### 321

## Access and utilization of oral health care and tobacco use in patients with severe mental illness: Impact on oral health outcomes

Nelmit Tollinchi, Eliut Rivera-Segarra, Claudia Amaya and Margarita Bonilla-Claudio
School of Health Professions, Medical Sciences Campus, University of Puerto Rico

OBJECTIVES/GOALS: Our objective is to evaluate how access to oral health care and tobacco use in patients with serious mental illness (SMI) impact their oral health outcomes identifying barriers and service utilization disparities affecting the prevalence and severity of oral diseases. METHODS/STUDY POPULATION: A secondary retrospective data analysis study will use records from the electronic database (All of Us). The study population includes individuals over 21 years old, diagnosed with SMI. Data will be collected focusing on their oral health status, access to oral health care (frequency of visits, availability of services, etc.), tobacco use, and social determinants of health. The study will evaluate the impact of access to oral health care on the prevalence of oral health outcomes (e.g., periodontal diseases and oral cancer), analyzing socioeconomic factors, mental health status, and tobacco use as independent variables. A quantitative, descriptive-correlational analysis will be performed to explore the study variables. RESULTS/ANTICIPATED RESULTS: We anticipate that limited access to oral health care, influenced by socioeconomic factors, the presence of SMI, and tobacco use, will correlate with worse oral health outcomes in Hispanics. Disparities in access, such as financial limitations, transportation issues, and stigma, are expected to significantly hinder service utilization and increase the prevalence of oral diseases in patients with SMI who smoke. DISCUSSION/SIGNIFICANCE OF IMPACT: This research highlights the need to address disparities in oral health access for Hispanic marginalized populations, particularly those with severe mental illness and tobacco use. It will contribute to reducing health inequalities and improving oral health outcomes through culturally adapted interventions that address these barriers.

### 322

## Use of the engage for equity framework to longitudinally assess community–academic partnerships

Alex Krist and Emily Zimmerman
Virginia Commonwealth University

OBJECTIVES/GOALS: Audience will understand the engage for equity CBPR conceptual framework used to develop our partnership survey. Audience will better understand our survey design and administration process. Audience will understand our initial experiences, community advisory board member responses, and how the process influenced our engagement efforts. METHODS/STUDY POPULATION: The objective of this assessment is to understand how our community partners perceive our engagement efforts. The questionnaire is based on the 12 constructs of the CBPR engage for equity model. We plan on annually assessing impact and refining engagement approaches in response to community partners' perspectives. Community Advisory Board members and other partners will complete an online survey and participate in a subsequent discussion and planning session about the responses. We anticipate evaluating approximately 400 community partners who collaborate with the Wright Regional Clinical and Translational Science Awards between 2023 and 2030 with a RedCAP survey and discussion. The instrument uses validated questions from a range of engagement instruments to assess context, partnership structure, processes, outputs, and outcomes. RESULTS/ANTICIPATED RESULTS: We hypothesize that both the survey and subsequent discussion about how respondents reacted to answering the questions will improve our ability to track and adapt our community engagement efforts. DISCUSSION/SIGNIFICANCE OF IMPACT: Our annual survey is not project specific and using it longitudinally will inform our engagement process to research that aligns with community needs. We anticipate this will help us to guide our research agenda to align with community needs and define impact of our university–community partnership.

### 323

## Co-designing a health technology intervention through patient-centered collaboration within a large randomized controlled trial: A community-informed approach*

Araiye Medlock[1], Courtney Lyles[1], Urmimala Sarkar[2], Melissa Gosdin[1], Anjana Sharma[2] and Jaime Orozco[2]
[1]University of California, Davis and [2]University of California, San Francisco

OBJECTIVES/GOALS: This project provides a framework for collaborative design of a health technology intervention. We aim to provide guidance for those seeking to incorporate community-informed insights into their intervention development, particularly within the context of a large randomized controlled trial. METHODS/STUDY POPULATION: As part of the patient engagement arm of the Championing Hypertension Remote Monitoring for Equity and Dissemination study, we designed patient-facing intervention components for a home hypertension monitoring system. In the design process, we convened patient consultants via regular meetings, one-on-one interviews, and focus groups, and then subsequently analyzed meeting recordings, audio transcripts, and stakeholder notes. All design sessions were offered in either English or Spanish, and sixteen participants were involved. An inductive thematic analysis is being performed utilizing two coders, and Dedoose has been used to organize and refine the data. RESULTS/ANTICIPATED RESULTS: The randomized trial will begin late 2024, with overall design findings incorporated into the intervention. A more detailed qualitative analysis will map these design findings to overarching theory from the Technology Acceptance Model. These qualitative themes will provide a model of patient involvement in study design in a large randomized controlled trial, potentially guiding future improvements in technology-based healthcare delivery interventions. DISCUSSION/SIGNIFICANCE OF IMPACT: As technology becomes integral to healthcare, involving patients in intervention design and rollout can improve efficacy and utilization. By offering

a framework for patient involvement in intervention design, we aim to create a replicable model to enhance the translation of research into practice.

