respective to a person's identity or orientation. Additionally, collecting SOGI data in an inclusive way may increase trustworthiness in research from potential research participants, particularly among the LGBTQ+ community, who have been underrepresented yet experience several inequities and disparities across multiple health outcomes. DISCUSSION/SIGNIFICANCE: CHEER's goal is to reduce health disparities in underrepresented populations, including the LGBTQ+ community, by promoting inclusivity and engagement in research. Developing a community-driven screening that addresses the unique needs of the LGBTQ+ community successfully bridges a gap in equity across all research participants.

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The Impact of Race and Social Determinants of Health on Clinical Outcome of Glioblastoma Multiforme Patients Over a Decade.

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OBJECTIVES/GOALS: While the evolving treatment paradigm for Glioblastoma (GBM) leverages different modalities to improve outcomes, treatment access might be limited by cost and disparities. This study explores the influence of race and social determinants of health (SDoH) on healthcare access and outcomes of GBM patients in a large metropolitan area over a decade. METHODS/STUDY POPULATION: Our institution's tumor registry (2009-2019) was queried to identify our GBM cohort. Data were supplemented by electronic health records to include demographics, outcome, NCI Comorbidity Index, and the Agency for Healthcare Research and Quality (AHRQ) socioeconomic status (SES) index. RESULTS/ANTICIPATED RESULTS: Of the 559 GBM records, 361 unique patients met the inclusion criteria, and 43% were Non-White. Non-White patients predominantly comprised the lowest AHRQ SES index quartile and had longer hospital stays (LOS; $p<0.001$). White patients accounted for 61% of privately insured patients ($p<0.001$). Private insurance ($p= 0.02$) and age < 65 years ($p= 0.039$) were associated with a higher rate of home discharge. Patients diagnosed with GBM in the emergency department were more likely to be discharged to acute rehab than home ($p<0.001$). At 2 years, privately insured patients had longer OS (HR= 1.46; $p= 0.04$). DISCUSSION/SIGNIFICANCE: In contrast to previous studies, the study demonstrates that GBM affected a higher proportion of Non-White patients. Our data show that SDoH influences multiple outcomes in GBM patients. Efforts to identify and correct these barriers are needed to improve the care of all GBM patients.

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Participation of Racial and Ethnic Minorities in Decentralized Trials: The ACTIV-6 Experience

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OBJECTIVES/GOALS: Racial and ethnic minority populations have been historically underrepresented in clinical trials, which limits the external validity of study findings. We analyze data from the ACTIV-6 trial to assess whether inclusion efforts were effective in increasing participation from minority groups. METHODS/STUDY POPULATION: ACTIV-6 is a decentralized randomized placebo-controlled platform trial investigating repurposed drugs for the treatment of mild to moderate COVID-19. Study participants could either self-refer online or be recruited through a study site. Two inclusion efforts were introduced to increase participation from racial or ethnic minority populations: targeted advertising and outreach, and strategic selection of study sites that serve diverse populations. We assessed the effectiveness of these interventions by analyzing enrollment trends over time. We also assessed whether participants from racial or ethnic minority populations experienced higher loss to follow-up. RESULTS/ANTICIPATED RESULTS: At the start of the trial, enrollment of non-Hispanic White participants outpaced enrollment from racial or ethnic minority populations. At 4 months, only 108 participants (20.5%) were from racial or ethnic minority populations, but greatly increased by 28 months to 3,544 participants (46.4%), nearly half of all participants. This increase was predominantly due to recruitment through study sites rather than self-referral. In particular, certain sites recruited large numbers of minority participants. We also observed that participants from racial or ethnic minority populations were more likely to drop out of the study before receiving the study drug (3% vs 1%). DISCUSSION/SIGNIFICANCE: Our results suggest that strategic site selection is an effective strategy for recruiting a study population that represents racial and ethnic populations. The benefits of targeted advertising and outreach were less clear. Retention efforts remain important to reduce loss to follow-up.

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CUBE: A Collaborative Undergraduate Biostatistics Experience to Bring Diversity and Awareness to the Field of Collaborative Biostatistics

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OBJECTIVES/GOALS: Despite a steady rise of graduate degrees in biostatistics earned in the US, the percent from minorities remains low. This poster will describe the Collaborative Undergraduate Biostatistics Experience (CUBE), an 8-week program aimed to diversify and bring awareness to the field of collaborative biostatistics, from recruitment through evaluation. METHODS/STUDY POPULATION: The CUBE program is funded jointly by the NIH's NIDA/NIAAA (award number: 1R25DA058482-01) and is designed to give underrepresented minority (URM) undergraduate students in STEM the opportunity to engage in a collaborative biostatistics and health data science experience, along with related professional development activities. The program is built on four pillars: 1) training in introductory biostatistics, 2) training in R programming, 3) professional development, and 4) a collaborative research project addressing research questions in various disciplines. The CUBE program was delivered in the summer of 2022 as a pilot to four URM students at Virginia Tech (VT) and the University of Virginia (UVA), with two at each site. In summer 2023, the program was offered to 5 students (3 VT, 2 UVA). RESULTS/ANTICIPATED RESULTS: This poster will provide strategies learned over two summers with respect to recruitment

