inclusion criteria, only 493 had published findings. 286 studies (58%) met enrollment targets. Only 9 studies described any level of CEn (1 outreach, 3 consult, 1 involvement, 3 collaboration, and 1 shared leadership). Time to enrollment for these 9 studies (mean 28.78 mos.) was shorter than for studies without CEn (mean 37.43 months) (n.s.). CEn studies reached significantly higher enrollment (CEn mean = 2395.11, non-CEn mean = 463.93), p DISCUSSION/SIGNIFICANCE OF IMPACT: Results demonstrate the substantial effect of CEn on enrollment and inclusion in clinical studies. However, the infinitesimal number of studies that reported CEn did not allow comparisons of level of engagement on the outcomes. Findings highlight ethical questions surrounding the lack of publishing incomplete studies.

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Demonstrating trustworthiness within the community through a human-centered design research approach

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OBJECTIVES/GOALS: As translational researchers, we seek to offer more treatments to more people, more quickly. Essential to this mission, we must demonstrate trustworthiness to establish trusted with those we seek to benefit. Research Jam uses a human-centered design (HCD) research approach to achieve this. METHODS/STUDY POPULATION: HCD is an iterative process that focuses on understanding people's contexts while designing products and services collaboratively with the people who will interact with and be affected by the research. This generative approach helps participants express tacit and latent knowledge – emotions, needs, and desires that are often challenging to communicate verbally. We work with individuals who have lived experience relevant to the research being conducted and use HCD activities to help people share their thoughts, concerns, and ideas. These activities are highly interactive, promote collaboration, and explore topics with respect and sensitivity. RESULTS/ANTICIPATED RESULTS: At Indiana Clinical and Translational Sciences Institute, we use the AAMC's principles of trustworthiness. These principles parallel the tenets of HCD research; thus, taking an HCD research approach naturally builds trust between the researcher and participants and offers tangible benefit to the research, the researcher, and those with lived experience who participate. We have ten years of work collaborating with 40 PIs and over 600 participants. Our experiences demonstrate that this approach can create an environment where participants feel comfortable as they share their thoughts, concerns, and ideas which influences the research that could affect their lives. DISCUSSION/SIGNIFICANCE OF IMPACT: An HCD approach helps demonstrate a researcher's trustworthiness with the population being served. This is essential to achieve a lasting impact by discovering the best solutions from the community's perspective and identifying partners to help implement solutions.

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Food is medicine: assessing medically tailored meals through a health equity lens for Hispanic/Latinx and monolingual Spanish-speaking populations

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OBJECTIVES/GOALS: To evaluate disparities in diabetes outcomes between Hispanic/Latinx and non-Hispanic participants in a medically tailored meal intervention, assess effect modification by ethnicity/language, and explore cultural factors influencing intervention effectiveness for diverse T2DM populations. METHODS/STUDY POPULATION: This mixed-methods study, part of the Changing Health through Food Support for Diabetes RCT (n = 246), compares standard diabetes care to a 6-month medically tailored meal intervention for T2DM patients with food insecurity. It examines differences in intervention effectiveness among Latinx, Spanish-speaking participants and non-Latinx, English-speaking participants from San Francisco and Alameda counties. Quantitative measures include HbA1c, food security scores, and hospitalization rates. Qualitative interviews explore diabetes management, food access, and cultural factors. Baseline disparities are assessed using t-tests and chi-square analyses, while longitudinal changes are evaluated with mixed-effects models. Thematic analysis of qualitative data identifies emerging patterns. RESULTS/ANTICIPATED RESULTS: We expect to find significant baseline disparities in glycemic control and food security between Latinx- and Spanish-speaking participants compared to their counterparts. The medically tailored meal intervention is anticipated to show differential effectiveness, with potentially smaller improvements among Latinx and Spanish-speaking groups. While we hypothesize that medically tailored meals will lead to improved glycemic control and reduced food insecurity across all groups, the magnitude of improvement may vary. Qualitative data are expected to reveal unique cultural and linguistic barriers contributing to these disparities, as well as insights into the acceptability and cultural appropriateness of the intervention. DISCUSSION/SIGNIFICANCE OF IMPACT: This study will inform culturally tailored medically tailored meal interventions for Hispanic/Latinx- and Spanish-speaking populations, addressing disparities in diabetes outcomes and food security. Findings will shape "food is medicine" initiatives and policies to reduce chronic disease burden and health inequities in diverse communities.

