomenon as a problem of backwards culture or religion—a problem of black and brown girls/women which requires (or justifies) intervention. This review article critically evaluates recent social science literature on forced marriage. We conducted a scoping review, synthesizing and critiquing 22 articles on forced marriage, with an emphasis on gaps in understanding. Our analysis shows a heavy focus on individual circumstances with less attention to structural drivers, on forced entrance to marriage rather than on the forces that prevent exit, on the consequences of forced marriage for forced sex and reproduction, and on heterosexual women to the exclusion of queer individuals, heterosexual men, and those with disabilities. It also points to how forced marriage has been mobilized to amplify orientaling narratives about Muslim immigrants. We find there are limits to legal definitions of force and coercion (which require an individual perpetrator of that force) and which present a binary framework (forced/not forced) which does not fully capture complex subjective experiences. Interventions emphasize preventing forced marriage rather than helping people in these marriages and/or supporting their exit. Overall, the reviewed literature demonstrates the opportunity of applying a post-carceral framework to this social problem and the need for more qualitative studies based in first-person accounts of forced-marriage with a focus on the social structures and processes that produce, enable and impose forced marriage.

Health behaviors**Barriers and Enablers Associated with Adolescent Sexual and Reproductive Health****Behaviors in Western Kenya: A Theory-Informed Approach** Abigail Lee* Nema C.M. Aluku, Carolyne Mabeya, Catherine Muteithia, Yvonne Wanjiru, Abigail A. Lee, William T. Story,

Background: Young women in western Kenya are becoming pregnant before they want, leading to detrimental health outcomes. Little is understood about the root beliefs that leave girls at risk of young pregnancy. This study aims to elucidate the barriers to and enablers of delayed sexual initiation and condom use among adolescents in western Kenya.

Methods: This study is part of a larger sexual and reproductive health (SRH) program called *Stepping Up!*. We conducted a rapid assessment of the determinants of delayed sexual initiation and condom use known as Barrier Analysis, which is based on the Health Belief Model and the Theory of Reasoned Action. For each behavior, we interviewed 120 boys and girls (ages 15-24 years) divided evenly between those who practice the behavior (“doers”) and those who do not (“non-doers”). We analyzed the data and identified significant differences ($p < 0.05$) between the “doers” and “non-doers” for each behavior.

Results: For delayed sexual initiation, differences were observed for self-efficacy and social norms related to delaying sex. Compared to doers, non-doers (especially boys) found it difficult to delay sex ($p = 0.027$); however, they were aware that delaying sex would prevent early pregnancy ($p = 0.012$). Non-doers also felt they would be the “odd one out” and their friends would be disappointed if they delayed having sex ($p = 0.022$). For condom use, differences were observed for social norms, negative consequences, and cues to action. Compared to doers, non-doers indicated that most people do not approve of condom use ($p = 0.017$); girls indicated partners do not approve ($p = 0.013$). Non-doers also mentioned discomfort/irritation of condoms during sex ($p = 0.040$) and found it difficult to remember to use a condom correctly ($p = 0.022$).

Conclusion: This study demonstrates that self-efficacy, social norms, negative consequences, and cues to action are key determinants of adolescent SRH in western Kenya and should be addressed in future interventions.

Health behaviors**Childhood Obesity and Its Effects on Civic Participation in Early Adulthood** Nishat Tasnim

koli* Nishat Tasnim koli, Brandon Wagner,

The prevalence of childhood obesity has increased rapidly in many parts of the world and is now considered a severe public health issue in many settings because of the resulting increase in cardiovascular risk, diabetes and mortality in adulthood. Childhood obesity also has adverse social and psychological ramifications, including teasing, bullying, discrimination, body shaming, isolation. These social consequences of childhood obesity may result in individuals being social excluded or having problems with social integration. As a result, childhood obesity may affect civic participation such as volunteering, neighboring, group and religious involvement, voting behavior and political participation. By focusing on both the predictors of childhood obesity and civic participation which lead to the social exclusion, this paper will explore whether the overweight problem in childhood affects civic participation in early adulthood. To answer this question, the study uses data from waves 1-4 of the National Longitudinal Study of Adolescent to Adult Health (Add Health). This paper concludes with a consideration of increasing civic involvement by minimizing childhood obesity related threats that result in social exclusion.

Health care/services**A Conceptual Model for Alternative Payment Models in Maternity Care** Lastascia Coleman*

Lastascia Coleman,

The delivery of maternity care has received much needed attention in the last several years, with a notable influx state and federal programs that intend to impact and improve maternal health outcomes. These initiatives include perinatal quality collaboratives, state maternal mortality review committees, Medicaid expansion and extension, and Maternal Levels of Care. Despite emphasis and funding directed at supporting and initiating these programs, maternal morbidity and mortality continue to increase in the US. None of these programs fully address the Quintuple Aim which may be contributing to the lack of progress. In addition to the elements of the Triple Aim of population health, cost effective care, and patient experience, the Quintuple Aim also include workforce issues and health equity.

One barrier to improving maternal health outcomes that has not been addressed thoroughly is exploring the role of alternative payment models (APMs) that encourage improvements and collaboration between payers and birthing units. Linking insurance reimbursement to improved outcomes through APMs has been successful in Medicare programs and several states now operate accountable care organizations (ACOs) through Medicaid as well. When APMs were originally implemented with the Affordable Care Act, the Triple Aim was used as the framework to create these models. A model such as this would allow for a more comprehensive approach to care that brings multiple stakeholders to the table. A critical review of the existing literature on APMs, examination of current quality indicators, and barriers to success will be reviewed in this presentation. This research is ongoing and will conclude in May of 2023.

Health care/services**Buprenorphine Misinformation and Health Care Professional Willingness to Treat Patients with Opioid Use Disorder** Berkeley Franz* Berkeley Franz, Lindsay Dhanani, Trent Hall, Daniel Brook, William Miller,

Medications for opioid use disorder (MOUD) are critical tools to reduce overdose and infectious disease transmission. But MOUD, especially buprenorphine, are grossly underused as few health care professionals (HCPs) are willing to work with this patient population. The single greatest obstacle to extensive MOUD use is stigma, including among HCPs. In this study, we assess how often physicians in Ohio endorse misinformation related to buprenorphine and whether this is associated with willingness to provide care to patients with OUD. We surveyed primary care physicians currently practicing in Ohio in late 2022 related to their current attitudes on and practices for the management of opioid use disorder (n=409). We utilized a previous validated 5-item measure of provider willingness to treat patients with OUD and a new 4-item measure of misinformation related to buprenorphine, in addition to provider demographics and explicit measures of bias toward patients with OUD. We computed descriptive and bivariate statistics and calculated a regression model predicting willingness to treat patients with OUD. On average, HCPs scored 2.25/5 on the composite measure of buprenorphine misinformation. The mostly commonly endorsed stereotype about buprenorphine was that its use simply substitutes one drug for another (M=2.45). HCP endorsement of buprenorphine misinformation was significantly and negatively correlated with willingness to work with patients with OUD, intentions to increase time spent with this patient population, naloxone prescribing, and intention to get an X waiver. In a multivariable regression model, endorsing buprenorphine misinformation was significantly associated with a decrease in HCP willingness to treat patients with OUD, independent of provider demographics and explicit attitudes toward patients with OUD. Interventions to increase MOUD use among HCPs should aim to increase knowledge about MOUD and specifically target misinformation related to buprenorphine.

Health care/services**Beyond Cost, Proximity, and Opting In: How Social Support Shapes Gender-Affirming Care Utilization for Transgender Adults** Madeline Smith-Johnson* Madeline Smith-Johnson, K.S. Alexander,

Transgender adults face social and structural barriers to gender affirming care (GAC) in the United States, including provider discrimination which results in care avoidance. GAC (medical treatments related to transitioning) can also be cost-prohibitive and regionally restricted. While interview and non-representative survey data finds that accessing care can be stressful for transgender people, we lack nationally representative data to examine which factors constrain access to GAC at the population level. This study pays attention to the cost and proximity while also asking whether perceived social support (a resource known to buffer stress) enhances access to GAC over and above structural inequalities like socioeconomic status and proximity to care. We draw on a nationally representative survey of 223 transgender adults in the United States who report either having had GAC or wanting it some day. We find that older age, living in the West census region as opposed to the Northeast, and having a college education as opposed to less than college are associated with higher odds of receiving GAC. The presence of psychological distress as opposed to its absence and increased distance from an LGBT clinic are associated with lower odds of GAC. We find that social support - especially friend or 'special person' support - is significantly associated with having GAC as opposed to wanting GAC but never having it. We further interact social support with a scale capturing LGBT+ identity related healthcare hesitancy and find that social support interacts with healthcare hesitancy to buffer its impact on GAC utilization. Our findings complicate the narrative that affordability and proximity are the *only* factors shaping access to GAC in the United States. Clinics, providers, legislators, and community members must pay attention to the peer support networks available to transgender adults seeking transition-related health care.

Health care/services**Social and geographic displacement in Miami-Dade: Impact on mental health and health disparities in HIV positive patients** Zinzi Bailey* Felicia Casanova, Jordan Baeker Bispo,

Background: Miami-Dade County (MDC) in Florida has the highest rate of new HIV cases in the United States. Deep racial/ethnic inequities in HIV/AIDS outcomes persist. Because of overarching structural racism in the form of residential segregation, HIV/AIDS inequities are spatially patterned across neighborhoods. Gentrification and displacement in historically segregated neighborhoods might impede local efforts to address the needs of people living with HIV/AIDS (PLWH).

Objectives: To investigate the relationship between displacement from gentrifying neighborhoods and patterns in healthcare utilization & disease progression among PLWH.

Methods: The study includes a convergence mixed method approach using: (1) HIV and mental health-related community key informant semi-structured interviews of two Black communities experiencing gentrification in MDC; (2) a quantitative analysis of electronic health records from federally qualified health centers and gentrification trajectories for MDC neighborhoods using negative binomial regression; and (3) Town Hall-style meetings of community advisors.

Results: Key informants reported that the COVID-19 pandemic has exacerbated gentrification in already gentrifying neighborhood and weakened ties between local HIV outreach personnel and patients. Classification of neighborhood gentrification may have different health-impacting effects based on the dimensions of gentrification at play.

Conclusions: Investigating the impact of gentrification on HIV care requires conceptualizing and measuring these phenomena in a valid and rigorous manner – both quantitatively and qualitatively. Gentrification can be measured in a range of ways that may capture potential mechanisms between gentrification and health outcomes. Continued work will assess the relationships between census tract-level gentrification categories and patient-level health care utilization patterns at federally qualified health centers in MDC.

Health equity**Are food pantries the new grocery stores for grandfamilies? Disparities in emergency food assistance dependence based on family structure** Owusua Yamoah* Emily Nelson,

Were some types of non-traditional families, such as those headed by grandparents, left out of emergency food assistance during the pandemic?

The COVID-19 pandemic had diverse impacts on people in different demographics including age and family structure. In 2021, grandparent-headed households had a 60% higher rate of food insecurity than households headed by non-seniors,¹ and grandfamilies faced unique challenges during the pandemic as many seniors left the labor force earlier than planned² and therefore may have been disqualified for the pandemic unemployment benefits available to more traditional families with children.

Using household food pantry utilization data from January 2019 to December 2020 collected by Greater Cleveland Food Bank using FreshTrak, we analyzed food pantry use data in an Ohio county for 2019 and 2020 (n= 1,169,568 pantry visits) to explore differences in pantry use based on whether families had households with seniors and children (grandfamilies). We assessed differences in the number of families in each group, their number of visits per month, and their rate of visits per month through descriptive statistics, the visual analysis of charts, and repeated measures ANOVA.

Our results show family structure had a significant (p=0.00) impact on food pantry utilization, with grandfamilies' monthly average visits higher than any other group for 23 of the 24 study months. Other groups' visits were greatly impacted by pandemic events such as school closures and unemployment benefits, but grandfamilies' visits remained constant, suggesting emergency aid was insufficient for this group.

References:

1. Goyer A. *Together at the Table: Supporting the Nutrition, Health, and Well-Being of Grandfamilies*. Generations United; 2022:68. 2022.
2. Castro MF. The COVID Retirement Boom. *Economic Synopses*. <https://research.stlouisfed.org/publications/economic-synopses/2021/10/15/the-covid-retirement-boom>. 2021.

Health equity**A socio-spatial approach: Linking U.S. ethnic and racial neighborhood diversity to the health outcomes of bicycling** Brianna Chan* Brianna Chan,

Abstract: Commuting by bicycling can improve individuals' overall health and sense of well-being, and has been specifically linked to reduced rates of cardiovascular disease and all-cause mortality. However, normalized social perceptions (e.g. of bicycling as a white male-dominated activity) present barriers to bicycling for ethnic and racial minority individuals residing in majority-white neighborhoods. A socio-spatial approach allows for consideration of environmental and social factors that may moderate the relationship between bicycle commuting and health outcomes. Importantly, this perspective emphasizes how social culture contextualizes many human-environment relationships and impacts people differently based on their demographic characteristics, including socio-economic status, race, ethnicity, education level, age, and gender.

Hypothesis: Higher levels of ethnic and racial diversity of a neighborhood will contribute to better overall health outcomes linked to bicycling commutes, due to the moderating effect that racial and ethnic representation can have on improving the sense of belonging minority groups may feel in the bicycling sphere.

Objective: To describe associations between population health outcomes and bicycling in ethnically/racially diverse and more homogeneous neighborhoods.

Methods: This study will analyze survey data collected from 2010 to 2021 at the tract level in United States metropolitan areas. Health will be measured by chronic disease rates and self-perceived well-being using data from the Panel Study of Income Dynamics. Bicycle commuting data and demographic data will be provided by the American Community Survey.

Significance: Overall, this research will provide a greater understanding of the contextual factors that contribute to health disparities, as well as provide further support for integrating social and health equity in our neighborhoods.

Health equity

Promoting a framework of shared accountability for reducing cervical cancer health disparities among Hispanic immigrant women in a county with a restrictive political environment and inequitable access to cancer treatment Marcela Nava* Marcela Nava, Hemali Patel, James Earl, Monica Canizares,

Persisting health disparities in cervical cancer, a highly preventable and curable disease, are indicative of gaps along the continuum of cervical cancer care. Hispanic women have the highest cervical cancer incidence rates of any racial/ethnic group in the US and experience higher mortality rates than their white counterparts. A recent study funded by the American Cancer Society explored barriers and facilitators to cervical cancer survivorship among US Hispanic women in three Texas counties with different disparity profiles. We established an interdisciplinary health equity advocacy initiative to engage key stakeholders and community health advocates in the “high disparity” county identified in the study. This initiative advanced a framework of shared accountability for reducing cervical cancer health disparities among Hispanic immigrant women through meaningful community engagement that (1) expanded knowledge and awareness of barriers and facilitators for cervical cancer survivorship; (2) promoted critical reflection on the impact of politicized environments and structural barriers to health; (3) explored strategic opportunities to strengthen community capacity; and (4) advocated for partnerships that foster more supportive local environments for immigrants. In this article we review the specific objectives of our team-based health advocacy initiative, summarize key action steps, discuss lessons learned, and explore implications for practice and advocacy to reduce health disparities for immigrant women and their families.

Health equity**Changes in pregnancy-associated mortality in the United States during the COVID-19 pandemic: differences by race and ethnicity** Claire Margerison* Claire Margerison, Xueshi Wang, Alison Gemmill, Sidra Goldman-Mellor,

Mortality during pregnancy and the first year postpartum (i.e., pregnancy associated deaths) increased 35% from 2019 to 2020, with increases of 55.3% in drug-related deaths, 41.2% in homicides, and 28.4% in obstetric deaths. Here, we examine how changes in cause-specific pregnancy-associated deaths differed by race and ethnicity. We used US death certificate records from 2018-2020, restricted to female US resident decedents ages 15 to 44. We restricted our analysis to deaths occurring between April and December to isolate the COVID-19 pandemic period of 2020. We obtained the count of live births for the same population and time frame from the Centers for Disease Control and Prevention WONDER database. We used the standardized pregnancy checkbox to classify deaths as 'pregnancy-associated'. We classified obstetric causes, drug-related causes, suicide, homicide, and other causes using ICD-10 codes. Race and ethnicity were assigned based on the death certificate as Hispanic and non-Hispanic White, Black, American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, or Multiple Races. We calculated the pregnancy-associated death ratio (# deaths/100,000 live births) by race or ethnicity and year and generated 95% confidence intervals assuming a chi-squared distribution. Black pregnant and postpartum people experienced the largest increase (79%) in drug-related death during the pandemic period. Hispanic, white, American Indian and Alaska Native people and those reporting multiple races all experienced increases in drug-related deaths (58%, 50%, 36%, and 168%, respectively). Black pregnant and postpartum people also experienced a 71% increase in homicide from 2019 to 2020, and White, American Indian and Alaska Native, and Asian people experienced increases in homicide of 46%, 111%, and 11%, respectively. White and Black pregnant and postpartum people experienced declines in suicide death from 2019 to 2020, but all other groups experienced increases. All racial or ethnic groups except American Indian and Alaska Native people experienced increases in pregnancy and postpartum deaths due to obstetric causes.

Health systems

Decomposing the increase in United States short term acute care hospital assets over time, 2000-2019 Stephanie Teeple* Stephanie Teeple, Caroline Andy, William L. Schpero, Paula Chatterjee,

Hospital assets (e.g., cash, investments, buildings, and land) are integral to health care delivery and have grown exponentially over the past 20 years, from \$750 billion in 2000 to over \$1.6 trillion in 2019. Despite this level of growth, little is understood about its drivers or relationship to quality of care, which has important implications for the viability of health systems as well as the function of hospital markets. In this study we evaluate the extent to which variation in total hospital assets is explained by variation at the hospital-, health system- and market-levels. Then, we use a Kitagawa-Oaxaca-Blinder decomposition to examine whether the increase in hospital assets over time is explained by changes in the levels of covariates commonly considered as inputs to hospital wealth, or if there is evidence of changes in the relationship (e.g., the coefficients) between these covariates and total assets over time. We use Medicare Cost Reports compiled by RAND from 2000 to 2019. Hospital-level predictors included well-established inputs to hospital wealth: size, urbanicity, net patient revenue, investment income, other income, ownership, and administrative costs. We use the cube-root transform of hospital assets as outcome. We find variation between hospitals explained the majority of variance in total assets, with less contribution from variation between health systems and markets. Additionally, changes in hospital-level covariates only explained 40.5% of the increase in total assets from 2010 to 2019. The largest contribution from a hospital-level covariate was net patient revenue (64.1%) but its contribution declined over time. The remaining 59.5% was due to changes in other hospital-level coefficients or from unmeasured factors. These results suggest there are hospital wealth disparities *within* markets and health systems, and that new, and currently unmeasured, contextual factors may be driving the accumulation of assets for wealthy hospitals.

Infants/children/youth**Trauma exposure among young children in rural Pakistan: Associations with mental health and cognitive functioning** Amanda Collins* Allison Frost, Amanda Collins, Joanna Maselko, Siham Sikander,

Exposure to trauma has deleterious effects on children's emotional and cognitive development. The effect of trauma on child outcomes may vary based on child sex, with research showing that boys are more likely to experience trauma, but girls are more likely to show mental distress following trauma. The goal of this study is to test these associations among 6 year-old children in rural Pakistan. Participants included 888 mother-child dyads in the Bachpan cohort. Mothers reported on children's lifetime trauma and current mental health symptoms, including total mental health difficulties, emotional problems, conduct problems, and anxiety. In addition, children completed a series of tasks measuring their verbal skills, memory, and inhibitory control. Mental health and cognitive outcomes were linearly regressed on number of traumatic events, controlling for family socioeconomic status, maternal childhood trauma, maternal depression, and TV/radio ownership.

90.5% of the sample reported exposure to at least one traumatic event. The most common events were death of a loved one (47%) and hearing about war or terrorism on the TV/radio (48%). On average, boys experienced more traumatic events ($M=3.00$) than girls ($M=2.67$). This was driven by boys being more likely than girls to experience an injury or hospitalization (30% vs. 21%) and being more likely to hear about war/terrorism on the TV/radio (52% vs. 43%).

Trauma was associated with increased total mental health difficulties ($B=0.27$, 95% CI:0.09, 0.45), emotional problems ($B=0.11$, CI:0.04, 0.19), conduct problems ($B=0.12$, CI:0.05, 0.19), and anxiety ($B=0.20$, CI:0.11, 0.29). There was a positive association between trauma and verbal skills; however, this was driven by the TV/radio item. There were no differences in the effect of trauma on mental health or cognitive function by child sex.

Results show that trauma exposure is common and may be an important predictor of mental health for young children in rural Pakistan.

