illnesses lead to worse COVID-19 outcomes. This study identifies motivators and barriers of COVID-19 vaccine uptake in the Latino and Flathead Reservation agricultural communities. METHODS/STUDY POPULATION: Thirty key informant interviews and 6 focus groups (N=39 focus group participants) were conducted with community and tribal leaders using an interview guide informed by the Theory of Planned Behavior, Social Cognitive Theory, and the Social Contextual Factor Frameworks. The interview guide was designed to understand the motivators and barriers of COVID-19 vaccine uptake. The Community Advisory Board, community investigators and community health workers from the community reviewed and revised the guide. A codebook applied deductive coding to informant responses, followed by an inductive, constant comparison approach. Three analysts met to refine the codebook and conduct inter-rater agreement. RESULTS/ANTICIPATED RESULTS: Participants from Flathead reservations and Yakima frequently noted a desire to protect one's self, family and elders. This significant motivator encouraged individuals to receive the COVID-19 vaccine, despite sincere vaccine concerns and government rollout. Barriers included concerns regarding rumored, serious or rare side effects, speed of vaccine development and misinformation. Key differences exist between both communities. Yakima participants noted religious concerns and ID requirements as major barriers. Flathead reservation participants noted distrust and historical trauma of the U.S. government and issues with access (e.g. transportation, technology). DISCUSSION/SIGNIFICANCE: The pandemic disproportionately impacts vulnerable communities in agricultural settings. Participants in both communities felt vaccine availability had outpaced uptake. Clearly, culturally sensitive education and respectful communication would be key in addressing vaccine concerns and improving vaccine uptake.

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Private equity acquisition of nursing homes and the impact on long stay residents and racial disparities in care outcomes

Odichinma Akosionu-deSouza[1], Peter Huckfeldt[2], Tetyana Shippee[2]
[1]University of Minnesota, School of Public Health [2]University of Minnesota

OBJECTIVES/GOALS: To investigate nursing homes (NHs) acquired by private equity (PE) firms and estimate the effect of PE NH acquisitions on NH care quality for NH residents and whether PE NH acquisitions exacerbate racial inequities in quality of care. METHODS/STUDY POPULATION: My research estimates the causal effect of NH PE acquisitions on NH access and quality of care for NH residents and whether acquisitions exacerbate racial disparities in NH care for about 115 PE-owned NHs in the US, measuring the quality of care at the facility survey year level, and using an array of NH-level data sources. I identified 115 PE-owned NHs (treatment group) and 665 non-PE-owned NHs between 2003 and 2010, using the Online Survey Certification and Reporting database to obtain facility characteristics. I compare facility characteristics (e.g., payer mix, staffing levels, and quality measures such as pressure ulcers, unexpected weight loss, acuity, and health deficiencies). I will then test whether effects differ by race, with hypotheses informed by Public Health Critical Race Praxis approach. RESULTS/ANTICIPATED RESULTS: Preliminary results show that staffing levels differ between PE and non-PE-owned NHs in a way that aligns with a shift in focus toward the Medicare population i.e. short stays. We also find that deficiencies increased in PE-owned NHs compared to non-PE-owned NHs. We expect that PE acquisitions may lead to slightly widening racial disparities in NH care quality. Results may show that PE-owned NHs have a higher share of low-rated, high-BIPOC facilities. In weak markets, PE-owned NHs may have a higher share of BIPOC residents compared to highly competitive markets. This is because PE managers may prioritize cost over quality by cutting services. However, since quality measures are self-reported, except for measures related to deficiencies, this predicted lower quality of care may not be evident in observed data. DISCUSSION/SIGNIFICANCE: Understanding how PE ownership impacts nursing home care quality for long-stay residents, especially those funded by Medicaid, can help develop intervention strategies to effectively mitigate racial inequities in NH care, as Medicaid funded NH residents are more likely to be Black, Indigenous, and people of color.