and enrollment, along with details on the program content, timeline, and short- and long-term program evaluation metrics (both quantitative and qualitative). The CUBE program was well-received by students participating in summers 2022 and 2023, where improved attitudes towards statistics were demonstrated, and 7 of the total 9 participants (78%) over the past two summers expressed interest in pursuing a graduate degree in biostatistics or a career in quantitative research. Of these 7 students, 1 is currently enrolled in a biostatistics graduate program in the United States. DISCUSSION/SIGNIFICANCE: Results can be used to offer recommendations to leaders in the field on how to establish similar programs seeking to provide a pipeline for equity and diversity in the practice of collaborative biostatistics and health data science.

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Parental Occupation and Orthopaedic Surgery Residency Applicants: Implications on Educational Debt, Scholarships, Medical School Ranking, and Resulting Match Rates

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OBJECTIVES/GOALS: Parental SES may influence the trajectory of students applying to orthopaedic surgery residency, perpetuating opportunistic disparities. Thus, we sought to examine the relationship between parental occupation/education and applicant match rate, education financing, and medical school background. METHODS/STUDY POPULATION: Data from the Association of American Medical Colleges (AAMC) documented parental occupation and education levels of 10,697 orthopedics applicants from 2011 to 2021. Parental occupations were categorized into physician vs non-physician, healthcare vs non-healthcare, working class vs non-working class, and STEMM (Science, Technology, Engineering, Mathematics, Medicine) vs non-STEMM. Parental education levels spanned from no college degree to doctorate degrees and were used as a proxy for SES. Outcomes analyzed included match success, premedical and medical school debt, total educational debt, scholarships, and representation from top 40 research medical schools as determined by NIH funding. RESULTS/ANTICIPATED RESULTS: Physician parent applicants (20.1%) had better match rates (75.5% vs. 73.5%), lower debts, lesser scholarships, and higher top 40 school representation. Healthcare parent applicants (37.0%) had similar match rates, less debt and scholarships. Working class parent applicants (6.0%) had more debt and scholarships. STEMM parent applicants (48.6%) had higher match rates, lesser debts and scholarships, and higher top 40 representation. Applicants with parents without college degrees had lower match rates (68.6% vs 74.5%), more debt and scholarships. Doctorate parent applicants had better match success (75.9% vs 72.9%), lesser debts, and higher top 40 school representation (34.9% vs 29.6%). DISCUSSION/SIGNIFICANCE: Parental SES was associated with substantial variation in applicant financial burden and educational pedigree. Notably, applicants with parents lacking degrees had lower match rates, underscoring the need for supportive strategies to ensure equitable opportunities for aspiring orthopaedic surgeons.

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Perceived Barriers to the Recruitment and Retention of Underrepresented Racial and Ethnic Groups (URGs) in Clinical Research

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OBJECTIVES/GOALS: The inclusion of underrepresented racial and ethnic groups (URGs) in clinical research is critical for ethical and scientific reasons. This initiative aimed to assess the perspectives, barriers, needs, and recommendations encountered by research teams when enrolling and retaining URGs in clinical research. METHODS/STUDY POPULATION: An anonymous, web-based survey comprised of quantitative and qualitative questions was administered to individuals involved in clinical research at an academic medical center. The survey assessed three main domains: 1. Research teams' perceptions and experiences with enrolling URGs in clinical research, 2. Factors that discourage URGs from participating in clinical research, and 3. Research teams' overall willingness to support URG enrollment. Demographics were also collected. The survey was reviewed by experts in clinical research, research ethics, and diversity, equity, inclusion, and accessibility (DEIA). The assessment was piloted among research professionals and edits were made accordingly prior to official dissemination. Data were analyzed using descriptive statistics. RESULTS/ANTICIPATED RESULTS: There was a total of 63 responses. A majority of respondents have more success enrolling patients whose primary language is the same as their own and that time arranging for an interpreter has negatively impacted enrollment efforts. Approximately half of the respondents believe that the race and/or ethnicity of the potential study participant influences enrollment success. Factors discouraging URGs from participating in clinical research include unavailability for follow-up visits due to transportation issues, distrust in doctors and/or researchers, fear of unknown side effects, and unavailability of medical interpreters. Respondents report that they are not discouraged from enrolling URGs and would utilize resources related to encouraging the inclusion of URGs DISCUSSION/SIGNIFICANCE: Language appears more influential than ethnicity or race when it comes to enrolling and retaining URGs. Additionally, it appears that enrolling is a bigger challenge than retaining. Major themes that emerge with respect to retaining enrolled participants include the inability to attend follow-up visits and the lack of incentives/compensation.

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Gender-Diverse Inclusion: The Language of Sex and Gender in PrEP Clinical Trials

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OBJECTIVES/GOALS: To construct an assessment scale capable of evaluating a trial's gender literacy or the extent to which biologically assigned "sex" is understood as separate from culturally defined and personally embodied "gender". This scale in tandem with a policy brief will outline recommendations for inclusive medical