Interventions/Programs**20 country evaluation of community paralegal interventions for HIV, TB and malaria services** Kati Hinman* Kati Hinman, Joseph Amon,

Community paralegal programs seek both to support *individuals* facing discrimination (and other harms) to access prevention and treatment services, and to improve accountability and quality of *health services*. However, the evaluation of the effectiveness of paralegal programs has been limited. Between 2017 and 2023, the Global Fund's *Breaking Down Barriers* Initiative supported community paralegal programs in 20 countries. Community paralegals were trained from different key populations, including sex workers (e.g., in Senegal, Ghana, Indonesia, Sierra Leone), men who have sex with men (in Ghana, Ukraine, Sierra Leone), and people who use drugs (in Ukraine). Results from a recent evaluation of *Breaking Down Barriers* found that paralegal programs were able to advocate for treatment access, negotiate with police for the release of key population members, conduct anti-stigma programs with communities, address discrimination in schools and workplaces, and ensure access to medicines in closed settings. Some highlights include the success of paralegals in Mozambique, trained by Project Viva+, in securing the release of 45 sex workers who were detained for possessing condoms. Another highlight was the expansion of legal services in Sierra Leone, in part due to training of female sex workers and men who have sex with men to support clients in navigating legal assistance, with a focus on addressing gender-based violence. Similarly, paralegals in Ghana helped to identify cases that were referred to legal services and otherwise resolved, including 70 cases involving sex workers and 78 with men who have sex with men. These results suggest that future paralegal interventions should be embedded into wraparound services and systems of care. In addition to expanding paralegal programs to reach more vulnerable populations, further research is needed to identify how community paralegals can best link to existing community health and legal assistance programs.

LGBTQ+**Family Planning and Concerns of Unfair Treatment of (Potential) Children Among Partnered Sexual and Gender Minority Individuals** Kristen Gustafson* Kristen Gustafson, Wendy Manning, Claire Kamp Dush,

People with sexual minority (SM) identities are less likely to aspire to be parents than their heterosexual counterparts (Riskind and Patterson 2010). This differential may be due to concerns by sexual and gender minority people about their child(ren)'s encountering prejudice or discrimination. The objective of this study is to assess respondents' rationales for not having children with a focus on concerns that their child(ren) will be treated unfairly. We draw on the nationally representative National Couples' Health and Time Study (NCHAT) conducted between Sept 2020 and April 2021 and either cohabiting or married. The NCHAT is especially suited for analyses due to its oversamples of sexual, gender, and racial minority people. We select SM respondents that are under 50 and are not currently intending to have a child (n=1,079). We find that half (53%) endorsed the belief that the reason for avoiding having a child was concerns about their child being treated unfairly and most said it was due to their own sexual or gender identity. Cisgender sexual minority women have significantly lower odds of being concerned about their child(ren) being treated unfairly than non-cisgender individuals. Gay and lesbian individuals had significantly higher odds of being concerned about unfairness when compared to individuals with bisexual or other sexual identities. Further, those living in LGBT-friendly neighborhoods less often reported unfairness as a rationale for not having children. These results persist with the inclusion of sociodemographic indicators, COVID stress, and aggressions. This study is one of the first to examine unfairness as a potential barrier to family building among sexual and gender diverse individuals.

LGBTQ+**Thinking of the HIV/AIDS Crisis as a Cultural Trauma for Sexual Minorities** Brandon Moore*

Brandon Moore,

Sociological research on pandemics has largely focused on the rise and response to events like the Spanish Flu and Bubonic Plague and their societal level impacts on culture and health knowledge. However, less attention has been given to how marginalized subpopulations may be uniquely impacted by pandemics and how this could result in a lasting trauma for such communities. Using the case of the American HIV/AIDS crisis from 1981-1996, I argue that this pandemic meets the conditions to be considered what Jeffrey C. Alexander (2004) called a cultural trauma - especially for sexual minority men. Focusing on the discussion of sexual culture and changes to it in 192 narrative life history interviews with sexual minority men, women, and genderqueer individuals as a part of the *Generations* study, I find that sexual minority men, compared to genderqueer individuals and women, more commonly brought up the HIV/AIDS crisis or HIV knowledge without being asked about them specifically. Furthermore, beyond just bringing up the topic more often, HIV/AIDS seems to stand out as a part of this group's collective memory. The analysis showcases how carrier groups, framing, and emotions are drawn on in these communities to enshrine the HIV/AIDS crisis as a cultural trauma for their community. While previous literature suggests that the trauma from the HIV/AIDS crisis was concentrated to those sexual minorities adults who lived through the pandemic (Halkitis 2013), this analysis suggests the trauma of the crisis is being shared and internalized in different ways by later generations of sexual minority men who did not live through the crisis. Understanding the HIV/AIDS crisis as a generationally distinct cultural trauma would not only help public health practitioners trying to reduce HIV transmission in such communities, but more broadly it serves as a vantage point to show how pandemics can have intergenerational impacts beyond the generation that directly experienced the pandemic.

LGBTQ+

The COVID-19 global pandemic and allostatic load among a US-based cohort of Black and Latina transgender women living with HIV Ashleigh Rich* Ashleigh Rich, Huijun Jiang, Jenny Williams, Mannat Malik, L. Zachary DuBois, Robert Paul Juster, Tonia Poteat,

Background: This study investigated impact of COVID-19 on stress biomarkers and allostatic load for Black and Latina transgender women living with HIV (BLTWLH), as well as COVID-19 infection, hospitalization, and vaccination.

Methods: LITE Plus is a longitudinal cohort study of BLTWLH designed to identify pathways linking biopsychosocial stress to HIV co-morbidities. Cohort enrollment was October to June 2022, inclusive. Fisher's exact and Mann-Whitney U tests compared key biomarkers and allostatic load index (ALI) scores pre- (to March 2020) and post-COVID (January 2021 to December 2022). Frequencies and proportions are reported for COVID-19 indicators.

Results: Of the cohort, 26 BLTWLH completed study visits both pre- and post-COVID. Baseline mean age was 48 years (range 20-66). Post-COVID, chronic stress biomarkers were elevated across all body systems for BLTWLH; however, only systolic blood pressure was statistically significant. Sample allostatic load distribution shifted post-COVID (pre- mean: 3.9, sd: 2.3, median: 4.0, range: 1.0-8.0; post- mean: 4.2, sd: 2.3, median: 4.5, range: 0.0-9.0), with more individual ALI scores above the median post-COVID. Of the 89 participants who completed any post-COVID visits 16% had ever tested positive for COVID-19 and 14% reporting a related hospitalization. COVID-19 vaccination uptake was 70% and 20% had received a booster. Of those unvaccinated, 15% intended to be vaccinated, 9% were unsure and 6% did not. BLTWH employed multiple strategies to cope with pandemic effects and 24% reported unmet support needs.

Conclusions: ALI for BLTWLH was high compared to other populations in the literature, suggesting unique vulnerability to biopsychosocial stress and chronic disease risk for BLTWLH at the intersections of multiply marginalized social locations. Despite high engagement with COVID prevention including vaccination uptake and intention, BLTWLH experienced heavy COVID-19 hospitalization burden and unmet support needs.

LGBTQ+**Examining the Health of Lesbian, Gay, and Bisexual Latinx Adult in the United States**

Stephanie Hernandez* Stephanie Hernandez, Gabe Miller, Guadalupe Marquez-Velarde,

Objective: The Hispanic or Latino paradox refers to the consistent findings in the literature of similar or sometimes better health and lower mortality of Latinos compared to non-Latino Whites, despite Latinos having lower socioeconomic status. However, there is large heterogeneity among Latinos, and analyses that account for within group differences find complex or negative relationships between Hispanic or Latinx ethnicity and health. In this study, we disaggregated Latinx adults by sexual orientation. Our objective was to assess whether there was evidence of the paradox among lesbian, gay, and bisexual Latinx adults.

Methods: Data for the analyses came from the 2013-2018 pooled waves of the National Health Interview Survey. The analytic sample was limited to non-Latinx White and Latinx respondents of any race. Analyses were then stratified based on gender and sexual orientation. Five subgroups included straight women (n=68,448), straight men (n=58,768), gay men (n=1,354), lesbian women (n=1,001), and bisexual men and women (n=1,215). Health measures included self-rated health, various health behaviors (e.g., smoking, drinking), chronic conditions (i.e., hypertension, diabetes), and psychological distress. Covariates included age, marital status, educational attainment, employment status, health insurance coverage, home ownership, poverty, region, language of interview, years living in the US, activity limitations, doctor visit in the past 12 months, and survey year. Descriptive statistics and logistic regression analyses were used to describe the sample and test for associations.

Results: Preliminary results suggests there was little evidence for the paradox. Latinx straight men and women generally had poorer health compared to their White straight counterparts. Similarly, Latinx gay men, lesbian women, and bisexual men and women had poorer health compared to their White counterparts, although many of these estimates were not statistically significant.

LGBTQ+**Patterns of Sexual Minority Substance Abuse & Mental Health: An Exploration of the Impacts of Internalized Homophobia** Caleb Cooley* Caleb Cooley,

Efforts to address the lack of knowledge of sexual minority health disparities, including mental health and substance abuse, have grown substantially in the past decade. Minority stress theory, particularly Meyer's model of minority stress, is a promising approach to understanding the disparate levels of substance abuse experienced by sexual minorities. It is also important to contextualize how identity formation plays a role in shaping experiences highlighted in the minority stress model. Previous research often analyzed sexual minorities in the aggregate without attention to the differences within this heterogeneous population. Recent work has begun to disaggregate lesbian, gay, and bisexual individuals to understand how each identity has specific contexts and distinct behavioral outcomes. For example, bisexual individuals experience higher rates of discrimination and substance abuse than those who have a primary attraction only to one sex, but little work has been done to understand the underlying factors and mechanisms that lead to diverging outcomes experienced within sexual minority populations, particularly the higher rates of substance abuse and mental disability among bisexual individuals.

This paper utilizes data from the Generations Study, a nationally representative longitudinal, five-year study that examines the health and well-being across three generations of lesbians, gay men, and bisexuals. I utilize this data to investigate the impact of both proximal and distal stressors in predicting patterns of poor mental health and substance abuse disparities among sexual minority adults, with a focus on the role of internalized homophobia. This novel data allows for the investigation of previously understudied contextual factors which shape the lives of sexual minorities. In this paper I analyze data from the first wave of the survey, which has a sample size of just over 1,500 adult sexual minorities.

The first outcome of interest is substance abuse, which is assessed using the Drug Use Disorders Identification Test (DUDIT). I also investigate patterns of mental disability utilizing the Kessler 6, which is a tool for measuring psychological distress. I investigate the potential moderating role of internalized homophobia, or the internalization of negative attitudes of sexual minority identity into one's self-image, in shaping patterns of substance abuse and mental disability. The analysis considers sexual orientation as an independent variable, categorizing respondents reporting a sexual minority identity into 1 of 3 categories: lesbian/gay, bisexual, or another sexual minority identity.

This research seeks to address the following questions: Does internalization of stigma into one's self-perception or identity predict higher prevalence of substance abuse and mental disability among sexual minorities? Further, does internalized stigma predict different rates of substance use and mental disability for lesbian, gay, and bisexual respondents? By analyzing sexual minority identities relative to one another rather than an aggregated sexual minority variable relative to heterosexuals, this research provides a more nuanced analysis to understand the variation between lesbians, gays, bisexuals, and other sexual orientations in terms of substance abuse and mental disability.

LGBTQ+

Associations of Sexual Orientation-Related Minority and Military Stressors with Cigarette Smoking among Lesbian, Gay, and Bisexual (LGB) Veterans Raymond Ruiz* Raymond Ruiz, Keren Lehavot, Christine Kava, Jaimee Heffner, India Ornelas,

Background: Research indicates that lesbian, gay, and bisexual (LGB) individuals and military Veterans are more likely to report current smoking compared to the general adult population in the United States. The Minority Stress Model may explain the high prevalence of cigarette smoking among LGB individuals who experience unique interpersonal stressors (e.g., discrimination) and intrapersonal stressors (e.g., identity concealment) related to their minoritized sexual orientation. This study assessed whether three types of stressors (interpersonal, intrapersonal, and LGB-specific military) were associated with past-year smoking among LGB Veterans.

Methods: Veterans were recruited for a national online prospective cohort study to understand mental health problems and health risk behaviors. We conducted secondary data analysis of baseline surveys collected from 2019-2020. The study sample included cisgender, LGB Veterans (n=463). Adjusted nested multivariable logistic regression models were used to estimate the association of each stressor with past-year cigarette smoking.

Results: Participants were mostly male (54.0%), non-Hispanic White (82.1%), and at least a college graduate (58.5%). People who smoked in the past year (n=98; 21.2%) were younger, had lower levels of education, income, and healthcare coverage, higher general stressors scores, and PTSD and depressive symptoms. The adjusted odds of smoking in the past year were higher among those who reported higher levels of interpersonal stressors including harassment (aOR=1.13, p=0.032), victimization (aOR=1.21, p=0.024), and family rejection scores (aOR=1.21, p=0.001).

Conclusion: Interpersonal stressors were more salient in their relationship with past-year cigarette smoking. Future multilevel interventions should aim to address policies that reduce prejudice against LGB Veterans, while helping LGB Veterans who smoke identify interpersonal stressors and help develop positive coping skills that support smoking cessation.

LGBTQ+

Binge Drinking in Adolescence: Understanding Inequities at the Intersections of Sexual Identity, Race/ethnicity, and Grade among a Statewide Sample of Californian Students Meg Bishop* Meg Bishop, Rodman Turpin, Stephen Russell, Jessica Fish,

Binge drinking (BD) inequities between sexual minority (SM) and heterosexual youth are well-established. Yet, data limitations preclude understandings of whether and how SM-related BD inequities vary among youth at the intersections of additional health-relevant social identities and developmental contexts such as race/ethnicity and grade—knowledge critical for prevention and intervention. In the current study, we estimated grade differences in BD by sexual identity and race/ethnicity among a statewide sample of Californian students.

Data are from the California Healthy Kids Survey (2017-2019), the largest statewide serial survey of secondary school students in the US ($n=909,571$). The BD item read, “During the past 30 days, on how many days did you use five or more drinks of alcohol in a row, that is, within a couple hours?” Responses were recoded as *0 days (no BD)* and *1+ days (any BD)*. Independent variables were sexual identity (*straight, lesbian/gay, bisexual, unsure, something else*), grade (*6th-8th, 9th-10th, 11th-12th*), and race/ethnicity (*Asian/American Indian/Alaska Native, Black, Latinx, White, Mixed*). Covariates were parental education, transgender identity, and survey year. Multivariable logistic regression models estimated the prevalence of BD using three-way interactions between grade, sexual identity, and race/ethnicity. Predicted probabilities estimated adjusted percentages of youth’s BD by subgroup.

In 6th-8th grades, SM youth showed elevated rates of BD across all racial/ethnic groups relative to straight youth. In later grades, patterns of BD varied by subgroups defined by sexual identity and race/ethnicity. For example, among Black youth, gay/lesbian youth reported the highest rates of BD in both 9th-10th and 11th-12th grades. In contrast, among White youth, bisexual youth reported higher rates of BD in 9th-10th grades than straight youth, but showed no differences by 11th-12th grades. Our findings have implications for future research and practice.

LGBTQ+

Examining Housing Stability, Hope, and Sexually- and Gender-Diverse Identity Among Washington Youth - Washington State, 2021 Hannah Gorman* Hannah Gorman, Cathy Wasserman, Bradley Klos, Maayan Simckes,

Background: Youth housing instability significantly impacts mental health and well-being including increased rates of depression and substance use disorder. Sexually- and gender-diverse (SGD) youth experience worse mental health outcomes than their peers, and research has shown housing instability to be disproportionately prevalent for this population as well. To date little research has specifically examined the relationship between housing instability and hope including whether SGD identity may offer a protective or compounding effect.

Methods: The Healthy Youth Survey (HYS) is a population-based biennial, cross-sectional study of health behavior among public school students in grades 6-12 in Washington. Using HYS data from 2021, we examined the relationship between housing instability and hope, using the Children's Hope Scale, and variation by SGD identity, defined by selection of "transgender", "questioning/not sure", "something else fits better", or multiple options for gender identity, or a response other than "heterosexual (straight)" for sexual orientation.

Results: Among 9,378 10th grade students, 28.21% (n=2,329) identified as SGD, 2.49% (n=211) experienced housing instability due to affordability in the prior 12 months, and 7.92% reported low or no hope (n=658). We will present crude and adjusted prevalence ratios for the association between housing instability and hope, accounting for any influence of SGD identity on this relationship.

Conclusion: SGD youth may face particular barriers to good mental health but may also demonstrate resilience compared to peers in the face of some challenges. As anti-LGBTQ+ policies and rhetoric proliferate, understanding factors influencing the mental health of youth is a priority for schools, legislators, healthcare providers, and families. We will discuss potential implications of study findings and opportunities for future study.

Mental health/function**Social Media Addictive, Depression and Suicide Ideation in Elburgon Ward** Ndirangu

Ngunjiri* Ndirangu Ngunjiri,

Addictive behavior to social network sites is considered an alarming phenomenon where other psychopathological problems can be manifested. The purpose of the study is to analyze the relationship between the use and the addictive behavior of social media and the use of mobile devices, depression, and suicidal ideation in Elburgon Ward. The questionnaires were applied to a sample of 376 persons where 51.7% were men and 48.3% were women, with an average age of 20.01 years (SD = 1.84). Unlike the use of social media, addictive behavior was significantly related to depression and suicidal ideation. 43.4% of the sample reported having at least one idea about suicide in the last three months. We propose an explanatory model that was adjusted appropriately and explained the addictive behavior with the frequency of mobile phone use, daily hours, depression, and suicidal ideation, the last one in a negative direction. It is concluded that, unlike excessive use, addictive behavior is associated with negative psychological characteristics. However, addictive behavior can also be considered a protective factor against suicidal ideation when relating to depression.

Keywords: social media; addictive behavior; excessive use; depression; suicidal ideation; mobile Phone

Migration**Internal Migration & County-Level Life Expectancy** Anna Shetler* Anna Shetler,

United States (US) life expectancy at birth (LE) is poor compared to other nations. Spatial variation of LE within the US is particularly stark: at the low end, Mississippi has an LE of 71.9 while Hawaii has an LE of 80.7. Such spatial heterogeneity is often explained by socioeconomic, racial, and healthcare differences by place. The role of migration on LE, however, remains understudied. Internal migration in the US has slowed since the 1940s but follows historical patterns, including that migrants are likely to move from rural to urban areas. This movement along the path of urbanization may be exacerbating US rural-urban health disparities.

In this paper, I assess to what extent migration contributes to geographic differences in LE; I seek to answer if a component of rural-urban disparities can be attributed to migration. I ask: how would removing internal migration impact LE in areas along the rural-urban continuum? Internal migration is an understudied and possible contributor to the spatial heterogeneity of US LE. I use county-to-county migration data from the IRS, net migration rate data from the Applied Population Lab, LE data from the Institute of Health Metrics and Evaluation, county characteristic data from the Census, and rural-urban classification data from the USDA.

I will construct multiple decrement life tables for all US counties to estimate LE in the scenario that internal migration is prevented. In preliminary findings on Dallas and Detroit counties, I find that LE drops by 0.27 and 0.05 years, respectively, in an average year when migration is prevented. In other words, migration improves the LE of such urban counties, likely at the detriment of more rural counties. For the IAPHS conference, I will expand the life tables to all US counties, and explore how rural, suburban, and urban areas might differ in LE estimates. Results from this study may inform distributions of healthcare and migratory support systems, particularly along rural-urban lines.

Migration

Intersecting immigrant policy exclusions and immigrant health Maria-Elena De Trinidad Young* Maria-Elena De Trinidad Young, Sharon Tafolla, May Sudhinaraset, Michelle Nakphong, Kathryn Kietzman,

There is growing evidence that restrictive immigrant policy environments are associated with immigrant health. Yet, there is little population-based knowledge regarding the extent to which immigrants are directly impacted by policies. Exclusions produced by policies, such as being targeted by enforcement or lacking labor protections, may be critical health mechanisms. We sought to examine immigrants' patterns of exclusions across policy sectors, including health care, employment, and law enforcement, and their associations with health. We conducted a population-based survey of Latinx and Asian foreign-born adults in California (n=2,010), measuring 23 exclusionary experiences resulting in being targeted or having rights violated (e.g., racial profiling, deportation, wage theft, denial of public benefits). We then conducted a latent class analysis and identified 6 respondent groups with distinct clusters of exclusions across sectors. Lastly, we conducted multiple regression analyses of the association between exclusion groups and indicators of health status and health care access. Over half of the sample reported experiencing at least one exclusion and four groups had exclusions in multiple sectors (e.g., health care and labor). Compared to the group that had no exclusions, the groups that had exclusions across all policy sectors and that had intersecting labor and enforcement exclusions were more likely to report psychological distress, lack a usual source of care, and delay needed care. Our findings contribute population-level insights into how immigrant policy likely manifests in lives of immigrants, leading to health and health care inequities within immigration populations.