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Self-Reported Race, Street Race, and Sleep Quality & Hours During the COVID-19 Pandemic Outbreak

Nathan Keller[1], Claire M. Kamp Dush[1], Alexandra VanBergen[1], Miranda N. Berrigan[1], Wendy D. Manning[2]
[1]University of Minnesota Twin Cities [2]Bowling Green State University

OBJECTIVES/GOALS: Our objective is to assess whether street race is a stronger predictor of sleep quality and sleep hours than self-reported race. We also seek to understand whether the association between race and sleep quality/hours can be explained by experiences of microaggressions. METHODS/STUDY POPULATION: This study uses data from the National Couples' Health and Time Study (NCHAT), a population-representative sample of 20–60 year-olds (N=3,642) who were married or cohabiting during 2020-2021 when the COVID-19 pandemic disproportionately negatively impacted racial and ethnic minorities in the U.S. (Boserup et al., Yip et al.). During this time, incidents of racial trauma increased (Tessler et al.). Using NCHAT data we examine whether street race is a stronger predictor of sleep quality and sleep hours than self-reported race. We also seek to understand whether the association between race and sleep quality/hours can be explained by experiences of microaggressions. RESULTS/ANTICIPATED RESULTS: Results show that microaggressions mediate the link between identifying as Black and being perceived as Black or Asian and sleep quality/hours. Identifying as Black and being perceived as Black or Asian, compared with non-Latinx White respondents, is associated with more frequent microaggressions. More microaggressions are associated with poorer sleep quality and fewer sleep hours. Asian street race is a marginally better predictor of microaggressions than self-reported race. In all models, microaggressions are associated with poorer sleep quality and less sleep hours. DISCUSSION/SIGNIFICANCE: With a growing non-white population, the wellbeing of our future generations is in everyone's best interest. Poor sleep increases the risk of cardiovascular disease, diabetes, obesity, and cancer. The United States spends $93 billion in excess medical care costs due to health disparities.

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Addressing Structural Racism Using Community Based System Dynamics

Heidi Gullett, Gregory Brown, Delores Collins, Michael Mathews, Kurt Stange, Peter Hovmand
Case Western Reserve University

OBJECTIVES/GOALS: 1. Describe method of Community Based System Dynamics. 2. Describe CBSD as used in addressing structural racism in a previously redlined community. 3. Review example

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causal loop diagrams and simulation models developed using CBSD focused on structural racism as a social determinant of health. METHODS/STUDY POPULATION: Community Based System Dynamics (group model building and computer simulation development). Cuyahoga County, Ohio, a previously redlined community of more than 1.2 million people. RESULTS/ANTICIPATED RESULTS: Actionable Community identified leverage points for action to mitigate structural racism. Computer simulation models built on causal loop diagrams built by Community members with loved experience. DISCUSSION/SIGNIFICANCE: Structural and social determinants of health, such as racism, have profound impacts on the health of individuals and populations, however they remain challenging to address in pragmatic ways. CBSD is a novel method to engage community members not proximal to the impact of structural racism in generating maps of the complex, dynamic system they live in.

Precision Medicine/Health

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A Living Library for Uveal Melanoma

Lauren A. Dalvin[1,2],Samantha R. Erickson[1], Cynthia M. Pfannkoch[1], David R. Miley[1], Diva R. Salomao[3], Michael P. Fautsch[1], Svetomir N. Markovic[2,4], Martin E. Fernandez-Zapico[4,5]
[1]Departments of Ophthalmology, Mayo Clinic, Rochester, MN 55905 [2]Departments of Oncology, Mayo Clinic, Rochester, MN 55905 [3]Departments of Laboratory Medicine and Pathology, Mayo Clinic, Rochester, MN 55905 [4]Departments of Medicine, Mayo Clinic, Rochester, MN 55905 [5]Departments of Pharmacology, Mayo Clinic, Rochester, MN 55905

