

affirming language within free text medical notes of TGE patients. **METHODS/STUDY POPULATION:** We conducted a qualitative analysis of free text medical notes in adult (> age 18 years) TGE patients seen in inpatient and outpatient medicine and general surgery clinics between January 2019 and January 2022 at three independent health systems in San Francisco. TGE patients were identified based on self-identified gender identity, sex assignment at birth, and legal sex. We conducted a thematic analysis to assess use of gender-affirming language, including self-identified pronouns, chosen names, gendered and gender-neutral descriptors, sex-related traits, and pathologizing language. **RESULTS/ANTICIPATED RESULTS:** Within pilot data, we found inconsistent use of gender-affirming language within notes, with pronounced variability within the history of present illness, the clinical one liner, and the problem list. Within one liners, many did not include patient-identified pronouns (81%), omitted chosen names (53%), and utilized gendered language that was misaligned with patient self-identified gender identity (27%) - frequently including the use of outdated terms i.e. female-to-male and transsexual. Many problem lists included gender-related care, with some describing hormonal and surgical interventions and others utilizing language to pathologize transgender status. **DISCUSSION/SIGNIFICANCE:** Our study identifies gaps in the use of gender-affirming language in medical notes. Of particular significance in the era of open notes wherein patients can view their medical records, our study offers a framework for assessing and increasing gender-affirming language use within free text medical notes that can be applied across health systems.

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### Approaches to disseminating a community engagement tool through capacity building

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**OBJECTIVES/GOALS:** Despite the importance of stakeholder engagement in research, there remains a critical need for methods that facilitate the engagement of diverse stakeholders throughout the research process. We describe dissemination and capacity building for the SEED Method, which was created to involve stakeholders in the research development process. **METHODS/STUDY POPULATION:** In order to raise greater awareness of the SEED Method and to build capacity among research teams, we received funding from the Patient-Centered Outcomes Research Institute (PCORI) for a 2-year project to implement a plan of outreach, training, interactive learning, and technical assistance, as well as an innovative partnership with the Extension Foundation. Tools created for this project include an internet site providing tools and materials, live and on-demand webinars, training videos, SEED materials, a blog, and an interactive course/toolkit. In addition, we created a monthly learning collaborative and provided direct technical assistance to teams using the SEED Method in their research engagement projects. We evaluated user satisfaction with the tools and support provided through online surveys. **RESULTS/ANTICIPATED RESULTS:** We highlight the routes to reaching potential users and diverse approaches to capacity building, including multimedia training materials, interactive learning sessions, and customized technical assistance. As a result of outreach and capacity building, there are currently 13 research teams using the SEED Method to engage stakeholders in research development across various topics. We link this result to the dissemination and capacity building strategies utilized and the paths through which teams learned about the SEED Method. We also look at how the teams are using the method in terms of project

goals and approaches to adapting the SEED Toolkit. **DISCUSSION/SIGNIFICANCE:** The use of PHR continues to increase, and with it the emergence of new approaches to involve patients, stakeholders, and communities. Innovations in engagement need to reach potential users and build capacity among researchers and communities.

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### Association Between Structural Racism and Acuity of Illness at Initial Presentation in Pediatric Patients with Solid Tumors\*

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**OBJECTIVES/GOALS:** Racial/ethnic minoritized children experience poorer cancer outcomes, which may be driven by structural racism. We apply an index that combines segregation and neighborhood vulnerability to a pediatric oncology population and assesses its association with acuity of illness at initial presentation. **METHODS/STUDY POPULATION:** A retrospective analysis will be performed in a cohort of pediatric patients diagnosed with solid tumors at Children's Healthcare of Atlanta (CHOA) from 2010-2018 (N=1149). The sample will be linked to a structural racism index (SRI) that has been established in our prior work. We abstract data from medical records to quantify initial acuity of illness based on the need for ICU-level resources. Differences in socio-demographic characteristics will be analyzed by the SRI, using chi-squared, Student t-tests, and ANOVA where appropriate. Logistic regression models will be used to assess the association of the SRI with acuity of illness. **RESULTS/ANTICIPATED RESULTS:** We anticipate that relevant sociodemographic characteristics (e.g., race/ethnicity, insurance status) differ by the SRI. The CHOA Cancer Registry includes a racially and ethnically diverse group of patients: 63% of the cohort is White, 30% is Black, 10% are Other, and 15% are Hispanic/Latino. Furthermore, we anticipate that pediatric patients with solid tumors living in counties with greater levels of structural racism as measured by the SRI experience an increased acuity of illness at initial presentation. **DISCUSSION/SIGNIFICANCE:** By applying a novel index quantifying structural racism, we will provide new information about the structural barriers patients and families face prior to a pediatric cancer diagnosis. This work will allow us to identify areas for potential interventions in this vulnerable young patient population.