Mortality

Excess Mortality in US Metropolitan Areas from January 2020 to December 2021 Edwin McCulley* Edwin McCulley, Alina Schnake-Mahl, Heather Rollins, Kevin Martinez-Folgar, Bricia Trejo,

COVID-19 has emerged as a leading cause of death in the United States (US), with nearly 1.3 million COVID-19 deaths in the US since 2020. However, the true burden of COVID-19 mortality is underestimated by the use of counts of directly reported COVID-19 deaths, whether from COVID-19 surveillance data or from vital registration systems. Excess mortality is a common metric to measure the impact of discrete events (e.g., natural disasters, epidemics) on population health and is estimated by comparing observed deaths to those expected to occur in the absence of the event (i.e., a counterfactual). Excess mortality estimates are therefore less prone to measurement error due to cause of death coding differences and allow for the examination of the direct and indirect effects of the pandemic on mortality. While recent literature has quantified pandemic related excess mortality in US states and counties, an estimation of this metric using functional city definitions (e.g., metropolitan statistical areas) is lacking. Moreover, previous studies have yet to examine how age-specific excess mortality varies across the urban continuum. To this end, we aim to examine how the COVID-19 pandemic affected all-cause mortality in US metropolitan areas by year, month, and age group. Cities were delineated based on 3 different urbanicity definitions and linked to county level population and mortality data. We estimated a quasi-Poisson generalized linear model based on historical mortality data from 2015-2019 and used this model to estimate age-specific rates of excess mortality for 2020 and 2021. Estimating excess mortality at the city-level allows us to better understand the pandemic's true burden by examining its differential impact on all-cause mortality across US cities.

Mortality

The Effect of Playing American Professional Football on Longevity Rob Warren* Rob Warren, Gina Rumore,

Despite experiencing high rates of chronic traumatic encephalopathy (CTE) and cardiovascular problems, a considerable body of recent research concludes that American professional football players (hereafter, “football players”) live *longer* than American men in general. Authors of prior research argue that the longevity-enhancing benefits of playing football (i.e., physical fitness, money) outweigh any costs associated with CTE, cardiovascular problems, and other health consequences. We hypothesize that these surprising findings are an artifact of flawed research designs and problematic comparison groups. Using data on 1,365 men drafted to play in the National Football League (NFL) in the 1950s—906 of whom ultimately played professional football and 459 of whom never played a single game in any professional league—we estimate the effect of playing American professional football on longevity; we also consider heterogeneity in that effect across playing position. In contrast to most prior research, we find that there were no longevity benefits to playing American professional football in this era. Indeed, men drafted to be offensive or defensive linemen died almost two years earlier if they played professionally as compared to drafted linemen who never played a single game; men drafted to play other positions who subsequently played professionally died no earlier (or later) than drafted men who never played. Prior evidence—which typically finds a substantial longevity benefit to playing American professional football—used flawed research designs.

Mortality**Excess mortality from firearm homicide during the COVID-19 pandemic in Philadelphia, Pennsylvania** Annaka Scheeres* Annaka Scheeres, Megan Todd,

Background: Firearm homicides reached unprecedented levels in Philadelphia, Pennsylvania during the COVID-19 pandemic. This study estimates excess mortality during the pandemic from all causes and from firearm homicide and assesses to what extent firearm homicide contributed to excess mortality in demographic subpopulations.

Methods: I trained a Poisson model on five years of historical death certificate data from the Pennsylvania vital registration system and used the model to estimate expected weekly deaths by race/ethnicity, sex, and age from March 15, 2020, to October 1, 2022. I compared expected deaths with observed deaths to estimate excess mortality from all causes and from firearm homicide during the pandemic.

Results: During this timeframe, I estimated 6,348 excess deaths, a significant 17% increase above expected trends. COVID-19 accounted for 85% (5,426) of these excess deaths, and non-COVID-19 causes of death accounted for the remaining 15%. I estimated 348 excess firearm homicides, a significant 39% increase above expected trends; firearm homicides accounted for 38% of non-COVID-19 excess deaths. Excess mortality from all causes increased significantly for non-Hispanic Black men at all ages and for older non-Hispanic Black women and non-Hispanic white people (≥ 35 years). Excess mortality from firearm homicide was disproportionately high only among non-Hispanic Black men younger than 35 years; 249 excess firearm homicides (162 per 100,000) occurred among this subpopulation.

Conclusions: In Philadelphia, excess mortality during the pandemic was not only due to COVID-19, and firearm homicide was a primary driver of non-COVID-19 excess mortality. The COVID-19 pandemic caused significant system-wide disruptions that exacerbated pre-existing disparities in firearm homicide by race/ethnicity, sex, and age. In future pandemics, public health officials must implement multi-faceted response plans that include strategies to prevent increases in firearm violence.

Non-health institutions (business, political, education systems)

“Very much an unspoken punishment”: A directed content analysis of accounts of incarceration stigma from the American Prison Writing Archive Sarah Pollock* Evan Eschliman,

Stigma is widely recognized as an integral aspect of carceral punishment that negatively affects the health and well-being of millions of people in the U.S., yet how and to what extent incarceration stigma aligns with social science’s conceptualizations of stigma remains underexplored. This project identifies and analyzes first-hand accounts of incarceration stigma from people who are currently incarcerated. Nine stigma-related keywords (e.g., discrimin*, judgment*, sham*) were used to identify relevant essays from the publicly-available American Prison Writing Archive. A directed content analysis using Link & Phelan’s (2001) component processes of stigma (i.e., labeling, stereotyping, separation, and status loss and discrimination within a power differential) was then conducted. Two coders inductively and deductively coded the essays, then discussed and reconciled their codes and any discrepancies. 978 unique essays were identified, and a random 10% subset ($n = 98$) was used for this preliminary analysis. Writers articulate how people who are incarcerated are labeled via structural processes (e.g., sentencing, assignment of ID numbers), which leads to individuals being associated with negative stereotypes (e.g., dangerousness, immorality). The writers describe how incarceration relegates them to a separate, lower economic and social class, and report experienced and anticipated status loss and discrimination (e.g., loss of employment and housing opportunities). Writers also provide accounts of how the predatory and excessively harmful nature of incarceration and associated systems of penal control (e.g., parole) occurs along a steep power gradient. Emergent themes included courtesy stigma, particularly toward writers’ children; continuity with race-/ethnicity-based discrimination and dehumanization; and resources for resistance against stigma. These findings suggest that incarceration stigma has clear resonances with prominent social science stigma frameworks.

Place/Communities**Representation Matters: Racial Composition of County Elected Officials and Birth****Outcomes in Georgia, 2020-2021** Kaitlyn Stanhope* Kaitlyn Stanhope, Pari Kapila, Amal Umerani, Afsha Hossein, Maha Abu-Salah, Vanshika Singiseti, Sierra Carter, Sheree Boulet,

Our goal was to estimate the differences in infant and maternal outcomes by racial representation differences, a novel measure of structural racism. We gathered data on the racial composition of county-level elected officials for all counties in Georgia (n=159) in 2022. We calculated the difference between the percent of non-white residents and the percent of non-white elected officials (“representation difference”, the primary independent variable). We linked this information to data from 2020-2021 birth certificates (n = 238,795) to compare infant outcomes (preterm birth, <37 weeks, low birthweight birth <2500 grams, and continuous birthweight) across county-level representation differences. We fit multilevel log binomial models for binary outcomes and linear models for birthweight with generalized estimating equations. We included individual (age, parity, insurance) and county covariates (% without high school education, % below federal poverty level, % non-Hispanic black, % of female elected officials, rurality) as potential confounders. We assessed interaction by individual race/ethnicity as reported on the birth certificate (non-Hispanic white, non-Hispanic Black, non-Hispanic other, Hispanic). The median representation difference was 17.5 percentage points (interquartile range: 17.2). For Black birthing people, a 25-point larger representation difference was associated with 13% higher risk of preterm birth (adjusted risk ratio (aRR): 1.13 (1.07, 1.2)), 18% higher risk of low birth weight birth [aRR: 1.18 (1.11, 1.25)] and 89 grams lower birthweight (adjusted beta: -88.9 (-115.5, -62.3)]. A similar pattern was observed for non-Hispanic white birthing people. There were no significant differences among Hispanic, or birthing people of other races. Places without representation disparities may foster more positive environments for birthing people.

Place/Communities

“Not until affluent whites started getting in trouble with the heroin and the opiates...that’s when everything started changing”, On-the-ground interpretations of the policy shift from the criminalization to the medicalization of addiction in neighborhoods that have experienced both the crack cocaine and opioids drug epidemics: Presenting distortions of the past from solidifying inequalities in the future Sabrina Sanchez* Sabrina Sanchez,

Background: Addiction discourse has evolved recently and rapidly resulting in the widespread adoption of a medicalization of addiction paradigm that centers the biological realities of addiction rather than the former preeminent criminalization of addiction paradigm that centered personal (ir)responsibility. These societal narratives shape subsequent social responses and are understood differently by those with racially stratified life experiences. The most recent American drug epidemics, the crack era and opioid epidemic, have resulted in markedly different societal interventions, the first marked by a criminalization of addiction and the War on Drugs, and the second marked by a medicalized understanding of addiction centering treatment.

Methods: Mixed methods were used. Qualitatively, I conducted focus groups and interviews with 47 participants across four stakeholder groups that included community members, social service professionals, people who use opioids, and law enforcement professionals. Quantitatively, I used GSS data from 1986-2018 to create logistic regression models.

Results: Black Americans disrupt white revisionist logics that function to: 1) decontextualize and differentiate the opioid epidemic from the historical context of the criminalization of addiction, 2) recast and remove personal responsibility from individual drug users to structural economic issues, environmental factors, and biology, and 3) neutralize or ignore the role of race in the paradigm shift. Instead, they 1) posit that new racialized logics were developed and deployed and 2) highlight the unaddressed substance abuse needs from the crack cocaine epidemic. Quantitative results from the GSS lend credence to the idea that racialized logics were central to the paradigm shift from the criminalization to the medicalization of substance abuse. Racial identity predicts support for increasing federal funding for drug treatment rehabilitation programs beginning in 1986 through 2014. Across this period Black respondents have 2.6-1.7 times the odds of supporting increases for funding drug treatment programs relative to whites accounting for respondents educational attainment, respondents mothers educational attainment, respondents father educational attainment, work status, marital status, income, age, gender and homeownership status ($p < .001$). In 2016, racial stratification (being Black) no longer predicts support for increasing federal funding for drug treatment programs and this dissolved relationship holds through 2018 as the proportion of whites who support increases in federal funding for drug treatment programs grows such that the odds of support for increased funding of drug treatment makes Blacks and white statistically indistinguishable.

Implications: Black participants explicitly highlight unaddressed needs related to the crack cocaine epidemic and implicitly call attention to the need to prevent racialized logics from disproportionately driving benefits of the paradigm shift to whiter communities and leaving unaddressed burdens in less well-resourced communities.

Policy

Moral distress among obstetrician-gynecologists in states with restrictive abortion laws: Preliminary findings from the Study of OB-GYNs in Post-Roe America Erika Sabbath* Erika Sabbath, Mara Buchbinder, Kavita Arora, Samantha McKetchnie,

Background: In June 2022, the U.S. Supreme Court issued the *Dobbs v. Jackson* decision, eliminating the federal right to an abortion and allowing states to ban abortion outright. Bans have had wide-ranging impacts on many aspects of reproductive health care, putting obstetrician-gynecologists (OB-GYNs) in positions of having to choose between appropriate clinical care for patients and their own legal jeopardy. Such situations are likely to create moral distress: a situation in which a healthcare provider knows the right course of clinical action, but is barred from taking that action by external constraints. The purpose of study is to characterize experiences of moral distress among OB-GYNs in states with the most restrictive abortion laws post-*Dobbs*, and to describe the impacts of this moral distress on OB-GYNs's health and wellbeing.

Methods: The Study of OB-GYNs in Post-Roe America (SOPRA) is a qualitative study consisting of semi-structured interviews with 54 OB-GYNs from 13 of the 14 states that had banned abortion as of March 2023. Data were collected from March through August 2023.

Findings: Fifty of 54 OB-GYNs described situations in which they knew the right course of clinical action, but were barred from taking it due to state laws. Morally distressing situations fell into four categories: needing to wait longer than necessary to provide lifesaving care; restrictions on counseling patients about options for a given pregnancy or directly discussing abortion; inability to provide needed care or direct referral; and conflicts with colleagues due to different levels of risk tolerance with respect to abortion bans. These morally distressing situations impacted participants both professionally (e.g. desire to leave one's state) and personally (e.g. sleep difficulties, mental health).

Conclusions: Findings reveal deep and widespread impacts of the laws on OB-GYNs, with implications for physician wellbeing and care availability in large parts of the United States.

Race/Ethnicity**Racial disparity of the health preventive behaviors during the early COVID-19 pandemic**

Xiao Li* Xiao Li, Jae Man Park, Jordan Mitchell, Phillip Decker,

Background: Racial disparities in health status, health behaviors, and healthcare utilization have been widely discussed. Data indicates that minority groups are disproportionately affected by case and death from COVID-19. However, there are limited data on the disparity between race and ethnicity in health preventive behaviors about COVID-19.

Methods: We conducted an online survey from July through November 2020 to assess the relationship between race/ethnicity and health preventive behavior, with the potential influence of other factors, such as socio-economic characteristics, in order to investigate the racial disparity of health preventive behaviors during the early stage of COVID-19 pandemic. The final sample included 717 valid participants. We developed 2-part regression models to assess whether health preventive behaviors differed by race and ethnicity.

Results: The results show that the respondents did not differ in using complementary or alternative medicine strategy and stay-at-home strategy for the COVID-19 prevention; however, Non-White respondents were more likely to practice social distancing, mask wearing, and hand washing strategy to prevent COVID-19, compared to their White counterparts.

Discussion: We found ethnicity can be a predictor of health preventive behaviors, in accordance with previous research. This study mainly shows three findings: 1) minorities were more likely to take health preventive behaviors, 2) there was a greater likelihood of health preventive behavior among people who had experienced COVID-19 related racial abuse, and 3) respondents experiencing depression due to the COVID-19 were more likely to practice health prevention measures. More effort will be needed to investigate the causes of these disparities in order to develop potential public health strategies with the aim of encouraging appropriate behaviors among communities, including both majority and minority communities.

Race/Ethnicity**Intragroup Marginalization and Self-Reported Health Among Young Adults in the San Francisco Bay Area** Mary Roberts* Mary Roberts, Louisa Holmes,

Intragroup marginalization occurs when people experience social exclusion from within their 'heritage culture' of family and friends due to perceived affiliation and expression of the cultural norms and values of another racial or ethnic group. Such affiliation is often perceived as a threat to the heritage group's identity, which can lead to ostracization and marginalization of the people perceived as taking on a non-normative cultural identity. Previous research on intragroup marginalization has mostly focused on adolescents and college age youth of Latino/a/x background. Many of these studies have addressed the impact of acculturation – the adoption of cultural norms and practices of the "host society" – in leading to sociocultural stress especially in educational settings. Researchers have also examined the relationship between experiences of psychosocial stress due to intragroup marginalization and coping behaviors such as increased alcohol consumption.²² However, intragroup marginalization has been understudied among young adults, who are in the process of forming their identities independent from their families, and who therefore may be particularly susceptible to marginalizing stressors. Young adults have also been shown to be more prone to psychological distress than older adults, though the focus of this research has been on negative life events and coping capacity. Nor has research in this area always included large enough samples of racially/ethnically-identifying populations to focus on experiences within subgroups.

Growing evidence indicates that intragroup marginalization induces psychosocial stress and poor mental health, psychological distress and unhealthy coping behaviors. The effects of intragroup marginalization on self-rated and physical health outcomes are less well established. Thus, in this study we investigate associations between experiences of intragroup marginalization (IM) and self-rated health, an indicator of global health and wellness shown to be predictive of mortality³⁰, among young adults in California, using data from the 2014 San Francisco Bay Area Young Adult Health Survey (BAYAHS). We exclude young adults racialized as White from the analyses as they do not share the experiences of systemic racism with other populations, nor are they generally associated with having a particular "heritage culture" in the US, and their use as a reference group may therefore skew findings. Further, there is a growing body of literature in health disparities research that calls for measuring race and ethnicity in ways that do not reify racial hierarchy, and we seek to explore intersectional meanings of marginalization as they relate to health. We hypothesize the following:

1. Experiencing intragroup marginalization will be associated with worse self-rated health among populations racialized as non-White.
2. Negative health behaviors – tobacco use, alcohol consumption, and cannabis use – will moderate the association between marginalization and very good/excellent self-rated health.
3. Perceived social support and sleep will mediate the relationship between intragroup marginalization and very good/excellent self-rated health.

We used Stata version 17 and the "svyset" command to account for the sample design. We also used the "subpop" command for all analyses to account for our exclusion of Non-Hispanic White respondents, which uses the entire sample to calculate standard errors. Before beginning calculations, we imputed the data to account for missing data among our variables of interest. Next, we calculated descriptive statistics of the weighted sample for all variables and means of intragroup marginalization by race. Second, using logistic regression we estimate the associations

between intragroup marginalization and self-rated health accounting for demographic characteristics, health behaviors, social support and sleep. Third, using Karlson-Holm-Breen (KHB) method which compares regression coefficients for the independent variable (intragroup marginalization) in two models – one that includes intragroup marginalization and the mediator variables and one that includes intragroup marginalization and a residual of the mediator variables that are uncorrelated with intragroup marginalization.³⁴ Confounding variables are examined in groups. First, negative health behaviors – tobacco use, alcohol consumption, cannabis use – that are expected to moderate the relationship between intragroup marginalization and self-rated health. Significant moderation occurs when a the KHB results are negative and statistically significant. Next, We examine the mediating role of the social support, increase quantity of sleep, and better quality sleep in the association between intragroup marginalization and participant self-rated health. Each KHB model includes concomitant variables – age, sex, and mother’s education.

Our study is one of the first descriptive studies on the relationship between intragroup marginalization and self-rated health and expands the literature by examining racialized populations other than Latinos, the group that dominates much of the research on intragroup marginalization. We find no statistically significant direct relationships between intragroup marginalization and self-rated health. However, previous research indicates that indirect effect should still be tested for in the absence of a significant relationship between key variables as independent variables may have a stronger association with intervening variables than with dependent variables, resulting in a significant indirect association. Our full sample results indicate the importance of moderating influence of tobacco use, alcohol consumption and cannabis use between intragroup marginalization and self-rated health. Moreover, our results indicate that the positive influence of perceived social support and sleep have on individuals’ self-rated health. Previous research has indicated that intragroup marginalization plays a role in the mental distress among Latino young adults. Moreover, research on stress and health has shown that long-term exposure to experiences of stress can have significant impacts on physical health.

Race/Ethnicity**Improving federal racial/ethnic categorization standards: reflections from critical Multiracial theory** Tracy Lam-Hine* Tracy Lam-Hine,

Recent research shows how racism “gets under the skin” and produces health disparities, but largely focuses on pathways relevant to monoracial populations. Multiracial people suffer high prevalence of asthma, depression, and childhood adversity, and face unique social experiences (e.g. complex racial identity development, scrutiny of their identities from others) which may influence health. We need better tools to study how these patterns relate. The US Chief Statistician’s Office (CSO) recently proposed new race/ethnicity data categorization (RDC) standards, providing a rare chance to shape future racial equity research and policy. However, the new one-question format is still overly simplistic, and fails to accurately represent much of the diverse and growing Multiracial population. The one-drop rule historically determined RDC of Black Multiracial Americans; many, such as Barack Obama (BO), still identify primarily as Black. However, Mariah Carey (MC), who is similarly Biracial Black and White, identifies as Mixed and is often mistaken as White due to her light skin. Despite likely having very different racial experiences, they are coded the same by CSO standards, which most closely measure *ancestry*. *Race*, as a corporeal marker of relative systemic privilege, might be better captured in a second question asking respondents what “street race” strangers assume they are (Black for BO, White for MC). A third question could ask those selecting multiple ancestries if they identify *primarily* as Multiracial (no for BO, yes for MC), which could help us understand Multiracial identities’ role in shaping the effects of complex racial experiences. This separate question format would not prevent disaggregation by Multiracial ancestry, a concern with previous calls for a catchall Multiracial category in CSO standards. This session will explore why expanding RDC to include these questions can help the CSO meet its stated goal of better characterizing the Multiracial population.