OBJECTIVES/GOALS: Overall response rates for metastatic uveal melanoma (UM), regardless of treatment modality, are less than 20%, highlighting an urgent need for novel therapies. Herein, we present a UM patient-derived organoid (PDO) biobank as a novel platform for translational research. METHODS/STUDY POPULATION: Patients with primary choroidal or ciliochoroidal UM undergoing enucleation from 7/1/2019-9/30/2022 were invited to enroll. Tumor tissue was harvested within 30 minutes of globe removal. Cells were isolated using the human tumor isolation kit and gentleMACS dissociation protocol (Miltenyi Biotech). PDOs were placed on Cultrex-coated multiwell plates and cultured in supplemented RPMI media. DNA and RNA were isolated using kits from Zymo Research. Exon-enriched libraries and RNA were sequenced using an Illumina HiSeq 4000. Immunohistochemistry (IHC) assessed the following histone post-translational modifications: H3K4me1/3, H3K27Ac, and H3K27me. RESULTS/ANTICIPATED RESULTS: PDOs were established in 19 of 20 (95%) attempted cases. BAP1 protein expression was retained (n=7) or lost (n=12) in the primary tumors, with matching phenotype confirmed in PDOs. In 9 sequenced cases, a driving mutation was present in GNAQ (n=4), GNA11 (n=4), or CYSLTR2 (n=1). Morphology ranged from spindle-like to epithelioid clusters, mimicking primary tumor histopathology. Pigmentation increased with time in culture. Growth in culture was slow, and 1-2 months were allotted prior to passaging in most cases. Whole exome and RNA-sequencing confirmed distinct molecular profiles, with differential staining of active chromatin marks by IHC. DISCUSSION/SIGNIFICANCE: A biobank of primary UM PDOs with unique morphological and molecular characteristics has been established. These will serve as a model of human disease to facilitate translational research and investigate personalized treatments for patients with UM.

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A Mixed Methods Study of Patient and Clinician Views and Experiences of Pharmacogenomic Testing for Major Depressive Disorder

Katherine Hendy, Vicki Ellingrod, Scott Roberts
University of Michigan

OBJECTIVES/GOALS: Pharmacogenomic testing for major depressive disorder is an expanding area of precision medicine with multiple direct-to-provider tests available. While clinical evidence supporting testing is expanding, there has been little research on the views and experiences of patients and clinicians utilizing this novel intervention. METHODS/STUDY POPULATION: This ongoing study is conducting semi-structured interviews with clinicians and patients exploring their views of the benefits and limitations of pharmacogenomic testing. Qualitative interviews have been conducted with 10 patients and 10 clinicians who have experience with ordering or receiving results within the past 12 months. Interviews are being thematically coded following a modified grounded theory approach using the Dedoose software. Following the principles of exploratory sequential mixed methods design, findings will be used to develop a survey to be administered to prescribing clinicians in both primary care and psychiatry. The survey will examine clinician's knowledge, interest, and concerns about utilizing testing. RESULTS/ANTICIPATED RESULTS: Preliminary analysis of qualitative interviews indicates that both patients and clinicians find that the broader testing process has benefits beyond the test results themselves. Benefits identified by patients include an increased trust in the process of selecting medications, validation of their negative experiences with medications, and improved communication with their provider. Limitations identified by patients include difficulty in accessing test results, and gatekeeping for testing by providers. Benefits identified by clinicians include increased empathy with patients, medication adherence, and improved communication with patients about medication. Limitations identified by clinicians include difficulty with ordering and interpreting test results. DISCUSSION/SIGNIFICANCE: Medication selection is a difficult process for both patients and clinicians. Improvements to clinician-patient communication and medication adherence are important benefits to consider in the adoption of testing. Future research should include these dimensions in assessment of the benefits and limitations of testing.

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A systems genomics approach to identify novel drug targets of Ewing sarcoma through ancestry-informed human iPSC modeling*

Rachel M Moss, Kelsie Becklin, Lauren J Mills, Branden S Moriarity, Beau R Webber, Logan G Spector
University of Minnesota

OBJECTIVES/GOALS: We leverage the disparate incidence of Ewing sarcoma (ES) between European (EUR) and African (AFR) ancestry to study ES tumorigenesis in iPSC-derived cells from donors with a range of AFR ancestry via functional / molecular profiling. Integrated multi-

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