

adolescent-focused design methodology at every step of the design process, we will ensure that all materials are attractive and engaging to our younger target audience. Exposing children to accessible information about clinical trials at a young age allows us to build their trust in the research process prior to the possible internalization and acceptance of cultural misconceptions. Over time, we hope to see a change in attitudes toward clinical research as well as increased participation, whether from under-represented groups or a younger demographic, and positively contribute to T3 and onwards in the translational continuum. **DISCUSSION/SIGNIFICANCE:** In a rapidly changing world, the best approach to making change is through targeting the younger demographic, the leaders of tomorrow. Our project will allow adolescents to foster a more well-rounded opinion of clinical research, increasing their participation and better paving a more positively received future for translational science as a whole.

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Exploring facility level differences in medication-based treatment of OUD

Vera Thornton, Yoonhoo Chang, Ariya Chaloehtom, Sarah Hartz, Carrie Mintz, Alex Ramsey, Laura Bierut

Washington University in St. Louis, Department of Psychiatry

OBJECTIVES/GOALS: Medications to treat opioid use disorder (mOUD) are available and can save lives, but are underutilized. We hypothesize that the rate of prescribing varies by treatment facility and these differences will shed light on barriers and facilitators to mOUD utilization. **METHODS/STUDY POPULATION:** We performed an exploratory analysis in MD Clone, a platform which generates non-identifiable synthesized data based on real patient data in the electronic health record (EHR) of St. Louis based hospitals. Our query included adults aged 18-70 with an OUD diagnosis using ICD-9 of -10 codes (opioid abuse, opioid dependence, opioid poisoning, opioid withdrawal) occurring between 2013 and 2022 along with prescriptions for buprenorphine, methadone, or naloxone within 7 days of the condition being entered in the record. We compared the rate of medication prescription within 7 days across settings and facilities where the patients were seen. We propose to replicate this analysis in actual patient records from the EHR following IRB approval. **RESULTS/ANTICIPATED RESULTS:** Our synthetic data comprised 24600 patient diagnoses. After filtering for patients seen in the ER or inpatient 16235 patients remained in the data set. Of these, 4376 fell into one of the categories that clearly warrant treatment with medication. Out of 4376 patients with a qualifying OUD related condition, only 815 (18.6%) received a prescription for any of the medications. Rates of prescribing within facilities varied between 67.2% of eligible patients receiving a prescription at a rural location to 0% at some urban centers. We anticipate similar findings from analysis of patient records obtained from the EHR. We will extend our analysis to explore factors which may be driving the wide difference in prescribing to better understand barriers and facilitators to mOUD utilization. **DISCUSSION/SIGNIFICANCE:** We identify under-utilization with differences across facilities in prescribing mOUD based on preliminary work in synthetic data. If true, this represents a gap in care and opportunity for intervention. By replicating the MD Clone results in patient data from the EHR we will confirm this finding and increase acceptability to clinicians.

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Exploring stress and inflammation in young children with type 1 diabetes

Sara L. Davis¹, Sarah S. Jaser², Nataliya Ivankova³, Gabriela Oates⁴, Anne-Marie Kaulfers⁵, Marti Rice⁶

¹University of South Alabama ²Vanderbilt University Medical Center, Division of Pediatric Endocrinology & Diabetes ³University of Alabama at Birmingham, School of Health Professions

⁴University of Alabama at Birmingham, School of Medicine, Pediatrics ⁵University of South Alabama, Pediatric Endocrinology

⁶University of Alabama at Birmingham, School of Nursing

OBJECTIVES/GOALS: The purpose of this mixed methods project was to gain a comprehensive understanding and generate data on factors, including stress and inflammatory biomarkers, that may negatively impact glycemic levels in children aged 8-12 years with type 1 diabetes (T1D) from underrepresented backgrounds. **METHODS/STUDY POPULATION:** This study employed a two-phase sequential QUAN -> qual mixed methods design. Children and their parents were recruited from a pediatric endocrinology clinic in the southeastern United States. In phase 1 (n=34), we used quantitative methods to measure perceived stress, diabetes distress, cortisol, inflammation (IL-1b, IL-2; IL-6; IL-8; TNF-a; CRP), and glycemic level (HbA1c). Both children and their parent/guardian completed surveys, and children provided salivary and blood samples to measure cortisol and inflammatory markers. Phase 2 qualitative interviews in a subset (n=20) of children and parent/guardians from phase 1 are ongoing; preliminary findings will be included in the presentation. **RESULTS/ANTICIPATED RESULTS:** Mean age of children was 10.47 (sd=1.44), 67.6% were male, and 41.2% were black. HbA1c ranged from 6.8%-15% and only 2 (5.8%) children met ADA recommendations for HbA1c of 7% or less. HbA1c was associated with child reports of perceived stress ($r = .403, p < .05$), but not parent reports of child perceived stress ($r = -.011, p > .05$). Parent reports of perceived stress and diabetes distress in children were not significantly associated with child self-report of perceived stress ($r = .11, p > .05$) or diabetes distress ($r = .018, p > .05$). Exploratory models with PROCESS suggest that cortisol slope and IL-8 moderate the relationship between child's perceived stress and glycemic control. **DISCUSSION/SIGNIFICANCE:** Stressors are emerging that are unique to this population and may help highlight disparities in care. While the study is ongoing, findings may help health professionals identify and mitigate stressors in children with T1D to help maintain optimal glycemic levels.

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Exploring the role of maternal exposure to violence in post-partum weight retention among WIC program participants in Puerto Rico

Lorelle R. Lopez Mancebo¹, Yari Valle Moro², Maria Kallis Colon², Maribel Campos Rivera²

¹University of Puerto Rico Medical Sciences Campus ²Center for Community Outreach for Health Across the Lifespan (COHeAL) at University of Puerto Rico Medical Sciences Campus

OBJECTIVES/GOALS: Evaluate if exposure to violence is associated with post-partum weight retention among WIC participants, which can lead to overweight/obesity due to metabolic adaptations