Race/Ethnicity**Coping in the context of racism-related stress** Lindsey Burnside* Lindsey Burnside,

Racism-related stress is a social stressor found to have deleterious effects on health and well-being, and is implicated in Black/White health disparities (Pascoe and Richman, 2009). There is evidence that racism-related stress is distinct from general stress, and may be coped with using different strategies (Harrell, 2000; Utsey, Ponterotto, Reynolds, & Cancelli, 2000; Hoggard et al., 2012). Still, evidence for antecedents and effects of racism-related stress on well-being, plus potential protective factors remain equivocal. Drawing from the biopsychosocial model of perceived racism, this study examined the effects of several coping strategies on psychological and physical health in the context of racial discrimination. Employing a cross-sectional survey of 504 Black American adults, we found that coping strategies such as avoidance and confrontational approach were negatively associated with health, consistent with previous literature. We also found that non-confrontational approach strategies were positively associated with psychological well-being, but not with physical health. Furthermore, interaction effects between coping and frequency of racial discrimination suggest that some coping strategies may only be protective in high-discrimination contexts- including social and emotional support- for which we found significant gender differences.

Reproductive health**Associations between nativity and contraceptive use among US-born women and immigrant women: A cross-sectional study** Comfort Olorunsaiye* Comfort Z Olorunsaiye, Hannah Degge,

Objectives: Research is limited on the contraceptive attitudes and practices of immigrants in the US. We examined associations between contraceptive attitudes and contraceptive method use among US-born women and immigrant women.

Methods: Data are from a cross-sectional survey of women living in the US (n=657) in September 2021. Eligibility criteria included self-identified women, non-pregnant, aged 18-44 years, and self-reported sexual intercourse with a male partner in past three months. The exposure was contraceptive attitude, measured using the 32-item Contraceptive Attitude Scale (favorable or less favorable attitudes). The outcome was contraceptive method: permanent/long-acting reversible contraceptive (LARC), short-acting hormonal, barrier, emergency, other (rhythm, calendar, and withdrawal) methods, and none. Multivariable multinomial logistic regression, stratified by nativity (i.e., US-born or immigrant), adjusted for potential confounders, was used to assess the associations between the exposure and outcome.

Results: In preliminary results, among 561 non-pregnant and eligible women, 62% were born in the US; mean age was 29 years. Contraceptive attitude was favorable in 59% of women. In nativity-stratified, adjusted analysis, among US-born women, favorable contraceptive attitudes were associated with between 2.37 times higher odds (95% confidence interval (CI)= 1.10-5.15) of permanent/LARC method use and 4.71 times higher odds (95% CI= 1.37-16.17) of emergency contraception use, compared to nonuse. Among immigrant women favorable contraceptive attitudes were associated with between 3.73 times higher odds (95% CI=1.13-12.31) of permanent methods/LARC to 22.57 times higher odds (95% CI=4.94-31.17) of short-acting hormonal methods, compared to nonuse.

Conclusion: Reproductive health programs and policies should consider the contraceptive attitudes and nativity in contraceptive counseling and services.

Reproductive health

Interdisciplinary consultation to develop consensus recommendations for standardized measurement of a contraceptive side effect: Convening global clinical, social science, public health, and basic researchers for a transdisciplinary goal Amelia Mackenzie* Amelia Mackenzie,

ADD

Reproductive health**Sexual education and reproductive health resources among Muslim communities in New York City.** Yousra Yusuf* Yousra Yusuf,

Background and Objective: Muslims in America are a highly-diverse immigrant population; 58 percent of Muslims are born abroad, majority hailing from South Asia and the Middle East and North African region. 60 percent of adult Muslims are between the ages of 18 and 39—a majority young community. American Muslim youth balance conflicting attitudes related to engaging in sexual activity. Although limited data exists on sexual behaviors in this community, Muslim youth engage in risky behaviors, including, unprotected sex, at levels similar to those reported by youth in other communities. A high percentage of American Muslim youth receive no sex education content during their youth. Few studies exist on how sex education and reproductive health messages are tailored to this community indicating the need to identify existing community assets in reproductive health and needs in sexual education in this underserved community.

Methods: Through a survey, in-depth interviews, and focus groups, we aim to explore the current landscape of reproductive health in this community. We are recruiting participants through partnerships with local organizations.

Results: Participant recruitment strategies are tailored to outreach hard-to-reach communities through in-person recruitment, social media outreach, and engaging existing community- and faith-based organization partners that primarily serve low-income, immigrant Muslim households. Study survey assesses sexual health attitudes and sources of health information in this community. Recruitment and data collection phases are ongoing. Results from the survey will be presented.

Conclusions: To our knowledge, this study is the first to map reproductive health education resources and attitudes in the American Muslim community. Community-based approaches will facilitate an in-depth understanding of reproductive health priorities in this under-resourced community.

Reproductive health

perspectives and experiences of Venezuelan adolescents ages 10-19 regarding sexual and reproductive health in a Complex Humanitarian Crisis Lallo Yadeta* Lallo Yadeta, Subasri Narasimhan, Genesis Luigi, Roopan Gill,

Background: the ongoing political, human rights, and socio-economic developments in Venezuela have led to the displacement of more than 6 million people to neighboring countries and beyond since 2015 creating a Complex Humanitarian Emergency (CHE). CHEs are caused by a combination of social, political and economic collapse and express in the disruption of essential services, including, health systems. This negatively affects health outcomes. For instance, Venezuela has one of the highest rates of the region: 101 live births per 1,000 15-19 years old women, with no clear data for those below 14 years old. In this context, the sexual and reproductive health (SRH) needs of this population are unmet.

Objectives & scope: understand *what are the perspectives and experiences of Venezuelan adolescents and youth ages 10-19 regarding sexual and reproductive health?* This study is part of a larger project aimed at adapting an existing digital SRH educational platform (Aya Contigo) to this demographic.

Methods: we adapted the photovoice methodology to engage adolescents and youth ages 10-19 in photo-taking, in-depth interviews, and focus group discussions about their SRH needs and experiences in the context of a CHE. We recorded and transcribed the qualitative data and conducted a theme analysis through a 'flexible coding' approach in Dedoose.

Results & Conclusions: we recruited 23 adolescents and youth and 13 completed the study. Preliminary findings show 1) the need of safe spaces within and outside of the healthcare system to express their identities and sexuality; 2) participants' feeling of disconnection from institutions like school, health services, authority figures within the family regarding their SRH; 3) despite the effects of a CHE on their life course, participants do have clear, actionable ideas for "more positive" and equitable futures free from stigma.

Reproductive health

Socioenvironmental and Structural Factors Affecting Integration of Substance Use Care into Obstetric Settings within a Large National Healthcare System Kelli Stidham Hall* Jessica LaHote, Teaniese L. Davis, Denice Arnold, Emma Mitnick, Jomarie dela Pena, Jessica LaHote, Claire Sterk,

Objective: To explore (1) perspectives and experiences of stakeholders from a national healthcare organization regarding socioenvironmental and structural factors, facilitators, and barriers affecting integration of the substance use disorder (SUD) care cascade in obstetric settings and (2) strategies for increasing access to care and ensuring equitable outcomes for pregnant/postpartum patients who use drugs (PPWUD).

Methods: In-depth individual semi-structured interviews were conducted with 16 national- and regional-level administrators, clinicians, and staff across the organization. Key themes were identified using a modified grounded theory approach and Dedoose software.

Results: Intersecting stigmas (substance-, pregnancy-, race-, and poverty-related) occurring within (e.g., provider discomfort/discrimination) and outside (e.g., cultural norms, child welfare/criminalization policies) the health system emerged as major barriers to SUD service access and utilization for PPWUD. Systems-level challenges to SUD care integration across the organization included limited resources and variation in regional practices. Perspectives on universal urine screening were nuanced: stakeholders from some regions felt it reduces biased practices; others felt it “sets women up” for encounters with legal or child welfare systems. Strengthened departmental collaborations (obstetrics, family medicine, pediatrics, neonatology, behavioral health), warm handoffs, co-located services, telehealth infrastructure, multi-sector referral networks for support programs, and championship from leaders were deemed promising strategies for integrating SUD care, increasing access, and improving equitable outcomes.

Conclusion: Participants viewed service models that can address a holistic set of care needs (substance, reproductive, social) as a priority for patient-centered, equitable care. Results identified intervention and implementation targets for maternal health equity across the organization.

Social/relational factors

Macroeconomic antecedents of involuntary psychiatric commitments among non-western immigrants in Denmark Parvati Singh* Parvati Singh, Marquianna Griffin, Abhery Das, Camilla Hvidtfeldt, Lars Andersen, Tim Bruckner,

Economic downturns may serve as ambient stressors that precede increased aggression against vulnerable groups that, in turn, may manifest as increased reporting of individuals from minority groups for involuntary psychiatric commitments (coercive admissions to psychiatric treatment facilities against a person's will). This expectation aligns with "scapegoating" of specific minority groups during heightened ambient stress. Social propensity to scapegoat minority groups, supported by the frustration-aggression-displacement hypothesis, suggests that frustration experienced by the larger community may lead to displaced aggression towards minority groups who are viewed as being hostile to the social order. In Denmark, non-western immigrants and refugees/asylum seekers may serve as the "scapegoated" minority group, particularly owing to their rapid increase in relative size over the past two decades, coupled with surges in anti-immigrant sentiment across Western Europe. We examine the relation between quarterly aggregated counts of unemployed persons (exposure) and involuntary psychiatric commitments among non-western immigrants in Denmark (outcome), over 52 quarters, from 2006 to 2018. Results from time-series AutoRegressive Integrated Moving Average (ARIMA) analyses indicate 94 additional involuntary psychiatric commitments among non-western immigrants with increase in 100,000 additional unemployed persons in the concurrent quarter (p -value < 0.01). Results remain consistent after controlling for voluntary or "regular" psychiatric inpatient admissions among non-western immigrants. Our findings provide the first evidence of racial/ethnic scapegoating through increased involuntary psychiatric commitments of vulnerable minority groups in Denmark during periods of heightened ambient stress.

Social/relational factors

Are There Gender Differences in Unmet Resource Needs among Dementia Caregivers in a Predominantly African American/Black Community? Jennfier Makelarski* Jennifer Makelarski, Victoria Winslow, Soo Borson, Jyotsna Jagai, Katherine Thompson, Sara Zdunek, Stacy T. Lindau,

Caregivers of people with dementia, two thirds of whom are women, have high rates of unmet resource needs. New policy is driving healthcare systems to screen for health-related social risks (HRSRs), which are more prevalent among women. It is unknown if HRSR screening accurately identifies the resource needs of caregivers or if these needs differ by gender.

We describe, by gender, dementia caregivers' self-identified unmet resource needs and the sensitivity of the Accountable Health Communities' (AHC) screening tool to detect food, housing and transportation risks needs.

We used baseline data from dementia caregivers (N=343) enrolled in an RCT testing the impact of CommunityRx-Caregiver, a social care intervention. Caregivers were asked if their household needed education for dementia caregiving, respite care, home care, or end-of-life care; mental health care; free food, food delivery, or SNAP; or fitness, financial, transportation, housing safety, or legal services. Caregivers completed the 5-item core AHC HRSR screener. Differences in resource needs, and sensitivity of the AHC tool, by gender, were examined using Fisher's Exact tests.

The majority of female (n=269, 78%) and male (n=74, 22%) caregivers were non-Hispanic Black (81% of females, 81% of males), single (61% of females, 52% of males), and had household incomes \geq \$50K (63% of females, 71% of males). Unmet resources needs were prevalent among female and male caregivers (88% and 85% had \geq 1 need, 43% and 41% had \geq 5 needs) and did not differ by number or type of needs. Sensitivity of the AHC screener for identifying needs was low, but similar by gender for food (41% for female and 30% for male, $p=0.72$) and housing (44% for female and 29% for male, $p=0.37$). For transportation needs, sensitivity was 0% for males (versus 27% for females, $p=0.01$).

Male and female caregivers have similarly high rates and kinds of unmet resource needs. Standard screening methods may not accurately identify unmet resource needs.

Structural factors

Neighborhood-level Social Vulnerability and ED visits: Linking EHR and Area-level Metrics to uncover the relationship between neighborhood vulnerability and poor outcomes among patients with diabetes Pricila Mullachery* Pricila Mullachery, Huanmei Wu, Jay Patel, Ilene Hollin, Gabriel Tajeu,

Significance: Neighborhoods are shaped by past discriminatory policies, which created disparities in the distribution of resources such as healthcare services, transportation, and fresh food markets. Exposure to neighborhood disadvantage results in a disproportional burden of chronic conditions among individuals in these communities. Electronic health records (EHR) are being increasingly used to study population health, but the connection between neighborhood factors and population health is rarely explored in EHR data. We examined the association between neighborhood social vulnerability, measured by a composite score of 15 variables that capture disadvantage, and emergency department (ED) use among patients with diabetes. **Data:** We analyzed EHR from HealthShare Exchange, a regional health information system encompassing health systems and insurers in the Greater Philadelphia region. Data were from a sample of individuals (n=119,832) who had at least one healthcare encounter between 2018 and 2020. We extracted data on demographic variables, type of encounter, and diagnosis codes. The outcome was number of ED visits among patients with diabetes. Zip code area identifiers (n=210) were used to link social vulnerability data to EHR. **Preliminary findings:** A total of 10.3% of people had a diagnosis of diabetes; on average, they had 1.9 ED visits between 2018 and 2020. People with diabetes residing in high-vulnerability neighborhoods (top 20%) were three times more likely to have two or more ED visits than those in low-vulnerability neighborhoods (bottom 20%). In adjusted models with individuals nested in neighborhoods, a 10% increase in social vulnerability was associated with an 11% increase (p<0.001) in the likelihood of one additional ED visit. **Implications:** Our results highlight the need for structural approaches targeting upstream determinants of health in communities. Allocating resources to socially vulnerable communities is critical to achieving health equity.

Structural factors**Examining Gender Differences in Exclusionary Workplace Conditions and Immigrant Health in California** Kevin Lee* Kevin Lee, Maria-Elena de Trinidad Young, Michelle Nakphong,

Background: In California, workplace exclusions such as wage theft, dangerous jobs, and work-related injuries disproportionately impact immigrants compared to US-born workers. These working conditions may reflect an exclusionary policy environment, which structurally drives health inequity. This is especially true for women who are more likely to experience wage theft and men who often occupy jobs that are more dangerous and prone to work-related injuries. Studying these workplace exclusions may therefore elucidate policy influences on immigrant worker health. This study examines whether experiencing workplace exclusion is associated with poorer health outcomes for immigrants, and specifically whether a difference exists by gender.

Methods: We used the Research on Immigrant Health and State Policy (RIGHTS) Study (n=2,010), a population-based survey of Asian and Latino immigrants in California on their experiences across multiple social policy domains. We developed a workplace exclusion composite score based on reports of experiencing wage theft, dangerous jobs, or work injuries, and conducted multivariable analyses, examining the association between workplace exclusions and general health conditions by gender through statistical interaction.

Results: Both Asian and Latino immigrants experienced numerous exclusions: wage theft (17.9%), dangerous jobs (11.8%), and work injury (26.0%). The increase in exclusionary workplace conditions was associated with worse general health (aOR = 1.40, 95% CI: 1.10-1.78). Evidence of this association was observed for male immigrants (aOR = 1.77, 95% CI: 1.25-2.52), but not for female immigrants (aOR = 1.30, 95% CI: 0.98-1.73).

Conclusion: The policy environment is important for understanding how exclusions in immigrants' gendered work experiences differ although future studies should consider the mechanisms whereby exclusionary policies operate through work conditions to influence immigrant health.

Structural factors**Relationship between indicators of structural cis-heterosexism and indicators of psychological well-being in partnered SGM individuals** Alex Bates* Alex Bates, Claire Kamp Dush,

Past research has highlighted the importance of state and city-wide anti-discrimination policies in improving the health and well-being of sexual and gender minority (SGM) communities. A recent population-based study found that restrictive state-level policies increase the odds of SGM adults experiencing worse mental health and undertaking more risky behaviors (White et al., 2022). However, to date no population-based studies have been able to examine whether this association also extends to partnered SGM individuals. This study seeks to explore the effect of indicators of structural discrimination on the psychological well-being and risky behaviors of partnered SGM individuals. We plan to use data from the National Couples' Health and Time Study (NCHAT) (a nationally representative sample of married or cohabitating respondents aged 20-60 years old with oversamples of racial, ethnic, and sexual minority people) to explore this relationship. Dependent variables (DV) will include depression, anxiety, overall stress, stress overload, emotional regulation, alcohol drinking, and smoking status. Independent variables (IV) will include self-report measures of structural discrimination, state-level anti-discrimination policy scores (using Movement in Advancement Project (MAP) data), and a measure of anti-SGM bills in the state legislation, as well as relevant covariates (age, gender identity, race/ethnicity, education, income). Weighted multilevel (respondents nested within states) multivariable linear and logistic regression models will be used to analyze the relationship between each DV and each IV. The final analytic sample included 1,617 SGM-partnered adults. Initial unadjusted analyses indicate that SGM-partnered individuals living in states with fewer anti-discriminatory protections (compared to states with the most protections) have higher: odds of depression and anxiety, overall stress and stress overload, emotional dysregulation, and number of drinks per sitting.

Aging**Childhood Health and Later-Life Cognitive Functioning: The Mediating Role of Education**

Nicole Hair* Nicole Hair,

Educational attainment is one of the strongest predictors of dementia among older adults. It is unclear, however, whether this connection reflects the benefits of education per se or, rather, early life factors that influence educational attainment. We use the introduction of a measles vaccine in 1963, and the subsequent dramatic reductions in childhood infectious disease morbidity, to evaluate the effect of better overall health in childhood on cognition later in life and to assess the role of educational attainment in the causal pathway. Our project links historical data on state-level measles incidence rates to the Health and Retirement Study, a longitudinal population-based study of individuals over age 50 with validated cognitive measures. Our difference-in-differences approach compares outcomes across year-of-birth cohorts with more or less childhood exposure to the measles vaccine and across states with higher or lower pre-vaccine measles incidence. Compared to individuals born earlier and in states with low pre-vaccine incidence, those born later and in states with high pre-vaccine incidence are expected to have benefited more from measles vaccination. Reduced exposure to infectious disease (and improved overall childhood health) may impact cognition directly or indirectly, e.g., through its effects on educational attainment. We apply a causal mediation analysis framework, to determine to what extent higher levels of educational attainment explain the relationship between better overall childhood health and higher levels of later life cognitive functioning. Finally, because the benefits of mass vaccination campaigns were not shared equally and, in fact, racial and socioeconomic disparities in measles immunization persisted for decades, we estimate models stratified by race and childhood socioeconomic status to account for potentially important differences in the relationships between childhood health, educational attainment, and later life cognition.

Aging**Food Insecurity and Aging-Related Increases in Chronic Conditions Among Low-Income Women in the U.S.** Kelley Akiya* Kelley Akiya,

Although food insecurity is more common among women, non-Hispanic Black, and Hispanic adults in the U.S., there is limited evidence on the long-term health implications of food insecurity for women in general or on Black and Hispanic women specifically. To help address this gap, I examined the longitudinal relationship between changes in food security and changes in chronic health conditions among female adults ages 50 and older using the 2010-2018 waves of the Health and Retirement Study. Multi-level linear regression was used to estimate growth curves for 6,127 female respondents who had household income below 200% of the federal poverty level during at least one survey wave and contributed data at three or more time points. Separate curves were also estimated for non-Hispanic Black and Hispanic women. Based on likelihood ratios tests, a quadratic curve with age and age squared along with random intercepts and random linear age slopes was identified as providing the best fit for the data. In an initial growth curve model adjusting for age and the survey cohort, becoming food insecure was associated with having an additional 0.05 chronic health conditions ($CI_{95}=0.03-.07$, $p<0.01$). The estimate reduced to 0.04 ($CI_{95}=0.02 - .06$, $p<0.01$) after adjusting for other demographic, socioeconomic, health, and insurance variables and adjusting for receipt of various public benefits (e.g. social security, Supplemental Nutritional Assistance Program). Among Black female respondents ($n=1,629$) and Hispanic female respondents ($n= 1,159$), food insecurity was associated with an additional 0.06 ($CI_{95}=0.03 - 0.09$, $p<0.01$) and 0.03 ($CI_{95}=-0.01, 0.08$, $p=0.12$) conditions respectively. Results suggest that food insecurity may contribute to chronic disease burden among low-income women as they age, on-top of other social and health-related risk factors, and that expanded development and scale-up of food and nutritional supports tailored to the needs of these sub-populations are warranted.

Biomarkers or biological pathways**How much can biomarkers explain sociodemographic inequalities in cognitive functioning?****Results from a machine learning model in the Health and Retirement Study** Eric Klopack*

Eric Klopack, Eileen Crimmins,

Large studies, like the Health and Retirement Study (HRS), are gathering extensive blood-based biomarker data (e.g., cytokines, DNAm, blood lipids), potentially presenting a unique opportunity to investigate population-level cognitive aging effects driven by social inequalities. These biomarkers are believed to represent pathways by which social adversity gets “under the skin” to affect health outcomes like cognitive aging and Alzheimer’s disease. However, it is unknown how much these biomarkers can explain sociodemographic differences in cognitive functioning, and thus, their utility for understanding the biological underpinnings of social inequalities.