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### Associations Between County Level Poverty and Firearm Injuries in the State of Maryland

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**OBJECTIVES/GOALS:** The United States is experiencing an epidemic of firearm deaths and injuries. Poverty and other socioeconomic factors have been linked to firearm injuries on the national level. The goal of this study is to examine the relationship between county level poverty and firearm injuries in the State of Maryland. **METHODS/STUDY POPULATION:** This is a cross sectional study assessing fatal and non-fatal firearm injuries of all ages between 2018-2020 utilizing data from the State of Maryland's Health Services Cost Review Commission. Our primary analysis will involve calculating injury and mortality rates to assess if fatal and non-fatal

firearm injuries are associated with county-level poverty, defined as the percentage of the population living below the federal poverty line. Rates will be calculated by determining county level population within subgroups using the National Historical Geographical Information System database. We will also conduct regression analyses to adjust for confounding variables selected based on evidence from prior research. Some of these variables include age, sex, race, urbanicity, and the social vulnerability index. RESULTS/ANTICIPATED RESULTS: An abundance of prior research has demonstrated differences in firearm injury by age, sex, and race. Prior studies have also shown that poverty is associated with higher rates of firearm-related deaths among youth. Based on that foundational data, we anticipate that regression analyses will demonstrate that counties with higher poverty levels will have higher rates of fatal and non-fatal firearm injuries, even after controlling for other known risk factors. DISCUSSION/SIGNIFICANCE: Findings from this study will contribute to growing evidence on the role of poverty in the burden of firearm injuries and mortality. This will have policy implications regarding the allocation of public health resources and interventions aimed at reducing firearm-related injuries and deaths in Maryland.

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### Bearing a higher burden: Black and Latinx community perspectives on the Impact of COVID-19

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OBJECTIVES/GOALS: During earlier periods of the pandemic, Black and Latinx populations in Michigan have suffered higher rates of infection, hospitalization, and deaths when compared to Whites. We conducted this study to understand how Black and Latinx residents perceived this disproportionate burden. METHODS/STUDY POPULATION: In 2021, 40 semi-structured interviews were conducted virtually in English or Spanish with Black (n=24) and Latinx (n=16) residents in Michigan areas highly impacted by COVID-19: Genesee, Kent, Washtenaw, and Wayne counties. Using a Community-Based Participatory Research (CBPR) approach, we partnered with leaders from 15 community-based organizations and health and human service agencies to develop research questions, an interview protocol, and to interpret the data. We used the data analysis software Dedoose (ver 4.12) for inductive coding (IRR=0.81). This study is a part of the NIH Community Engagement Alliance (CEAL) Against COVID-19 initiative. RESULTS/ANTICIPATED RESULTS: Participants described the significant impact of the pandemic in terms of physical and mental health, job security, and the sheer number of deaths among loved ones. They attributed the impact to comorbidities and social determinants of health disparities exacerbated by the pandemic, including

income, housing, access to healthcare, as well as systemic racism. They noted being overrepresented among frontline workers with higher exposure to COVID-19, limited or misinformation about the virus, language barriers, and difficulty with social distancing. Cultural norms that promote being in close proximity, such as inter-generational households, and loss of trusted community leaders were also noted. DISCUSSION/SIGNIFICANCE: Findings reflect the needs of Black and Latinx community members in Michigan and the discussions they feel are important to highlight. We must work strategically with partners and the community to provide transparency and effective leadership, and prioritize addressing systemic disparities in SDOH.

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### Biopsychosocial Well-being and Identity: Variation in the Experience of Allostatic Load and Depression by Identity Status Using NHANES 2017-2020 Data\*

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OBJECTIVES/GOALS: Chronic stress has vast implications for health. Pathophysiological dysregulation, as evidenced by allostatic load, is associated with increased morbidity and mortality. Health disparities exist in both the incidence and outcomes of chronic stress. This study investigates the intersection of identity, allostatic load, and depression. METHODS/STUDY POPULATION: A nationally representative sample of pre-pandemic health data from the 2017-2020 cycle of the National Health and Nutrition Examination Survey (NHANES) was used to assess variation in depression and allostatic load by identity status. Datasets containing biomarker, mental health, and identity data were merged using Stata. An index of allostatic load was created by generating quartiles for nine biomarkers of cardiovascular (cholesterol, triglycerides, systolic and diastolic blood pressure), metabolic (glucose, body mass index, albumin, creatinine), and immune (c-reactive protein) functioning, and summing the total high risk biomarkers per person. Depression scores were averaged across nine items from the patient health questionnaire, and dichotomous identity variables (e.g., race) were generated. RESULTS/ANTICIPATED RESULTS: People identifying as female (t = 8.25, p < .001) or Black (t = 7.18, p < .001) have higher allostatic load scores, whereas people identifying as White (t = -2.64, p < .01) or Asian (t = -3.80, p < .001) have lower allostatic load scores. People identifying as female (t = 10.76, p < .001), White (t = 2.66, p < .01), or Another/Mixed race (t = 6.23, p < .001) have higher levels of depression, whereas people identifying as Asian (t = 9.17, p < .001) have lower levels of depression. Multiple regression analyses indicate a significant effect of depression on allostatic load when controlling for sociodemographic variables (B = 0.33, SE = 0.05, t = 7.02, p < .001). The identity\*depression interaction increases allostatic load for females (B = 0.43, SE = 0.10, t = 4.21, p < .001) and racial/ethnic minority males (B = 0.25, SE = 0.10, t = 2.62, p < .01). DISCUSSION/SIGNIFICANCE: This study highlights differences in the experience of allostatic load and depression based on identity. Depression exerts an independent and moderating effect on allostatic load. Findings have implications for health disparity research, and highlight the dynamic intersection of identity, mental, and physical health in the face of chronic stress.