### 325

## Advancing breast cancer risk identification and care in non-Hispanic Black Women

Jennifer Cabezas, Savanna Touré, Melody Stallings-Mann, Laura Pacheco-Spann, Joshua Ogony, Mark Sherman, Jessica Austin and Derek Radisky
Mayo Clinic

OBJECTIVES/GOALS: This project will enrich our understanding of basal breast carcinogenesis, highlighting the distinct biological differences in breast cancer risk between non-Hispanic Black (NHB) or non-Hispanic White (NHW) women, but also has the potential to provide real-world solutions thereby contributing to reducing health disparities in breast cancer outcomes METHODS/STUDY POPULATION: In the biological investigation, I am utilizing a unique cohort of normal breast tissues from Mayo Clinic patients who underwent breast reduction surgery that have self-identified as NHB or NHW premenopausal women. From these tissues, we are able to subculture human mammary epithelial cells, which we will use for our consequent experiments. For the qualitative study, I aim to recruit up to 40–50 eligible NHB women identified at increased risk for breast cancer and conduct semi-structured qualitative interviews informed by the National Institute on Minority Health and Health Disparities Research Framework. RESULTS/ANTICIPATED RESULTS: Gene expression profiling on our cohort of 15 NHB and 40 NHW premenopausal women identified a gene expression signature in NHB women indicative of elevated Hedgehog signaling, a key factor in triple-negative breast cancer (TNBC) development and progression. I hypothesize that persistent activation of Hedgehog signaling within NHB women instigates the proliferation and transformation of basal stem cells within the breast, thus fueling TNBC development. Understanding the perceptions and experiences of NHB women that are identified as being at an increased risk for BC will aid in the identification of barriers and facilitators to their risk reduction care and in turn provide implementation strategies that could contribute to alleviating the racial disparity seen in TNBC morbidity, mortality, and preventative care. DISCUSSION/SIGNIFICANCE OF IMPACT: The significance of this project lies in its dual approach, uncovering basal breast cancer mechanisms in a high-risk group using normal breast tissue and evaluating the perspectives from NHB women to enhance the practical relevance of our findings.

### 326

## Arriving at strategies to recruit and retain adolescents and young adults (AYAs) in research: A mixed-methods approach

Gloria Zavala Perez, Jessica Jones, Elizabeth Vasile, Silvia Molina, Julie Schweitzer and Theresa Keegan
University of California, Davis

OBJECTIVES/GOALS: Research participation by adolescents and young adults (AYAs) is critical for advancing therapeutic interventions applicable across the life course. Identifying effective strategies to recruit and retain AYAs is challenging. This poster elucidates the process and outcomes of working with an AYA Health Research Board and surveying AYAs. METHODS/STUDY POPULATION: The AYA Health Research Board established in 2022 as part of an AYA Program within the UC Davis (UCD) Clinical and Translational Science Center (CTSC). The Board is composed of youth advisers, ages 13–39, from across CA. In 2023, the Program supplemented insights from the board with a national online survey of AYAs using the Amazon Mechanical Turk (MTurk) platform. Two separate instruments were administered, one on recruitment and another on retention, each with over 400 responses. The UCD AYA Board was then engaged to provide crucial insights contextualizing the survey findings, ensuring their relevance and applicability to the AYA population. RESULTS/ANTICIPATED RESULTS: Overall, survey results indicate that AYAs are aware of health studies and clinical trials. Responses affirm that incentives are the biggest driver of AYA participation, while side effects were identified as the biggest reason to drop out of a study. Overall, youth appear more interested in participating in online studies versus those that require in-person appearances. Text messages, regular updates, and sharing of study results were identified as strategies to maintain participant engagement. Additional results will be available through a one-page factsheet for researchers to use as they think about retention and recruitment of AYAs. DISCUSSION/SIGNIFICANCE OF IMPACT: Survey results will be made available to health researchers to help move the needle on recruitment and retention efforts of AYAs. This mixed-methods case study serves as an example of the impact AYAs can have on shaping research and validating survey findings.

### 327

## Assessing socioeconomic barriers to mental health service utilization among older adults in Puerto Rico's federally qualified health centers

Jennifer Torres Del Valle[1], Souhail Malavé Rivera[2,3], Marisol Peña Orellana[4] and Enid J. García Rivera[5]
[1]Clinical and Translational Research Program, School of Health Professional and Medical Sciences Campus, University of Puerto Rico; [2]MSc-Center for Evaluation; [3]Sociomedical Research, Graduate School of Public Health, University of Puerto Rico-Medical Sciences Campus; [4]Department of Health Services Administration, Graduate School of Public Health, Medical Sciences Campus-University of Puerto Rico and [5]Endowed Health Services Research Center, Medical Sciences Campus-University of Puerto Rico

OBJECTIVES/GOALS: To evaluate the impact of social determinants of health (SDOH), specifically socioeconomic status and medical insurance coverage, on access to mental health services for adults aged 60 and older served by Federally Qualified Health Centers (FQHCs) in Puerto Rico. METHODS/STUDY POPULATION: A secondary retrospective analysis of electronic health records from FQHCs in Puerto Rico will be conducted to examine the relationship between SDOH needs and mental health service utilization among adults aged 60 years and older receiving primary care. SDOH data will be collected using the PRAPARE® tool, assessing factors such as socioeconomic status, insurance coverage, and emotional support, with a focus on identifying unmet needs. Multivariable and logistic regression models, using Stata v.17, will be employed to evaluate correlations between these SDOH factors and mental health service utilization, adjusting for age, gender, and mental health conditions. This