We utilized data from the 2016 HRS Venous Blood Study with DNA methylation data (N = 4018), including 57 blood-based biomarkers, cognitive functioning measured using the Telephone Interview for Cognitive Status (TICS), and sociodemographic variables (viz., age, race/ethnicity, sex/gender, and educational attainment). Participants were randomly separated into a training and testing set. eXtreme Gradient Boosting (xgboost) was used to create a variable of predicted cognitive functioning using the 57 biomarkers. According to this model, the most important features were markers of aging (DNAm age), neuropathology (viz., GFAP, NfL, A β 42:40 ratio), diet (vitamin D3 epimer), and genetic risk (a PGS for Alzheimer’s disease).

We performed mediation analysis in the testing data. Biomarker-predicted functioning significantly mediated the effects of sociodemographic variables. The biomarkers explained a large portion of the total effect of age (50.8%), a moderate portion of the total effect of sex/gender and race/ethnicity (between 38.2% and 26.1%) and a modest portion of the total effect of education (between 11.3% and 9.7%).

Findings suggest that these biomarkers are useful in explaining biological processes underlying sociodemographic inequalities in cognitive functioning. However, the majority of variance remains unexplained.

Chronic disease**Examining impacts of neighborhood eviction rates on cardiovascular health outcomes**

Patrick Smith* Patrick Smith, Allison Groves,

Personal exposure to eviction adversely impacts physical and mental health through numerous pathways. Neighborhood-level exposure to high eviction rates may also impact individual health by increasing physiologic and psychosocial stress (related to potential housing loss) and by eroding protective social structures within communities. Such impacts may make it more challenging to prevent and/or manage stress-sensitive conditions, including cardiovascular diseases; however, few studies have examined how neighborhood-level eviction rates influence individual health outcomes, and no studies have examined how neighborhood-level eviction rates influence individual cardiovascular health outcomes. Linking census tract-level eviction rates with individual data from the Medical Expenditure Panel Survey, this study examines whether tract-level eviction rates are positively associated with one's risk of experiencing a CVD-related hospitalization over a two-year period. Stratified analyses examine differential effects by race/ethnicity and gender, and implications for health equity are discussed.

Disability**Disability and future risk of intimate partner violence - Evidence from a longitudinal study in rural Pakistan** Amanda Collins* Amanda Collins, Joanna Maselko,

About 1 in 4 women worldwide are estimated to experience IPV in their lifetime, but in disabled women, this number increases to 1 in 2. While a positive association between disability and IPV has been consistently shown, most of the research exploring this relationship has been cross-sectional.

Participants in this analysis include 894 mothers enrolled in the Bachpan cohort. Disability was measured using the World Health Organization Disability Assessment Schedule (WHO-DAS), which ranges 0-48, with higher scores indicating greater disability, at 1, 2, and 3 years postpartum. Psychological, physical, and sexual IPV were assessed at 2, 3, and 6 years postpartum. Modified Poisson generalized estimating equations adjusting for depression, IPV in preceding wave, baseline age, baseline education, baseline SES, and childhood trauma measured at 3 years were used to determine the association between disability level and IPV in the following wave.

At 1 year follow-up, the mean WHO-DAS score was 4.8, and 39%, 10%, and 21% of participants reported experiencing psychological, physical, and sexual IPV, respectively. After adjustment for confounders, those with medium WHO-DAS scores (10-19) and high scores (20+) were more likely to experience all three types of IPV in the subsequent wave compared to those with low (0-9) scores. Comparing those with high scores to those with low scores, the risk ratio was 1.24 (95% CI: 1.02, 1.46) for psychological IPV, 1.73 (95% CI: 1.16, 2.60) for physical IPV, and 1.44 (95% CI: 1.05, 1.96) for sexual IPV.

This study supports that women with disabilities are especially vulnerable to IPV.

Gender**Gender norms and Human Immunodeficiency Virus (HIV)-related stigma among****adolescents in western Kenya** Joanne Constantin* Joanne Constantin, William Story, Beatrice Churu, Rima Afifi, Abigail Lee, Nema Aluku,

Background: Kenya has one of the world's largest HIV epidemics. Adolescents are particularly vulnerable; over 50% have sexual intercourse before the age of 18 yet condom use and HIV testing remain low. Stigma is a primary barrier to HIV prevention among youth in Kenya. Young women face more stigma due to patriarchal and cultural gender norms. Identifying factors that enable stigma to persist is critical for prevention strategies to succeed. This study examines the association between gender norms and stigma.

Methods: A survey was administered to 765 randomly selected unmarried girls and boys (ages 15-19) from three counties in western Kenya, including 19 questions about gender norms and 12 questions about HIV-related stigma. Exploratory factor analysis identified three gender norm factors—sexual double standard, adolescent romantic expectations, and girls' restricted autonomy—and two stigma factors—internalized and attributed stigma. Multivariate analyses were conducted by regressing each form of stigma on the three types of gender norms. Covariates included age, gender, ethnicity, education and wealth. Analyses were also stratified by sex.

Results: Girls' restricted autonomy is positively associated with internalized stigma, whereas a sexual double standard is inversely associated with internalized stigma after controlling for potential confounders ($\beta = 0.121$ and -0.072 , respectively; $p < 0.01$). Stratifying by sex, the associations only hold for girls. For attributed stigma, only girls' restricted autonomy is associated ($\beta = 0.152$; $p < 0.01$), which holds for both girls and boys when stratified by sex ($p < 0.01$).

Conclusion: Girls' lack of autonomy in relationships is related to higher levels of internalized and attributed stigma; however, a sexual double standard appears to be protective of internalized stigma. Since the relationship between gender norms and stigma varies by sex, interventions should be tailored by sex to promote young people's HIV preventive behaviors.

Gender**Gendered Expectations to Perform Oral Sex in a National Survey Experiment** Michelle Eilers*
Michelle Eilers,

Gender inequality exists in performing oral sex in the United States: women are more likely than men to perform and less likely to receive oral sex, following a traditional status characteristics model of gendered labor. However, less is known about the expectations that underlie this behavioral inequality. Using original survey experiment data from a national sample of women and men in the United States, I investigate expectations to perform oral sex when requested by a different-gender partner in a heterosexual, sexual relationship. Overall, 80% of women and men report feeling an expectation to perform oral sex when asked. Though women and men report similar expectations, large gender disparities emerge in related dimensions of expectations, including the likelihood of agreeing or refusing to perform, and of reciprocating the request. Men are more likely than women to agree to a request to perform oral sex, and correspondingly less likely to refuse a request. Men are also highly likely to reciprocate a request for oral sex in return. When reporting expectations for the opposite gender, however, women and men report fairly consistent expectations to perform, indicating that women and men are aware of gendered norms about sexual labor. These findings suggest that men are highly supportive of performing oral sex as long as they can request it in return. As a result, women may be able to receive oral sex if they want, potentially reducing gendered sexual labor and pleasure gaps.

Health behaviors

Perceptions of PrEP as a tool for self- protection among cis Black women Mandy Hill* Mandy Hill, Sarah Sapp, Shadawn McCants, Jeffrey Campbell, Diane Santa Maria,

Background: Heterosexual sex accounts for 85% of new HIV cases among women in Texas and most of those cases are among Black women. There is a need to explore perceptions of cisgender Black women relative to their reasons to considering pre-exposure prophylaxis (PrEP) for HIV prevention.

Methods: Qualitative methods were used to explore why women choose PrEP for HIV prevention among 20 Black women through focus group discussions.

Results: Themes identified from focus groups during an interim data analysis explored reasons to choose or not to choose PrEP. Participants conveyed fear of infection from male partners when engaging a new partner with an unknown HIV status. One participant stated, '[I would choose PrEP] because men are out here killing us and so the probability of me being raped or me being taken advantage of is higher. If I had access to PrEP, then condoms are starting to get high too, well, I am doubly covered.' In regards to engaging in new sexual relationships, one participant stated, 'If I am with someone who hasn't made their status known, or they don't know... especially being single in these dating streets, it would just be a lot easier to know that I could get a shot like Gardasil or the flu shot and I know that I am covered in some way, shape, or fashion. As opposed to always having a condom on me at all times.'

Conclusions: Study findings point to fear, a lack of trust, and perceived lack of transparency by male partners as motivators for PrEP initiation among some cisgender Black women who are aware that their risk of HIV through heterosexual sex is led by male partners. This information suggests better alignment of personal and actual risk among cisgender Black women.

Health behaviors**Morningness Polygenic Scores Interact with Social Schedules to Predict Sleep Timing in U.S. Young Adults** Jess M. Meyer* Jess M. Meyer, Brandt Levitt, Allison E. Aiello, Kathleen Mullan Harris,

Prior research suggests both social environments and genetic inheritance affect sleep schedules. Polygenic scores (PGSs) derived from genome-wide association studies (GWASs) provide the opportunity to explore in greater depth how genes and environment interact to affect sleep. A recent GWAS (Jones et al. 2019) of morningness—the extent to which someone identifies as a “morning” (vs. “evening”) person—included >400,000 UK Biobank participants of European ancestry. Using Add Health data, we examined how a morningness PGS constructed from those GWAS results predicts sleep timing in a nationally representative sample of U.S. young adults. We tested the expectation that genetic predictors of circadian preference operate more strongly in the absence of social constraints on sleep by examining how the association between this PGS and sleep midpoint, the halfway point between bedtime and wake time, differs between work and free days. Because the basis GWAS used a European ancestry sample, we also examined whether associations are heterogeneous across European vs. non-European genetic ancestry. Preliminary results show that for European, African, and Hispanic genetic ancestry groups, higher values on morningness PGS were associated with earlier sleep midpoint on free days. However, within each of these groups, morningness PGS was less predictive of sleep midpoint on workdays. As expected, the PGS showed the strongest association with sleep timing in the European genetic-ancestry group, though this may reflect this group’s larger size (and statistical power) in our sample. These results boost confidence in the validity of this PGS for predicting sleep timing in U.S. young adults, though highlight the unfortunately ubiquitous issue of disparities in PGS predictiveness by genetic ancestry. Our results align with the expectation that genetic correlates of circadian preference are stronger predictors of sleep timing on free days compared to days with work or school activities.

Health behaviors**Watchful, Skeptical, and System Distrusters: Characteristics Associated with Different Types of COVID-19 Vaccine Hesitancy among U.S. Working-Age Adults** Xue Zhang* Xue Zhang, Shannon Monnat,

COVID-19 vaccine hesitancy is complex, with adults identifying various reasons for not getting the vaccine. Using data from the National Wellbeing Survey (a demographically representative survey of U.S. working-age adults (18-64) collected in 2022, N=7,612), we identified demographic, socioeconomic, and political characteristics associated with different types of vaccine hesitancy (age, sex, race/ethnicity, marital status, income, education, metro status, and 2020 Presidential vote). We categorized unvaccinated adults into three non-mutually exclusive groups: 1) *watchful* adults who were concerned about vaccine side effects and efficacy; 2) *skeptics* who mistrusted the vaccine, and 3) *system distrusters* who mistrusted the government. A third of the sample had not received at least one dose. Among those, 65% are classified as watchful, 53% are skeptics, and 32% are system distrusters. Results from logistic regression showed that compared to vaccinated adults, the unvaccinated are younger, have lower education and income, and are more likely to have voted for Trump. Among those who are not vaccinated, we found that females (OR=1.20, CI=1.01,1.43) and those with a bachelor's degree or higher (OR=1.50, CI=1.13, 1.99) were significantly more likely to be *watchful*. Respondents with household incomes of \$75,000-\$124,999 (compared to <\$25,000) and Trump voters (OR=1.47, CI=1.17,1.85) were significantly more likely, and urban residents (OR=0.76, CI=0.61,0.95) were significantly less likely, to be vaccine *skeptics*. Those with incomes of \$50,000-74,999 (OR=1.36, CI=1.08,1.71) and \$75,000-\$124,999 (OR=1.56, CI=1.12,2.18) (compared to <\$25,000) and Trump voters (OR=1.75, CI=1.43,2.16) were significantly more likely to be *system distrusters*. Our findings suggest that universal messaging and intervention strategies are unlikely to be effective in increasing vaccine uptake. Different messages, messengers, and tactics must be used with different groups.

Health care/services**“Check your bias at the door” and other recommendations for improving lupus care:**

Results from a qualitative study with Black Lupus Warriors Rachel Bergmans* Rachel Bergmans, Bhaavna Yalavarthi, Johari Summerville, Nikki Farahani, Lillian Xiao, Christine Yu, Deena Aboul-Hassan, Sia Rajgarhia, Daniel Clauw, J. Michelle Kahlenberg, Melissa DeJonckheere,

BACKGROUND: Systemic lupus erythematosus (SLE) is an autoimmune condition that disproportionately affects Black women. Systemic racism and discrimination can be found in various settings in the United States, including the healthcare system. Understanding the effects of these factors on healthcare can inform recommendations for improving SLE care.

AIM: We aimed to identify opportunities to improve SLE care for Black patients.

METHODS: This study is using an interpretive description approach. We conducted semi-structured interviews and focus groups with Black adults diagnosed with SLE. The interviews and focus group meetings covered topics such as diagnosis, symptom management, symptoms affecting day-to-day life, and experiences with healthcare providers. After de-identifying the interview and focus group transcripts, we analyzed the transcripts using an inductive, thematic analysis and created a preliminary coding scheme. Our theme development focuses on areas of improvement in lupus care.

RESULTS: We completed 30 interviews (96% female, mean age = 41 years) and 7 focus groups (6-8 participants per group). The preliminary coding scheme currently includes 4 categories: (1) Awareness of lupus signs and symptoms among non-rheumatologists; (2) Prioritizing relationships with patients; (3) Monitoring medication response and adherence; and (4) Comprehensive care plans.

NEXT STEPS: The next step for this study is to apply the preliminary coding scheme to the semi-structured interviews and develop and finalize our main themes. Once we complete the codebook, we will use it to analyze the focus group transcripts to further contextualize our main themes.

CONCLUSIONS: Our results highlight areas of improvement in SLE care, especially from the perspective of Black patients. Furthermore, patient-provider relationships play a large role in effectiveness of care and quality of life while living with SLE.

Health care/services

Trends in telehealth and in-person psychiatric care from 2017-2022 among patients with depression in a large US academic medical system Catherine Ettman* Catherine Ettman, Carly Lupton Brantner, Michael Albert, Fernando Goes, Ramin Mojtabai, Stanislav Spivak, Elizabeth Stuart, Peter Zandi,

Telehealth, which increased rapidly after the start of the COVID-19 pandemic, may improve access to care and reduce barriers to appointment completion. We aimed to assess the differences in completion rates between telehealth and in-person outpatient appointments in a large, urban Department of Psychiatry among patients with depression. We conducted a longitudinal cohort study of patients with depression using electronic health records (EHR) from Johns Hopkins Medicine from November 2017 through October 2022. Participants were patients ≥ 10 years old with a depression diagnosis who had at least one scheduled outpatient appointment in the Department of Psychiatry between November 2017 - October 2022. With almost no telehealth appointments conducted before the COVID-19 pandemic, telehealth was then the modal form of care in the Department of Psychiatry from April 2020 through October 2022, with the total number of telehealth and in-person appointments nearly converging by October 2022. In analyses using logistic regression models with random effects for patient IDs, appointments had 1.30 (95%CI: 1.27, 1.34) times the odds of being completed if conducted over telehealth relative to in-person from July 2020 through October 2022. The association remained significant after adjusting for patient characteristics. Telehealth completion rates were higher than in-person completion rates across all patient groups. Telehealth appointments were completed at a higher rate than in-person appointments in a large, urban Department of Psychiatry, suggesting improved efficiency and continuity of care. As in-person operations resume following the COVID-19 pandemic, it may be beneficial to maintain options for care via telehealth to optimize delivery of care and patient outcomes.

Health care/services**Rural-Urban Differences in the Availability of Hospital Transitional Opioid Programs in the United States** Berkeley Franz* Berkeley Franz, Ji Chang, Zoe Lindenfeld, Cory Cronin, Jose Pagan,

Hospitals bear a significant burden of the opioid crisis and are an ideal setting to stage opioid-related interventions with patients who are hospitalized secondary to overdose or infectious disease complications. Within hospitals, transitional opioid programs (TOPs), including the initiation of medications for opioid use disorder (OUD) and addiction consult services to link patients with outpatient treatment have become the gold standard. Although effective interventions for opioid use disorder exist, it's not clear if there are gaps in access. The aim of this study was to assess whether rural hospitals, which face considerable resource shortages, currently offer TOPs as often as their urban counterparts. Using data from the 2021 American Hospital Association Annual Survey, we conducted multivariable regression models to assess differences in screening for opioid use disorder, as well as addiction medicine consult services across different settings within rural and urban hospitals, controlling for hospital and community-level factors. Although rural hospitals do not have lower odds of screening for OUD, they have significantly lower odds of having addiction consult services in either the emergency department (OR: .767) or inpatient setting (OR: .748). These findings remain after controlling for known predictors of hospital resources, including bed size, hospital ownership, and indicators of need, including rates of opioid prescribing and overdoses in the surrounding county. Rural communities have been uniquely affected by opioid-related mortality and infectious disease transmission. Despite this impact, our study suggests that evidence-based interventions, such as TOPs, are less likely to be available in rural hospitals which may contribute to rural-urban disparities in health outcomes secondary to OUD. A priority for population health improvement should be developing implementation strategies to support rural hospital adoption of TOPs.

Health care/services

Health Workforce Retention and Economic Impact Wanderimam Tuktur* Wanderimam Tuktur, Isra Shad, Rexford Anson-Dwamena,

Method

We identified all J-1 visa waiver physicians assigned to employers in Virginia between 2014 and 2017 and tracked them through public databases to their current locations. The Physicians were divided into 3 cohorts to determine retention per year in underserved locations. By utilizing the input-output IMPLAN modelling system, the economic impact of the loss in Physician employment on local and regional economies will be estimated.

Results

All 3 Cohorts (2014-2017) of index study, amounted to 82 Physicians. Out of the 82 Physicians, 36 moved out of Virginia (43.90%), and the average number of months they remained with their J-1 waiver employer after their obligation ended and before leaving Virginia was 26.91 months. Conversely, of the 46 Physicians that remained in Virginia, 14 Physicians (30.43%) originally served rural populations (10 remained rural and 4 moved urban at the end of obligation). Of the 32 urban Physicians, 31 remained urban and 1 moved rural.

Discussion

Losing the physicians supported by the CONRAD funding in Virginia (many of whom practice in underserved areas facing economic and financial challenges) would worsen health inequities, which will arise from reduced availability of healthcare services in such underserved areas, distorted distribution of providers across geography and specialty, negative impact on local economic activity and attendant detrimental potential impact on local economies. By utilizing the input-output IMPLAN modelling system, the economic impact of loss in Physician employment on local and regional economies will be estimated. For example, a 2016 data analysis for Virginia reported that the economic impact of losing funded providers could result in over \$443,000 in lost state and local tax revenue from the impacted areas in Virginia.

Conclusions

In Virginia State, the Conrad Program has increased the number of physicians in underserved areas who frequently stay beyond their obligations. However, the economic impact of the loss in Physician employment on local and regional economies sequel to significant movement away from rural areas for post-obligation employment, highlights the long-term need to continue state efforts for retention of Physicians in such underserved areas.

Health care/services**Unequal Access to PrEP in Rural U.S. Counties: Focus on Health Infrastructure and Population Characteristics** Clay Davis* Christine Percheski,

Objectives. To introduce a modified PrEP-to-need ratio (PnR) that for the first time captures rural counties in the U.S. and to document PnR variation by health infrastructure and population characteristics among rural county sets.

Methods. We used 2021 PrEP prescriptions and 2019, 2020, and 2021 new HIV diagnoses to calculate PnR for 589 rural county sets. Using descriptive statistics and regression models, we compared county sets across quintiles of PnR on an extensive range of county set demographic, health, and geographic characteristics as well as HIV-specific risk factors and resources.

Results. Rural county sets in Southern regional divisions had considerably lower PnRs (indicating more unmet need) than those elsewhere in the US. County sets in the lowest PnR quintile had more economically disadvantaged residents, more Black residents, and less healthy residents. Those in the lowest PnR quintile were less likely to have a PrEP clinic and more likely to have a prison.

Conclusions. PnR varies widely across rural counties, with lower PnR among county sets with more disadvantaged populations and in Southern states.

Policy Implication. HIV prevention efforts should target PrEP prescriptions in rural, Southern counties with larger black populations.

Health equity

“I don’t want them to Henrietta Lacks me”: A qualitative study on opportunities to improve research engagement and inclusion among Black adults with lupus Rachel Bergmans* Rachel Bergmans, Johari Summerville, Nikki Farahani, Bhaavna Yalavarthi, Deena Aboul-Hassan, Sia Rajgarhia, Lillian Xiao, Christine Yu, Daniel Clauw, Michelle Kahlenberg, Melissa DeJonckheere,

BACKGROUND: Systemic lupus erythematosus (SLE) is disproportionately more common and more severe among Black women, yet they are underrepresented in SLE research. This is a barrier to health equity because pathophysiology and treatment side effects and efficacy can vary by social strata, pre-existing disease burden, and epigenetics.

AIM: We aimed to identify opportunities to improve engagement and inclusion of Black communities within SLE research.

METHODS: Our study uses an interpretive description approach. We conducted semi-structured interviews with Black adults who have SLE and hosted community advisory board (CAB) meetings with a subset of these participants along with other women from Black communities in Michigan. The semi-structured interviews focused on SLE diagnosis, the impact of symptoms on day-to-day life, symptom management, the COVID pandemic, and research. The CAB meetings covered topics related to navigating healthcare, symptom management, and identifying gaps in research and patient community resources. We analyzed the de-identified transcripts using inductive, thematic analysis to create a preliminary coding scheme. Our theme development focuses on *what* participant perspectives of research are and *how* participants make decisions about research participation.

RESULTS: We completed 30 semi-structured interviews (96% female, mean age = 41 years) and 7 CAB meetings ($n = 6-8$). Thus far, our coding scheme includes 5 categories: (1) Ethical and equitable research; (2) Data privacy and dissemination; (3) Integrating research within existing treatment plans; (4) Research that is responsive to patient priorities; and (5) Altruism.

NEXT STEPS: The next step for this project is to apply our preliminary coding scheme to the semi-structured interviews and develop our main themes. Once we finalize our codebook, we will utilize it within the CAB meeting transcripts so that we can add further detail and examples to our main themes.

CONCLUSIONS: The results of this study highlight the perspectives and reasoning of people with SLE in Black communities concerning research participation. Findings will help identify opportunities to increase inclusion and engagement of communities that have been historically underrepresented within SLE research and treatment development.

Health equity**Reducing Health Inequities for Maternal Health Underserved Patients** Jenny Bernard* Jenny Bernard, Jazmin Cascante, Victor Carrillo, Chinwe Ogedegbe,

This project aims to identify, address, and reduce racial inequities and disparities for low-income marginalized groups. In this session, a multidisciplinary team will discuss a holistic and multi-faceted approach that has improved health outcomes for high-risk maternal health patients. The NJ department of health (NJDOH) developed a statewide initiative to help hospitals improve outcomes; These focused on a total of 9 metrics that were historically found to be critical issues. The NJDOH further developed an incentive program to reward hospitals with outstanding performance; in our network, all hospitals met 100% of the metrics using our evidence-based “First Thirty” model. The model leveraged the integrated existing EMR platform to identify high-risk patients, conduct a face-to-face needs assessment, develop an individualized plan of care, and address all needs with a specific focus on SDH, as well as a sustainability plan. The team included a clinical nurse practitioner, a director of community health, an ED physician, a clinical navigator, and an SVP for quality improvement. This session will describe their role in creating an equitable model that prevents patients from being missed or neglected. A detailed description of the metrics aligned with the interventions that resulted in the program’s success will also be presented. Finally, the team will explain how this program can be duplicated at any acute care facility utilizing existing resources.

Health equity**Trends in Disparities in COVID-19 mortality among working-age Californians by worker**

characteristics Elisabeth Gebreegziabher* Elisabeth Gebreegziabher, David Bui, Kristin Cummings, Matthew Frederick, Alyssa Nguyen, Seema Jain, Ximena Vergara,

Objective- The objective of this study was to examine disparities in COVID-19 mortality by demographic characteristics and temporal trends over variants/waves of mortality among working-age Californians.

Methods- We included all COVID-19 deaths among Californians aged 18-64 years between January 2020 and May 2022. We used Current Population Survey to derive estimates for at-risk populations. The waves of COVID-19 mortality were: March 2020-June 2020 (Wave 1), July 2020-November 2020 (Wave 2), December 2020-May 2021 (Wave 3), June 2021-January 2022 (Wave 4), and February 2022-May 2022 (Wave 5). We used Poisson regression with robust standard errors to generate wave-specific mortality rate ratios (MRR) and examined the change in MRR across waves by including an interaction term between each characteristic and wave period.

Results- Individuals aged 50-64 years (MRR =28.7, 95% CI: (22.3-37.0)), males (2.0 (1.9-2.2)), Native Hawaiian (2.2 (1.5-3.2)), Latino (2.3 (2.0-2.5)), African American (2.5 (2.2-2.9)), high school educated or less (6.3 (3.6-11.1)) and unmarried people (1.6 (1.5-1.8)) had consistently higher COVID-19 mortality rates compared to their respective reference groups. The COVID-19 mortality rate for foreign-born persons was over three times higher than for US-born persons in Wave 1 and 12% less in Wave 5 (MRR=3.4 (3.0-3.8) vs. 0.88 (0.81-0.95)). While disparities by sex, race and foreign-born status narrowed in later waves, disparities by age, education level and marital status did not change substantially across waves.

Conclusion- Among workers in California, the existence of disparities in all waves could indicate remaining gaps in prevention. Males, racial minority groups, individuals with lower education level and those who were not married continued to be disproportionately affected by COVID-19 mortality. Addressing underlying social and structural issues that contribute to these disparities is critical for achieving health equity.

Health equity

Perceptions of cis Black women regarding self-advocacy for sexual health with healthcare providers Mandy Hill* Mandy Hill, Sarah Sapp, Shadawn McCants, Jeffrey Campbell, Diane Santa Maria,

Background: Sociocultural factors like medical mistrust and avoidance by healthcare providers (HCPs) can avert PrEP initiation among cisgender Black women. Yet, there is a dearth of qualitative work exploring perceptions of Black women regarding their experiences with engaging HCPs in sexual health discussions where pre-exposure prophylaxis (PrEP) is considered.

Methods: Qualitative methods were used to inquire about personal experiences with sexual health discussions with HCPs among adult cisgender Black women ages 18 and older.

Results: Themes identified from focus groups during an interim data analysis explored feelings of comfort when conversing with HCPs about sexual health. One participant stated, 'I feel comfortable enough to say, yes...whether or not she will listen to me or not, that's another story, but I feel comfortable enough being my own advocate now, but that is recent.' When inquiring about offerings of HIV testing, one participant stated, I don't ask for it [sexual health testing], they will not test me for it'. One participant expressed hesitancy in identifying a new HCPs and specifically stated, 'Unfortunately, I just have to take the good with the bad in acknowledging that I can just have this conversation with her [current HCPs] or ... someone else, and start over with someone minimizing my concerns, not listening to me, or adding their own unjust biases on me....keeping the devil you know versus the devil you don't. so because she is a Black woman, I try really hard to humanize myself with her...If it were you, give me everything that you would want.'

Conclusions: Study findings illuminate gaps in health communication about PrEP. Provider-patient relationships require attention to bridge the gap between HCPs and Black female patients. Overcoming barriers to PrEP initiation, like racial bias, are necessary to end the HIV epidemic.

Health equity

A Qualitative Evaluation of Determinants of Health in Varanasi, India Janay Johnson* Janay Johnson, Alekhya Errapothu, Anastasia Ferko, Alexie Oppermann, Meghna Pandey, Tulsi Patel, Lydia Walter, Elisabeth Maring,

Public Health Beyond Borders (PHBB), a student organization supported by a Big Ten university's School of Public Health, partners with communities globally to design and implement health interventions. The PHBB-India project conducted needs assessment interviews in Varanasi, India. Though there is a large university and hospital, Varanasi residents' social determinants (e.g., income, education, access to adequate healthcare) vary. Interviews were conducted at three locations: Southpoint School (SS), Banaras Hindu University (BHU), and Men's Action for Stopping Violence Against Women (MASVAW). Our goal was to assess community health through individuals' perceptions of issues and needs. Interview topics included: stress, nutrition, physical activity, healthcare, hygiene, environmental issues, bullying, discrimination, community violence, and violence against women. The needs assessment was administered to 65 participants, divided into 9 focus groups and 15 individual interviews. Participants were recruited from three populations: SS teachers and secondary students (n=12), BHU Master's students (n=40), and MASVAW (n=13). Data was coded thematically and analyzed in Dedoose. Analysis of interviews and focus groups revealed three prevalent issues. While the government has instituted policies to address the widespread issue of pollution, participants believe it is up to citizens to effect change. Access and quality of healthcare differ between private and government facilities and in semi-rural versus urban areas. Women, religious minorities, and members of the LGBTQ+ community are especially at risk for discrimination and prejudice. Despite advancements in gender equality education, women are still expected to fulfill traditional gender roles within their community. PHBB-India plans to use needs assessment information to design health interventions for future interactions with our partner community in Varanasi, India.

Health equity

Food insecurity among US college and university students from 2015-2019, an examination of trends, correlates, and disparities in a large national sample Julia Wolfson* Julia Wolfson, Noura Insolera, Melissa Laska, Cindy Leung,

Food insecurity, or lack of consistent access to enough food for an active healthy life, is a persistent problem in United States (US) and has recently emerged as a public health issue on college campuses that affects college student's dietary quality, mental health, academic performance, and graduation rates. However, there is no national data system designed to generate nationally representative estimates of food insecurity among college students and existing evidence generally comes from studies conducted at single institutions or groups of regional institutions, using small and/or convenience samples. In this study we use data obtained from the Panel Study of Income Dynamics (PSID), the world's longest running nationally representative household panel survey. The study sample included individuals (n=2,538) who were enrolled in college in any year from 2015 (the first year since 2003 in which PSID measured food insecurity) to 2019 (the most recent wave for which final data are available). Sub-sample analyses included 1,820 college enrollees ages 18-30. Food security status was assessed using the US Department of Agriculture's 18-item Household Food Security Survey Module. We find that from 2015-2019, 11% of college students experienced marginal food security and 15% experienced food insecurity. Food insecurity increased from 2015 to 2019 (12% to 14% respectively) among students. More Black and Hispanic students experienced food insecurity than White students (21% and 26%, versus 9%, respectively; $p < 0.001$) as did first generation compared to non-first generation students (18% versus 10%; $p = 0.006$). Lower income students and those receiving SNAP benefits during childhood or during college were more likely to experience food insecurity (all $p < 0.001$). Among college students aged 18-30 years only, food insecurity was slightly higher compared to students of all ages, (12% marginal food security, 16% low or very low food security). Food insecurity among college and university students is an urgent public health and health equity issue demanding a comprehensive and robust response from colleges and universities and state and federal governments to address the structural underlying causes of food insecurity and to meet the immediate basic needs of college students.

Health systems**Investing in more gender equitable global health leadership: evidence of women leaders' impact** Kate Banchoff* Rosemary Morgan, Anna Kalbarczyk,

Women in global health face specific and unique challenges to reaching leadership roles, including lack of mentorship, gender biases, and harassment. However, the documented benefits of gender parity in leadership are emerging - women leaders have been shown to positively impact maternal and health care policies, strengthen health facilities, and reduce health inequalities. While the global community supports these concepts of gender parity and women's leadership in global health, there is still limited research and frameworks guiding actionable steps.

Through a scoping review of academic and grey literature and a mixed methods research study, this project explores the impact of women leaders on reproductive, maternal, newborn, child, adolescent health and nutrition (RMNCAH-N), with the overarching aim of generating evidence for investing in women's leadership. The literature review is informing the development of primary data collection tools - including a survey, key informant interviews, and country case studies - on women's leadership in RMNCAH-N in Sub-Saharan Africa (SSA). Primary data collection will occur in May-September 2023.

This presentation will include evidence from the scoping review and primary data collection, outlining key impacts of women's leadership, including women leader's perceptions and experiences of their impact and leadership. We will also explore the biases women leaders have faced and, using a social network analysis, the depth and breadth of their networks, to understand their key areas of influence with RMNCAH-N across SSA and globally. Our research will generate a deeper understanding of the systematic and intersectional barriers and facilitators to women's leadership, including those which uphold the well-documented lack of gender parity and investment in women leaders in global health. Leveling the playing field for women leaders will ultimately improve health and wellbeing and contribute to a more just and equitable world.

History of Population Health

Who killed Social Medicine (and should Population Health be worried)? Quinn Valier* Quinn Valier,

Population Health has a past. Hopes for a more equitable, thriving world span time and place. The intimate weaving of individual and social, suffering and healing, is as fundamentally human as it is profoundly humane. And yet all this we struggle to remember in the insistent face of the now. Now; always evolving, forever new and novel, is an artefact of the European Enlightenment, a preoccupation with chronology as progress, category as hierarchy, sorting the self from the other. This is, broadly, a worldview at home in biomedicine; chronology as progress manifest in the insatiable creep of medicalization. An unerringly linear view of technologically-enabled healthiness as the spoils of a self-styled 'war' against disease. What if the ascent of biomedicine can be shown to have been contested not by cranks and quacks, but by an established (proto-population health movement of) Social Medicine? Histories of Social Medicine are few despite the historical records being plentiful (historians are – somewhat ironically – as prone to the chronology as progress narrative as anyone else when it comes to science, technology, and medicine). Social Medicine as a multi-generational movement is very poorly understood as is the fact that its existence cannot be explained as the last gasp of old-style Sanitarians fussing over archaic theories of miasma and contagion. Contemporaneous scientific elites and institutions were amply represented. The c20th ascent of the biomedical model – coming on the heels of the laboratory and bacteriological revolutions of the late c19th – was as much a choice as a certainty and involved more coercion than consensus. Here now is a call to community reflection and community action. Social Medicine did not fizzle and die of its own accord, it was targeted and slain at the hands of others. As the field of Population Health grows and matures we have the choice now to learn this history, our own longevity may well depend upon it.

Infants/children/youth**Does health insurance reduce childhood morbidity? Evidence from Zimbabwe** Nigel James*

Nigel James, Brian Thiede,

The prevalence of childhood illnesses in developing countries remains unacceptably high. Interventions that increase health insurance are among the efforts to improve child health, but their efficacy is not fully understood. We examine the impact of health insurance on occurrence of childhood diseases in Zimbabwe, where child mortality rates are among the highest in the world. We also study insurance effects on treatment-seeking behaviors and conduct exploratory analyses of hypothesized causal mechanisms. We apply linear probability models using three waves of data from the Demographic and Health Surveys. We find that health insurance is associated with occurrence of diarrhea but not fever or cough overall. Effects on diarrheal illness are concentrated among boys and children in urban areas, and insurance reduces fever among girls and rural children. We also find evidence that insurance-related improvements in nutrition may explain these effects. Our findings imply that expanded health insurance remains an untapped strategy that can improve child health in Zimbabwe and other similar contexts.

Interventions/Programs

Chronic Pain Treatment in Sickle Cell Disease: A Systematic Scoping Review of Controlled Trials Rachel Bergmans* Rachel Bergmans, David Sidhom, Deena Aboul-Hassan, Cherie Cofield, Daniel Clauw,

People with sickle cell disease are marginalized within healthcare systems; their experiences with race-based discrimination and fragmented care are well known. Among the patient community's primary concerns is frequent and debilitating chronic pain. While sickle cell chronic pain is routinely treated with a strong opioid regimen, this approach carries a multitude of side effects and does not acknowledge the presence of mixed-pain states. We conducted a scoping review to appraise the quality of controlled trials that evaluate chronic pain treatments in sickle cell disease. We developed a search strategy for PubMed and EMBASE that included keywords for chronic pain and sickle cell. After screening 172 articles, we identified 7 original articles that met our inclusion criteria. Six studies recruited from clinics, and one recruited from the community. Pain was measured pre and post intervention to evaluate efficacy, and the pain analog scale was the most common measurement tool. Among these studies, a vaporized cannabis product reduced pain scores relative to a placebo, whereas a multimedia educational program was not associated with improved pain scores. Other studies that evaluated mindfulness-based interventions and hypnosis had promising findings but could not draw definitive conclusions due to small sample sizes. In conclusion, a variety of non-opioid treatments may be effective for treating sickle cell chronic pain, however, existing evidence is scarce. There is immense need for future research to develop and test chronic pain treatments for sickle cell disease.

LGBTQ+**Unequal Burdens at Work? Exposure to Negative Temporal and Psychosocial Job Quality Conditions Among Sexual Minority Adults in the U.S.** Layne Amerikaner* Layne Amerikaner,

Sexual minority adults face structural barriers to accessing jobs, wage disparities, and mistreatment once employed, among other forms of inequality in the realm of paid work. Limited research has focused on whether LGBTQ+ (lesbian, gay, bisexual, queer, and other non-heterosexual) adults experience patterned differences in exposure to negative temporal and psychosocial job quality conditions. These are key indicators of workplace inequality with documented links to health and well-being outcomes among both low- and high-SES workers. Utilizing cross-sectional survey data from the 2015 National Health Interview Survey (NHIS) Occupational Health Supplement, this study estimates a series of nested logistic regressions to examine how LGBTQ+ status is associated with multiple time- and wellbeing-related job quality indicators within a sample of employed adults (age 18 and older). Preliminary results suggest that employed sexual minority adults (N=621) are significantly more likely to be exposed to negative temporal and psychosocial job conditions including 1) lack of supervisor support, 2) work/non-work interference, 3) fear of job loss, 4) job urgency (insufficient time to get work done), and 5) work schedule instability when compared to employed heterosexual adults (N=17,431). The associations remain after adjusting for a range of demographic and occupation variables. Examining within-group distinctions, exposure to negative job quality appears to be especially pronounced for sexual minority adults racialized as people of color compared to sexual minority adults racialized as white. In addition, exposure to some negative job quality indicators appears to be more prevalent for individuals who identify as bisexual or “something else” compared to gay/lesbian individuals. Findings suggest that LGBTQ+ individuals are disproportionately exposed to negative time-based and psychosocial work conditions, with detrimental implications for health and well-being.

LGBTQ+**Sleep Quality, Employment, and Stress during early stages of the COVID-19 pandemic**

Patrice Johnelle Sparks* Patrice Johnelle Sparks, Humyra Rama,

Sleep hygiene is an important indicator of overall physical and mental health. Poor quality sleep or disturbances to sleep can exacerbate current stress levels, leading to lower functioning which could impact work quality, family and social relationships, and the ability to navigate stressful situations. The beginning of the COVID-19 pandemic created many new changes to employment patterns, and this study will explore how changes to employment (full-time, part-time, not in the labor force; changes to work mode; change in hours) lead to changes in stress and depressive symptoms to influence sleep quality during the COVID-19 pandemic. This research is being approached from a population health perspective and will control for race/ethnicity, relationship support and changes, management of household duties, gender, sexual minority status, age, religion, and depressive symptoms. The overarching question guiding this research is: How have changes to employment structures during the early parts of COVID-19 resulted in disruptive sleep patterns through a process of stress mediation? And is this association the same based on race/ethnicity, gender, and sexual minority status?

This study is interested in how changes to employment (full-time, part-time, not in the labor force; changes to work mode; change in hours) may have led to increased stress and lower sleep quality over the COVID-19 pandemic. Since the NCHAT data offer a unique time frame and information of diverse types of couples (different and same sex couples), we want to examine how employment changes, relationship support, and management of other duties in the household impact adult health and sleep quality. We are interested in racial/ethnic, sexual minority status, gender, age, religion, and depressive symptom differences in these patterns, so we make use of the restricted NCHAT data.

LGBTQ+

Adverse childhood experience (ACE) exposure among rural, LGBTQ+ individuals: Results from the Illinois Cohort Study Kyle Miller* Kyle Miller, Wiley Jenkins, Rebecca Bolinski, Fanny Mazna, Meghan Elgee, Lauren Velten,

Adverse childhood experiences (ACEs) occur during a critical time in human development and may negatively impact health outcomes throughout the lifespan. Studies indicate LGBTQ+ individuals generally face an increased risk of ACE exposure due to identity-based experiences, yet few have examined exposure within LGBTQ+ subgroups. This study aims to describe ACE epidemiology among rural LGBTQ+ individuals and test the hypothesis that individual ACEs exposure varies by subgroup.

LGBTQ+ individuals across largely rural central and southern Illinois participating in the Illinois Cohort study provided demographic data (age, race), their sexual orientation and gender identity, and completed the 17-item Childhood Experiences Survey (CES). Descriptive statistics were produced for the cohort and among grouping variables. regression was applied to obtain odds ratios of reporting ACE items.

The 74 participants who completed the CES had a mean age of 42.3 [s.d.=14.1], and were 93.2% White, 1.4% Black, 4.1% Asian, and 1.4% Other race; were 37.0% gay, 16.4% lesbian, and 46.6% bisexual plus; and were 54.1% cisgender, 24.3% transgender, and 21.6% nonbinary. Total reported ACEs ranged from 0-15 (M=5.66, s.d.=4.26) and the most frequently reported items were physical abuse (64.9%), household member mental illness/suicide (55.4%), and peer victimization (58.1%). Peer victimization was associated with younger age (OR=3.29; 1.27-9.08) and transgender identity (OR=6.11; 1.53-24.47). Emotional neglect was associated with transgender identity (OR=5.00; 1.49-16.77) and lesbian orientation (OR=8.05; 1.69-38.44).

LGBTQ+ individuals experience multiple ACEs which may be compounded by individual identity. Our study suggests that peer victimization and emotional neglect may be more prevalent in LGBTQ+ subgroups. Therefore, future research should expand beyond the 10-item ACE questionnaire when examining LGBTQ+ populations to capture experiences such as peer victimization.

LGBTQ+**Discrimination, State LGBT Protective Policy Environment and Mental Health among Lesbian, Gay, Bisexual, and Transgender Adults** Gabe H. Miller* Gabe Miller, Guadalupe Marquez-Velarde, Stephanie M. Hernandez,

Using a national nonprobability sample of LGBT people collected in 2021, we explore the relationship between state-level LGBT-protective policy, experiences of discrimination based on sexual orientation and/or gender identity, and four mental health outcomes (lifetime diagnosis of depression, lifetime diagnosis of generalized anxiety disorder, severe psychological distress, and lifetime suicide attempt). Due to the dichotomous nature of all four outcomes variables and to test the relationship between state-level laws and policies and mental health outcomes, we utilize multilevel mixed-effects logistic regressions, expressed in adjusted odds ratios. To account for clustering of data by state, we included the U.S. state the respondent resided in in 2021 as a random intercept. We present the most parsimonious models by respecifying models after assessing multicollinearity by dropping income and other covariates that were too closely associated with each other. Findings suggest that 1) experiencing any discrimination based on sexual orientation or gender identity and is associated with increased odds of being diagnosed with depression, being diagnosed with generalized anxiety disorder, meeting the criteria for severe psychological distress, and reporting lifetime suicide attempt. Additionally, residing in a state with lower levels of LGBT-protective policy is associated with increased odds of being diagnosed with depression, being diagnosed with generalized anxiety disorder, meeting the criteria for severe psychological distress, and reporting lifetime suicide attempt. Finally, while both discrimination and LGBT-protective policy are independently associated with these four mental health outcomes, a more protective state policy environment moderates the relationship between discrimination and adverse mental health.

LGBTQ+

Mobility and social support matter: Predictors of loneliness during the Covid-19 pandemic among gay, bisexual, and other men who have sex with men (GBMSM) in low versus high-stigmatizing countries Dongwook Kim* Raiza Beltran, Dongwook Kim,

The COVID-19 pandemic brought on varying movement restriction policies, such as stay-at-home orders, that were found to negatively impact the wellbeing of gay and bisexual men who have sex with men's (GBMSM). Those living in countries known to have lower acceptance of GBMSM may exacerbate this population's health risk. This study employs the Minority Stress Theory (MST) to examine the impact of mobility restrictions and country-level acceptance of GBMSM on loneliness, an emerging public health issue linked to adverse health outcomes. Methods: GBMSM users of *Hornet*, a dating app, across 14 countries were surveyed ($N=10,905$) during the peak of the COVID-19 pandemic (April-July 2020). MST stressors such as the proximal stressor of fearing discrimination due to one's sexual orientation and the distal stressor of structural stigma, operationalized by the global LGBTQI-acceptance Index (GAI), were used. Pandemic related factors, such COVID-19 related anxiety, and protective factors, such as being in a relationship, were also part of the hierarchical regression analysis conducted to fit a health predictive model. Results: Participants were approximately 34 years old, primarily lived in urban settings, and were well educated. 68% lived in countries with high structural stigma (low GAI score). Moderate to extreme loneliness was highest among participants with complete mobility restrictions and living in high stigmatizing countries. Mobility restriction was found to be highly associated with loneliness, surpassing the impact of living in countries with high structural stigma. GBMSM with higher COVID-19-related anxiety, increased mobility restrictions and lower protective factors reported greater levels of loneliness. Conclusion: Study results demonstrate the significance of providing targeted support to address mental health crises during public health emergencies. This can include securing mobility freedom and promoting social connectedness in safe and inclusive ways.

LGBTQ+**The Gendered Sexual Experiences and Marital Quality of Middle-Aged Same-Sex and Different-Sex Couples** Yiwen Wang* Yiwen Wang, Debra Umberson, Hye Won Chai, Sara Mernitz,

Sex plays an important role in shaping the marital quality of couples, often in different ways for straight men and women. But gender dynamics are likely to differ for same-sex compared to different-sex couples. In this study we compared the sexual experiences and marital quality of men and women in mid-life gay, lesbian, and straight married couples, and considered the perspective of both spouses in each couple. We used mixed-effects multilevel modeling to analyze dyadic survey data from 830 midlife gay, lesbian, and straight spouses in 415 unions. We assessed gender differences in sexual frequency, sexual satisfaction, and sexual motives and the associations of respondent and partner reports of sexual experiences with marital quality. Our findings indicate that both men and women in same- and different-sex marriages reported similar levels of sexual satisfaction and they were equally likely to have sex for emotional closeness. However, compared to women in same-sex marriage, women in different-sex marriage were more likely to have sex to please their spouse, for the sake of relationship, or due to pressure from their spouse. More importantly, partner reports of feeling pressure to have sex were found to be negatively associated with marital quality for all groups, except for men married to women. Taken together, this study sheds light on how sexual experiences and its implications for marital quality are shaped by both partners across different relational contexts.

Mental health/function**“I Don’t Want a Mouth, I Want an Ear”: Suicide Survival, Meaning Making, and Narrative Healing** Katie Billings* Katie Billings,

Suicide deaths increased 4 percent from 2020 to 2021 according to the National Center for Health Statistics. While numerous researchers have documented sociodemographic trends in suicide risk, the more fundamental question about how people experience and make meaning of suicide experiences remains unanswered. Using semi-structured interviews with 102 suicide survivors—those who have either considered and/or attempted suicide—I ask: How do suicide survivors make sense of their suicide experiences and how can that meaning-making inform suicide prevention strategies? Survivors overwhelmingly note the importance of talking about suicide, especially beyond clinical settings, as key to suicide prevention. Using their explanations, I argue that sharing suicide narratives is a unique opportunity for healing after a suicidal period and/or suicide attempt—especially outside of clinical settings. Narratives not only allow individuals to reflect the self, but also to create one. Thus, suicide narratives present survivors with both an opportunity to make sense of their suicide experience, and also redefine themselves in order to heal.

Migration

Migration as a mechanism for spatio-temporal patterns in health outcomes Hannah Olson-Williams* Hannah Olson-Williams, Amy Cochran,

Can temporal changes in place-based health outcomes be explained by population mobility? Communities across the United States experience differential rates of inflow and outflow migration which is often connected to resources and structural factors associated with health. However, the directionality of the relationship between migration and health is difficult to parse. To better understand how human migration may affect the health of places over time, we joined county-to-county migration flow data publicly available from the IRS with county-level race-specific mortality rates from the CDC WONDER database. We then were able to create and assess a novel county-level “migration effect” on longitudinal race-ethnicity mortality trends. We used this “migration effect” to assess migration as a mechanism for differences in mortality across rural and urban counties, within US states, and between race-ethnicity identities.

Migration**Migration Trends, Impacts, and Pathways to Sustainable Development in Asia** Ndirangu Ngunjiri* Ndirangu Ngunjiri,

The world is now witnessing unprecedented numbers of people forced from their place of origins. Over 70.8 million people had been displaced by 2020, with over 23 million crossing international borders and becoming classified as refugees. People migrate for many reasons such as, in response to climate change; for better employment opportunities; or to escape from persecution. The problems faced by particular migrants, and what a more sustainable approach to migration would look like are often not discussed. This study aims to address those gaps: the article conceptualizes, based on established researches. We create a conceptual framework of sustainability in migration processes, building on the concepts of inter- and intergenerational justice. We apply this conceptual framework to empirical findings on migration in Asia countries. Using a combination of a gravity econometric model and an overlapping generation's model, we estimate the probability of bilateral migration among 20 countries in the period of 1981 to 2021 and use these findings to project migration flows and their implications for sustainable development. Our results show that migrants increases sustainable development in Asian countries, and closes the inequality gap in Asia. Through their work, their remittances and the links they build between countries, they reduce poverty, provide vital services, and support families and communities in countries of origin, transit and destination, improve security and, contribute to local economic growth. Asian industrial countries with ageing populations, migrant workers are an increasingly important part of the labor force and support national welfare systems. Our recommendations national and international policies need to reflect the contribution of migration to sustainable development. In conclusion, migration is usually seen as problematic, it contributes to sustainable development.

Mortality**Gendered Associations Between Education, Inflammation, and 4-Year Mortality** KJ Davidson-Turner* KJ Davidson-Turner, Mateo Farina, Mark Hayward,

Studies have long established the importance of educational attainment on later life health (i.e. long arm of childhood literature). Higher levels of educational attainment are strongly tied to reduced risk of mortality, morbidity, disability, and cognitive functioning. Research has shown that benefits of education may not be as protective for mortality across gender, with it producing more benefits for men than women. More recently, chronic inflammation has been shown to be a high-risk predictor of health problems in later life. Chronic inflammation is thought to be responsive to social and environmental factors which can then lead to later life health consequences. Using the Health and Retirement Study, this paper examines if inflammation risk mediates the pathway between educational attainment and mortality and whether there is a gender difference in this association. Our preliminary results show that educational attainment is predictive of inflammation risk for both men and women and inflammation is more predictive of mortality for men than for women. Therefore, while educational attainment is predictive for inflammation, once you have high inflammatory risk, education is not protective. Further, gender differences in the pathway between education and mortality may be occurring in part through inflammatory pathways. We plan to include measures of biological aging as well as our current markers of inflammation.

Place/Communities**Credit scores, depression, and anxiety in Pennsylvania adults during the COVID-19****pandemic** Catherine Ettman* Catherine Ettman, Elena Badillo Goicoechea, Elizabeth Stuart, Lorraine Dean,

Depression and anxiety are driven by both individual- and neighborhood-level risk factors. Consumer credit scores are novel measures of economic status that, when measured at the area-level, represent a neighborhood's resources, which may have considerable downstream consequences for individual mental health. Using a weighted sample consisting of adults in Pennsylvania (PA) who completed the COVID-19 Trends and Impact Survey at some point from September 2020 - June 2022 (N=509,995), we assessed the relationship between area-level credit scores in 1307 PA ZIP codes and individual-level depression and anxiety. We used average area-level VantageScores, defined as nine categories from <675 to ≥ 850 . We then used multilevel models to separately estimate the odds of depression and anxiety, controlling for demographic characteristics, time, and traditional socioeconomic characteristics. We then stratified analyses by demographic characteristics. In fully adjusted models, living in a ZIP code with a higher area-level credit score was associated with lower odds of depression, but not anxiety: living in a ZIP code with an average credit score below 675 was associated with 1.28 times the odds of depression (95% CI 1.50, 3.10) relative to living in a ZIP code with an area-level score above 850. Associations were strongest for White persons, persons with a college or professional degree, persons ages 35-54, and men and women (but not non-binary persons). Findings suggest that while area-level credit scores may provide additional insights about how economic resources play a role in shaping the general population's mental health, the relationship might be stronger for historically privileged groups, which merits further investigation.

Place/Communities**Growing Community Power Towards Health Equity: Pre-Pandemic Community Greening Activity, Social Cohesion, and “Activation” for COVID-19 Mutual Aid Response** Sarah-Truclinh Tran* Sarah-Truclinh Tran, Ryan Petteway,**Background**

Social cohesion and civic engagement are core dimensions of community power that shape community resilience and capacity to be “activated” for social action during crises. Drawing from a community-based participatory research project evaluating climate, health, and community social cohesion impacts of a 15-year community tree planting program (CTPP) in communities of color in Portland, OR, we ask: did pre-COVID “activation” for climate justice predict activation for COVID-19 mutual aid?

Methods

We analyze data from a cross-sectional online survey given in fall 2021 to residents of CTPP focus areas. Of 336 respondents, 175 were “Greeners” (had volunteered with CTPP; Gs), 114 were “partial Greeners” (had contact with CTPP, but never volunteered; PGs), and 47 were “non-Greeners” (no contact with CTPP; NGs). Social cohesion was measured using established 5-item instrument on a 5-point Likert scale, with higher score indicating higher social cohesion. We explore relationships between social cohesion, pre-COVID-19 civic engagement, and reports of community connectivity and involvement during the pandemic among the Greener levels.

Findings

Overall, Gs and PGs had higher social cohesion scores than NGs. Higher social cohesion was associated with greater odds of reporting community connectivity ($p < .001$), involvement ($p = .18$), and COVID aid response ($p = .24$) during the pandemic. Compared to NGs, PGs had highest odds of community involvement (OR=1.8 [95%CI: 0.74-4.8]). Gs and PGs who reported more connectivity had greater odds of doing COVID aid response than NG who felt same/less community connection.

Conclusion

Results suggest that social cohesion and previous climate justice activation via CTPP are positively associated with community connectivity and action during the pandemic. Preliminary findings suggest investments in community-led climate justice programs might doubly serve to build social cohesion and community power to better respond to other public health crises.

Policy**Recommendations for Incorporation of Cumulative Impact Analysis (CIAs) in Colorado Air Quality Policy** Stephanie Pease* Stephanie Pease, Katherine Dickinson, Collin Tomb,

Federal and state air quality regulations are intended to limit exposures to harmful pollutants and protect public health. However, current regulations are often based on single-pollutant studies, self-reported data, and single facility emissions thresholds, all of which lead to widespread failure to provide equitable access to clean air. Environmental justice advocates and health researchers have been calling for a shift in regulatory focus towards cumulative impacts (CI) in order to account for surrounding pollution levels in various media (air, water, and soil) and community vulnerabilities (demographics, chronic disease rates, housing vulnerability, etc.). The objective of this project is to make recommendations for Colorado policymakers to successfully incorporate CI analysis into Colorado air quality policy. Methods include a literature review and semi-structured interviews. The literature review will summarize and update information known about CI policies in the United States, with special emphasis on air quality policy. This review will be conducted using publicly available information located through Google searches and databases such as PubMed and EBSCO. Semi-structured interviews will be conducted with representatives of regulatory entities and advocacy groups within and outside of Colorado with special focus on states in which legislation has passed mandating incorporation of CI analysis in air quality policy. Results will be collected into a written report and presented to local advocacy groups and interagency policy. Preliminary results indicate that incorporation of CI into Colorado air quality regulations will require the establishment of cooperative interagency authority over environmental media and adequate agency funding and staffing capacity. Agency leadership and agency leadership that prioritizes environmental justice and open communication with impacted communities will further ensure successful implementation of CI policies.

Race/Ethnicity**Weathering in the 21st Century: Where do Multiracial Individuals Stand?** Arinala Randrianasolo* Arinala Randrianasolo,

Following guidance of the Office of Management and Budget, the 2000 Census introduced the ability for individuals to select more than one race. Since allowing such a feature, the multiracial population has grown rapidly, from 2.9% of the population in 2010 to 10.2% of the population in 2020, per the Census. With such quick growth, research is needed to understand the health outcomes of this group within the racial contexts of the United States. Specifically, research should be conducted to determine if any healthy inequities exist between the multiracial population and other races.

Using the Weathering Hypothesis as a theoretical background, I ask whether the multiracial population experiences the same biological deterioration as the black population. Using the National Longitudinal Study of Adolescent to Adult Health (ADD Health) dataset, I will construct a multiracial variable that sums up whether respondents selected more than one race. With this construction, there are 322 individuals who have selected more than one race. Unfortunately, data limitations do not allow for differentiating between different racial combinations without introducing statistical power concerns. As such, this group is treated similarly as the other racial groups. Additionally, within the dataset are also 5,713 individuals who selected only one race (black, Asian, white, or other) and 19 individuals who stated they did not know their race or refused to answer the question. I will have two main health outcomes: physical limitations and self-rated health. Although not always the greatest measure of health, self-rated health will be useful in elucidating whether respondents recognize their physical deterioration, if any. Where self-rated health is the main outcome, I will use an ordinal logistic regression and where physical limitations is the main outcome, I will use a logistic regression. Each racial group will be subject to the same models with the same covariates.

Race/Ethnicity**Examining the Moderating Effect of Rejection Sensitivity on the Relationship between Discrimination and Telomere Length in African American Women** Amanda Perez* Amanda Perez, Tyan Parker-Dominguez, Amani Allen,

Rejection sensitivity is a dispositional trait, formed in part from experiences of prejudice and discrimination, that refers to the tendency of individuals to anxiously expect, readily perceive, and intensely respond to cues of rejection in social interactions. Previous research has linked higher levels of rejection sensitivity to negative health outcomes such as increased symptoms of anxiety and depression, inflammation, and higher cortisol levels. Using a nationally representative sample of 615 African American women, this study sought to examine the moderating effect of race-based and gender-based rejection sensitivity on the relationship between experiences of discrimination and telomere length, a marker of cellular aging and overall health. Racial discrimination was measured using the 8-item experiences of discrimination scale ($\alpha=.91$). Race-based rejection sensitivity was measured using the 6 item race-based rejection sensitivity scale ($\alpha=.91$). Gender-based rejection sensitivity was measured using the 8 item gender-based rejection sensitivity scale ($\alpha=.94$). We found that rejection sensitivity, whether race-based ($\beta=-0.25$, $p=0.045$) or gender-based ($\beta=-0.21$, $p=0.03$), moderated the relationship between experiences of discrimination and telomere length. Individuals reporting low levels of either types of rejection sensitivity, and who also reported higher vs. lower racial discrimination had the longest telomere lengths. These findings highlight the importance of considering rejection sensitivity as a factor that can exacerbate the negative effects of discrimination on health outcomes, particularly in African American women who are at a higher risk for discrimination and related health disparities.

Race/Ethnicity**Are Minoritized Low-income Mothers of Sons at Greater Risk of Overweight/Obesity? An Indirect Test of the Costs of Institutional Racism and Chronic Stress** Molly A. Martin* Molly A. Martin,

Low-income mothers are at greater risk of overweight/obesity and gaining weight relative to childfree low-income women, higher-income mothers, and low-income fathers (Gough et al. 2019; Martin et al. 2022; Martin and Lippert 2012). What remains unclear, however, is why and how this disparity among women arises. Initial investigations tested the role of physiological changes that accrue with pregnancy, the covariance with other status characteristics, differences in smoking and alcohol consumption (Martin and Lippert 2012), time spent watching television or exercising (Gough et al. 2019), and skipping meals (Martin et al. 2022). And while low-income mothers often differ on many of these weight-related traits and behaviors, these factors do not explain the income gradient in overweight/obesity for mothers (Gough et al. 2019; Martin et al. 2022; Martin and Lippert 2012).

An important, but difficult to test hypothesis is mothers' differential exposure and/or reaction to stressful conditions. Chronic stress is associated with heavier body weights (Björntorp 2001) and change in psychosocial stress predicts changes in body weight among U.S. adults (Block et al. 2009). Because excess body weight usually requires years of small but accumulating change to override our metabolic system's adaptability to promote stasis (Levin 2005), the stress model of obesity requires either exposure to chronic stress or repeated exposure to episodes of acute stressors to generate overweight or obesity (Tomiya 2019).

Yet chronic stress exposure is unequal. People in lower socioeconomic positions are more exposed to stress than people in higher status positions (Moore and Cunningham 2012). Gender and parenthood also place people at differential risk for stress exposure. Male and female parents report more psychological distress than childfree adults (McLanahan and Adams 1987; Umberson and Gove 1989), but mothers report more stress than fathers during their time with children (Musick et al. 2016). Further, higher stress exposure is more strongly associated with less healthy diets and heavier body weights for women than men (Moore and Cunningham 2012). Finally, racial discrimination is associated with higher levels of perceived stress and higher psychological distress among African American young adults (Sellers et al. 2003). African Americans and Caribbean residents who report a high level of internalized racism have higher levels of perceived stress and more abdominal fat (Chambers et al. 2004; Tull et al. 2005) and higher body mass index (BMI) scores (Butler et al. 2002; Chambers et al. 2004). Together, these results suggest that low-income minoritized mothers are likely at greater risk of overweight/obesity than childfree adults, higher-income parents, non-Hispanic white parents, and minoritized fathers.

I argue that one additional and relatively random characteristic - the sex composition of one's children - likely exacerbates these risks for minoritized low-income mothers. I hypothesize that a form of institutional and gendered racism - the surveillance and imprisonment of U.S. young men from racialized minority populations - creates additional health risks for minoritized low-income mothers raising sons. After the mid-1970s, the US incarceration rate skyrocketed and minoritized young men are now disproportionately likely to be policed, arrested, incarcerated, and subjected to harsher sentencing (Ruddell 2004). Among men born between 1965 and 1969, 3% of white men and 20% of black men had been imprisoned by their early thirties (Pettit and Western 2004). Incarceration rates are even higher for low-status black men born between 1965 and 1969, such that 18% of black male high school graduates and nearly 60% of black male high school dropouts had

served time in prison by their early thirties (Pettit and Western 2004). Racialized minorities also at greater risk of experiencing police violence and police-involved fatal shooting (Zare et al. 2022) and greater surveillance during high school (Shedd 2015). Given the racial disparities in imprisonment are notably smaller among women (Harrison and Beck 2006), low-income mothers of black and brown sons have more reasons to fear police contact and violence and be more likely to have experienced their sons' being surveilled and policed relative to mothers of white sons and the mothers of black and brown daughters. Based on the literature, I hypothesize the following:

Hypothesis 1: Minoritized low-income mothers raising sons will have higher rates of overweight/obesity than non-Hispanic white low-income mothers raising sons and minoritized low-income mothers raising daughters.

Given the pernicious nature and prevalence of racism, it is possible that minoritized moderate- and high-income mothers raising sons are also more likely to have overweight/obesity relative to non-Hispanic white moderate- and high-income mothers raising sons. Therefore, I also hypothesize:

Hypothesis 2: Minoritized moderate- and high-income mothers raising sons will have higher rates of overweight/obesity than non-Hispanic white moderate- and high-income mothers raising sons and minoritized moderate- and high-income mothers raising daughters.

Finally, given that police surveillance and violence is spatialized, often linked to past redlining practices (J. Mitchell and Chihaya 2022) and ongoing racialized residential segregation (Logan and Parman 2017; Massey 2020), it is likely that minoritized low-income mothers raising sons are more likely to feel threatened by police action and violence than minoritized moderate- and high-income mothers raising sons. My final hypothesis is as follows:

Hypothesis 3: Minoritized low-income mothers raising sons will have higher rates of overweight/obesity than minoritized moderate- and high-income mothers raising sons.

To test these hypotheses, I use the large, nationally-representative American Time Use Survey's Eating and Health modules (i.e., 2006-08 and 2014-16) (Bureau of Labor Statistics 2017) made available through ATUS-X (Flood et al. 2022). I pool data from both Eating and Health modules to have sufficient power to test for significant differences in overweight/obesity across the four-way combination of sex, household income level, parenthood status, and the sex composition of their children. To arrive at my final analytic sample, I restrict the data to women and men ages 18-55 years old, drop pregnant women ($n = 574$), and use listwise deletion for missing data. Item non-response is relatively uncommon in these data, where the most missingness comes from body weight classification ($n = 2,022$; 4.7%), family income ($n = 1,757$; 4.1%), and usual work hours among those employed ($1,354$; 3.2%). Within the remaining sample ($N = 37,417$), over half are women ($n = 19,979$).

Given that the likelihood of having a living male child is approximately 50% and given that the total fertility rate has recently hovered or dipped below 2, we would expect that approximately $\frac{1}{2}$ of all women with children have both a daughter and a son, $\frac{1}{4}$ have only daughters, and $\frac{1}{4}$ have only sons. The strongest theoretical tests will compare women with only daughters to women with only sons. Provided these approximations are reasonable and equivalent across income status groups, I anticipate having sufficient sample sizes for analyses with African American, Hispanic, and non-Hispanic white mothers and fathers.

I will estimate multivariate logistic regression models for the final sample of women, wherein I predict women's weight status as a function of having children and the sex (and possibly age) of their children, race/ethnicity and whether they live in a low-income household. I will build the models starting with an additive specification, then add all two-way interactions, and conclude with

the addition of the requisite three-way and four-way interactions. By rotating the omitted categories, I will test whether the risk of overweight/obesity is greater for low-income, African American and Hispanic mothers of sons.

In summary, I examine a group of mothers living on the frontlines of trying to protect and provide for their children under difficult conditions fueled by institutional racism - minoritized, low-income mothers raising sons. These mothers likely experience more chronic stressors and repeated acute stressors relative to other mothers given the institutionally racialized and gendered patterns of surveillance, over policing, and mass incarceration. Therefore, this study will not only help document the population health consequences of institutional racism enacted via racialized policing and incarceration practices, but also provide indirect evidence of the importance of chronic stress for low-income mothers' greater risk of overweight/obesity.

Race/Ethnicity**Determinants of COVID-19 Vaccine Intentions and Uptake** Rick DeVoss* Rick DeVoss, Katie Dickinson,

Vaccines are a powerful public health tool and have been central to ongoing efforts to manage the global COVID-19 pandemic. While the rapid development of vaccines was a major victory in this battle, efforts to ensure widespread and equitable vaccine uptake faced (and continue to face) significant challenges. In this paper, we examine intention to vaccinate and vaccine uptake over time using a nationally representative panel survey dataset collected between January and June 2021, the key rollout period for the first round of COVID-19 vaccines in the United States. Our sample intentionally overrepresents non-White racial/ethnic groups, allowing us to assess and potentially explain well-documented inequities in vaccination outcomes across these groups. Using panel data, we explore concordance between early intentions and ultimate vaccine uptake. We then use the Health Belief Model to examine how perceptions/beliefs mediate relationships between vaccine outcomes (intention, uptake) and socio-demographic factors (e.g., age, race/ethnicity, income, education). Consistent with other analyses, we find that both intention to vaccinate and vaccine uptake are lower among Black respondents than White respondents, controlling for other socio-demographic variables. However, a substantial portion of these differences are mediated by health beliefs. In particular, Black respondents were less likely to believe vaccines were effective and safe compared to White respondents, and these beliefs significantly decreased vaccine intentions and uptake. These results highlight the need to address structural factors, including systemic racism, that contribute to vaccine mistrust in order to successfully protect public health in the context of this and other threats.

Reproductive health

COVID-19 Vaccine Hesitancy in Pregnancy: A Scoping Literature Review Alyssa Kretz* Alyssa Kretz, Imaima Casubhoy, Heang-Lee Tan, Rosemary Morgan,

Pregnant people are at risk of severe COVID-19 infection but are more likely than non-pregnant people to express COVID-19 vaccine hesitancy, placing them and their fetus at risk. This study aims to understand reasons for COVID-19 vaccine hesitancy in pregnancy to improve messaging and uptake of the vaccine in this population.

Using PubMed, Embase, CINAHL, and Scopus, we conducted a scoping literature review to explore reasons for COVID-19 vaccine hesitancy among pregnant people. Studies included were published in English between 2019-2022 and focused on reasons for COVID-19 vaccine hesitancy or attitudes toward COVID-19 vaccination among pregnant people. Two independent reviewers screened citations and extracted data. Between February-April 2023, we will also recruit 35 pregnant people from different racial/ethnic groups with COVID-19 vaccine hesitancy to participate in interviews regarding their experience.

After reviewing 1144 citations, 44 studies were included with a total of 40,935 participants across 39 countries. Reasons for vaccine hesitancy included fear of effects on the baby and themselves and lack of data on vaccine use in pregnancy. Most respondents were not opposed to receiving other vaccines. Recommendations for improving COVID-19 vaccine uptake included dissemination of pregnancy-specific information, inclusion of pregnant people in vaccine clinical trials, and improved educational materials and communication training for providers. Preliminary qualitative results confirm that fear of effects for the baby and themselves were motivators of pregnant people's decision to not get vaccinated.

Pregnant people may be hesitant about COVID-19 vaccination due to fear of effects on their unborn baby. It is important to include pregnant people in vaccine clinical trials and equip providers with tools to counsel their pregnant patients. Future studies should focus on developing COVID-19 vaccination campaigns targeted toward the concerns of pregnant people.

Reproductive health

Maternal health outcomes among Wisconsin mothers receiving Medicaid-funded Prenatal Care Coordination Services Madelyne Greene* Madelyne Greene, Kate Gillespie, David Mallinson, Felice Resnik, Carson Borbely,

Background: Integrated models of care that offer home visiting and care coordination can support health and have the potential to reduce racial and geographic disparities. Prenatal care coordination (PNCC) is one such model. Offered as a fee-for-service Medicaid benefit, it is available in several states including Wisconsin. Some evidence suggests that PNCC may reduce preterm birth and low birth weight, but little evidence has evaluated its impact on mothers and their health outcomes.

Objectives: We aimed to describe the association of receiving PNCC services with five distinct maternal health outcomes: 1) receipt of adequate prenatal care, 2) attendance at the recommended postpartum visit, 3) utilization of needed behavioral health services, 4) occurrence of severe maternal morbidity, and 5) emergency department utilization among mothers who delivered in WI between 2011 and 2019.

Methods: This study leverages the existing “Big Data for Little Kids” (“BD4LK,” PI: Ehrental, Berger) data set, which links birth records and Medicaid claims data from all Medicaid-covered WI births from 2011 through 2019, including claims for antenatal and up to one year postpartum (total N = 571,219). We developed claims-based measures for each maternal outcome and will construct logistic regression models to predict the likelihood of each outcome based on exposure to PNCC services.

Expected Findings: Early tabulations suggest a meaningful association between PNCC exposure and maternal health outcomes. We expect final regression models to demonstrate that PNCC has strong associations to proximal maternal health outcomes including utilization of care.

Conclusions: Traditional measures of PNCC effectiveness, such as preterm birth and low birth weight, do not holistically capture the impact of these programs. This study is one of the first to evaluate proximal and mother-focused outcomes and will be used to inform policy and practice changes that will ultimately strengthen the program’s impact.

Reproductive health**Perinatal Depression Trajectories, Breastfeeding, and Breastfeeding Attitudes in Rural****Pakistan** Sarah Haight* Sarah Haight, Ashley Hagaman, Esther Chung, Pietro Biroli, Sonia Bhalotra, Aparna Kachoria, Allison Frost, Joanna Maselko,

The relationship between perinatal depression and breastfeeding is complicated and bi-directional. Prenatal depression may reduce breastfeeding, but a lack of breastfeeding can also increase postpartum depression risk. We used longitudinal data from the pregnancy and 3-month (mo.) postpartum waves of the Bachpan study in Pakistan to better understand this relationship and consider modification by community breastfeeding attitudes (n=885). Inverse probability weighting accounted for loss-to-follow-up and log-binomial regression calculated risk ratios (RR) for self-reported exclusive breastfeeding at 3 mo. (only breast milk in past day) comparing mothers that were depressed (Patient Health Questionnaire-910) during pregnancy and/or postpartum to never depressed mothers. Models controlled for age, education, SES, parity, household structure, and history of physical or sexual intimate partner violence. Results were stratified by negative community breastfeeding attitudes (mothers in my community sometimes or most of the time find breastfeeding tiring or not enjoyable) and non-negative attitudes (mothers in my community rarely or never find breastfeeding tiring or not enjoyable). In our sample, 9.6%, 23.4%, 7.6%, and 59.5% were depressed during pregnancy and postpartum, pregnancy only, postpartum only, and never, respectively. Approximately 42.5% perceived negative community breastfeeding attitudes and 48.6% exclusively breastfed at 3 mo. Those depressed during pregnancy and postpartum were less likely than those never depressed to exclusively breastfeed (aRR=0.7; 95% CI=0.5, 0.9). Mothers depressed during pregnancy or postpartum only were no less likely than those never depressed to exclusively breastfeed. Perception of attitudes did not modify results. Mothers in Pakistan with sustained perinatal depression may be less likely to exclusively breastfeed. Treatment of maternal depression may increase exclusive breastfeeding, with potential gains to the mother and child.

Reproductive health

A systematic review of barriers to abortion among minor adolescents in the U.S. Naomi Thyden* Naomi Thyden, Renee M. Odom, Joanna Paul, Rosie Hanneke, Eleanor Esbrook, Laura Lindberg, Julie Maslowsky,

One in four pregnancies among minors (under age 18) end in abortion in the U.S., the highest proportion of any age group. Although minors face unique barriers to abortion care such as less autonomy and fewer resources, they are often aggregated with all pregnancy capable people or left out of research altogether. A better understanding of influences on adolescent barriers to abortion care is needed to develop policy and practices to support young people's reproductive autonomy. We conducted a systematic review to compile adolescent-focused research about barriers to accessing abortion care. We searched PubMed, Embase, CINAHL, PsycINFO, Sociological Abstracts, PAIS Index, Web of Science, and NexisUni and screened search results in Covidence. Inclusion criteria were: qualitative and quantitative studies in the U.S. from 2007 to 2022 that examined barriers to abortion among minors (under 18). A total of 67 empirical papers met inclusion criteria. Thirty nine percent of these papers included all U.S. states, and the remainder were restricted to certain states, with Texas most represented. The most frequently reported barriers were legal (57%), logistical (24%), financial (18%), cultural (18%), parental pressure (16%), incorrect information (13%) and pressure from a partner (12%). Specific policies assessed in these studies include: waiting periods, Medicaid abortion funding restrictions, parental involvement laws, and judicial bypass. Forty seven (70%) of studies reported the racial composition of their participants, including only 4 (6%) that reported having American Indian/Alaska Native participants. Few papers examined potential differences in barriers to abortion care by race/ethnicity. Adolescents in the U.S. experience barriers in obtaining wanted abortions, especially due to legal restrictions. More population-level research that stratifies by age and examines intersectionality with race is needed to inform policies to protect adolescents' reproductive rights.

Social/relational factors**Examining the Interaction of Anticipatory Racism Threat and Racial Discrimination on Mental Health among African American Women** Amanda Perez* Amanda Perez, Tyan Parker-Dominguez, Thu Nguyen, David Chae, Amani Allen,

The majority of studies examining the stress-health association focus on either the activation of or recovery from a stress experience. Perseverative cognition (PC)-repeated or chronic activation of a psychological stressor absent of an active stimulus-has been proposed as a core cognitive-emotional process linking psychological states to health. PC is central to cognitive-emotional states such as worry (about future stressors) and rumination (about past stressors) which centers prolonged psycho-physiologic stress activation as the primary mechanism underlying the stress-health relationship. Whereas numerous studies have investigated the stress-health links involving rumination, few have investigated the stress-health dynamics of anticipatory stress. We examined the interaction of each of five Anticipatory Racism Threat subscales (awareness/expectation, racism-related worry, race consciousness, stereotype awareness, confirmation concern/avoidance, $\alpha=.71-.93$) with self-reported lifetime racial discrimination on three mental health outcomes : psychological distress (Kessler-6 (K6)), perceived stress (Cohen's perceived stress scale (PSS)), and anxiety (Hospital anxiety subscale (HADS)). Data are from a nationally representative panel of 615 African American women ages 25-64 in the US. We performed adjusted weighted multivariable regression and found significant interactions for 3 of 5 subscales. Across all outcomes, when racial discrimination is high, confirmation concern/avoidance is protective; but is harmful when racial discrimination is low ($p < 0.05$). Racism-related worry and race consciousness, on the other hand, are protective when racial discrimination is low ($p < 0.05$). Our findings highlight anticipatory racism threat as an important component of the stress process for future investigation into the stress-health association among African American women.

Spatial Epidemiology**Socioeconomic Spatial Social Polarization and High Blood Pressure in the Cardiovascular Health Study (CHS) and REasons for Geographic and Racial Differences in Stroke**

(REGARDS) Study Hoda Abdel Magid* Hoda Abdel Magid, Gina Lovasi, Andrea Rosso, Annabel Tan, Sherri Rose, David Rehkopf, Lorene Nelson, Justin Feldman, Suzanne Judd, Michelle Carlson, Michelle Odden,

Spatial social polarization (SSP) indices are potentially key to understanding blood pressure disparities as the spatial patterning of blood pressure is hypothesized to be influenced by area-level socioeconomic risk factors. SSP indices measure the extent to which populations are distributed at extremes of privilege and deprivation of socioeconomic domains. The objective of this study is to compare socioeconomic SSP predictors of blood pressure outcomes in Black and White adults in the Cardiovascular Health Study (CHS) and the REasons for Geographic and Racial Differences in Stroke (REGARDS) study. We evaluated the use of the Index of Concentration at the Extremes (ICE) to measure SSP across three socioeconomic domains including race/ethnicity, income, joint race/ethnicity with income, and home ownership using 2010 census tract-level data. We computed quintiles for each ICE measure, with quintile 1 representing the most deprived groups and quintile 5 representing the most privileged for each SSP domain measured. High blood pressure was defined as a treated or untreated blood pressure $>140/90$ mmHg. The analytic sample included 5,888 CHS study participants ages ≥ 65 years at study entry (1989-1993) and 30,183 REGARDS study participants ages ≥ 45 years at study entry (2003-2007). Multilevel mixed-effect logistic regression models were adjusted for age, sex, race/ethnicity, diabetes, heart failure, kidney disease, and metastatic cancer, and stroke. We found the strongest associations for associations of SSP domains of combined race/ethnicity and income and disparities in high blood pressure. For example, we found that study participants who had had resided in the most polarized and disadvantaged quintile (Q1) had a 1.12 (95% 1.06, 1.23) and 1.15 (95% 1.07, 1.23) higher odds of high blood pressure compared to those in Q5 (Reference = 1) for the ICE jointly measuring race/ethnicity and income among CHS and REGARDS study participants, respectively. ICE measures for race/ethnicity alone, income alone, and home ownership were not associated with high blood pressure in either CHS or REGARDS. Joint economic and racial/ethnic polarization may be contribute to blood pressure disparities.

Structural factors**The Long-term Mental Health Consequences of Childhood Gun Violence Exposure: Differences by Race/Ethnicity** Sicong Sun* Sicong Sun, Darrell Hudson, Hedwig Lee,

Background. Gun violence has a negative impact on mental health. Little consensus exists regarding the relationship between gun violence exposure and its long-term mental health consequences across race/ethnicity. This study examines the long-term mental health consequences of childhood gun violence exposure in early to mid-adulthood.

Method. Data were drawn from the National Longitudinal Survey of Youth 97 (1997-2019). Gun violence exposure was self-reported by respondents whether they had been shot or had witnessed someone get shot before age 18. Mental health measures include mental health inventory, CES-D, and substance use behaviors, including self-reported heavy episodic drinking, daily cigarette smoking, and use of cannabis. Two-level mixed-effects models were performed.

Results. Weighted descriptive statistics show that 16.15% of the respondents have reported that they have been exposed to gun violence before the age of 18. This exposure varies by race/ethnicity: Non-Hispanic (NH) White: 11.84%; NH Black: 32.42%, and Hispanic: 19.82%. Exposure to gun violence significantly predicted worsened mental health status, depressive symptoms, and substance use behaviors in early and middle adulthood. Gun violence exposure was associated with a greater likelihood of heavy episodic drinking among NH Black sample, but not among White and Hispanic sample. Gun violence exposure was associated with a near tenfold likelihood of daily smoking among White sample, whereas the odds ratios were lower for Black and Hispanic respondents. Similar racial differences were observed for cannabis use. Gun violence was significantly associated with depressive symptoms among White and Hispanic sample, but not among Black sample.

Conclusion. Findings showed a high prevalence of childhood exposure to gun violence in a nationally representative youth cohort. Racial/ethnic differences were found in the relationship between childhood gun violence exposure and mental health outcomes.

Structural factors**The Social Determinants of Periodontal Disease Across the Life Course** Jessie Himmelstern*

Jessie Himmelstern, John Rob Warren, Ryan Demmer, Chandra Muller, Eric Grodsky,

Periodontal disease, an infection and inflammation of the gums and bones around the teeth, is one of the most pervasive and understudied health issues in the world. According to the Centers for Disease Control, 47.2 percent of individuals aged 30 and over have periodontal disease (Eke et al. 2012, 2015). Although an important health condition in its own right, periodontal disease is also linked to a variety of subsequent physical health and cognitive outcomes. Unfortunately, we currently know very little about the social, educational, economic, or other upstream factors that stratify periodontal disease outcomes; what do know does not typically come from large, diverse, nationally representative samples. We use a nationally representative longitudinal study to model the demographic, spatial, educational, social, and economic factors across the life course that intersect to shape risk of periodontal disease at midlife. We leverage data from the High School and Beyond cohort, which is a large (n= \sim 25,500), diverse, nationally representative sample of Americans followed from high school in 1980 through age \sim 60 in 2021/2022. Our preliminary results indicate that individuals who identify as Latinx; who live in the west; who have ever smoked or who are current smokers; who are obese; and/or who have had diabetes for 10 or more years have higher risk of periodontal disease at midlife. The results also indicate that higher childhood family income and higher high school vocabulary test scores are associated with reduced odds of having periodontitis.