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Leveraging community engagement studios (CE Studios) to develop an interview guide addressing the sexual health needs of justice-involved youth

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OBJECTIVES/GOALS: 1. Demonstrate the need to apply principles of community-engaged research to various stages of the research process. 2. Outline the process of using CE Studio(s) to redesign an interview guide for service providers of youth involved in the justice system. METHODS/STUDY POPULATION: Service-providers provide a critical lens with which to view the sexual health needs of justice-involved youth. Minimal research describes the unique perspectives of those who work directly with this vulnerable population to address their sexual health needs. The goal of this project is to outline the process of using CE Studio(s) to redesign an interview guide for service providers. The guide is aimed at gathering insight into the knowledge, access, and use of sexual health services for justice-involved youth. Preparation involves the preplanning phase, including the drafting of the interview guide; engagement consists of recruitment and implementation of the CE Studio; and restructuring will outline the application of feedback and finalization of the interview guide. RESULTS/ANTICIPATED

RESULTS: During the preparation phase, the researcher was tasked with (1) developing a visual guide to highlight key points of the research study and (2) providing a draft of the tentative interview guide for review prior to the CE Studio session. For the engagement stage, participants were recruited from listservs, community organizations, and word-of-mouth to participate in a session facilitated by a member of the CE Studio team. Lastly, we anticipate that the restructuring phase will not only allow us to use feedback from the CE Studio session to alter the interview guide but provide insight into potential recruitment strategies for the overarching research project. DISCUSSION/SIGNIFICANCE OF IMPACT: Leveraging CE Studios to elicit feedback from service providers will provide unique insight into addressing the sexual health needs of justice-involved youth. We expect that the overall CE Studio process and feedback will be integral in eliciting strong qualitative feedback and shaping the implementation of the overall research project.

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Patient and neighborhood characteristics associated with frontline therapeutic clinical trial enrollment among adolescents and young adults (AYAs) with hematologic malignancies at affiliated pediatric and adult centers

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OBJECTIVES/GOALS: Despite significant advancements, adolescent and young adult (AYA) patients with hematologic malignancies continue to have inferior improvement in survival over time compared to their younger and older peers. This project assesses which patient and neighborhood characteristics are associated with clinical trial enrollment in this population. METHODS/STUDY POPULATION: We will perform a retrospective study of individuals, aged 15–39, diagnosed and treated at Children's Healthcare of Atlanta (CHOA) or Winship Cancer Institute for hematologic malignancies between 2011 and 2023. Our primary exposure variables will be race/ethnicity, the area deprivation index (ADI), and the index of concentration at the extremes (ICE). The primary study outcome will be enrollment in an open frontline therapeutic clinical trial (yes vs. no). Our analyses will estimate the crude and adjusted odds ratio of clinical trial enrollment according to race/ethnicity, ADI, and ICE; these analyses will be adjusted for co-variables of interest (e.g. patient primary language, and insurance provider). As a secondary analysis, we will further subdivide the patients by treatment location and by age tertiles. RESULTS/ANTICIPATED RESULTS: Our study team completed preliminary work looking at institutional clinical trial enrollment in a pediatric-only (DISCUSSION/SIGNIFICANCE OF IMPACT: We expect that this study conducted in a large, diverse AYA cohort will reveal key associations about likelihood of clinical trial enrollment. Once these associations are known, we can develop and test interventions – such as augmented social work involvement and assistance with transportation – to mitigate the effect of amenable risk factors.

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Social determinants of health among rural underserved patients with uncontrolled hypertension*†

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OBJECTIVES/GOALS: The growing burden of hypertension in the USA disproportionately impacts individuals with lower socioeconomic status and those in rural communities. This study aims to investigate specific social determinants of health associated with uncontrolled hypertension among rural, underserved patients residing in Alabama. METHODS/STUDY POPULATION: A retrospective review of electronic health records data from the UAB Selma Family Medicine clinic was conducted. The deidentified data were entered into the Population Health Assessment Engine (PHATE) to render social characteristics and community vital sign (CVS) scores, a social deprivation index, by census tracts. We provide descriptive statistics and compare the stated factors between patients with controlled and uncontrolled hypertension using logistic regression models. We are conducting phone surveys to gather individualized data on social determinants of health to assess the perceived social needs of patients with hypertension. The Protocol for Responding to & Assessing Patients' Assets, Risks & Experience tool was used to develop the survey, and survey responses will be compared with the PHATE results. RESULTS/ANTICIPATED RESULTS: Among 2129 patients, 375 (17.6%) had uncontrolled hypertension with a mean age of 58.7 ± 14.4 years. Women comprised 66.7% (250) and 65.1% (1142) of the uncontrolled and controlled hypertension populations, respectively. The prevalence of uncontrolled hypertension was 19.1% among Black patients and 8.2% in White patients. Patients with uncontrolled hypertension had a CVS of 82.37 ± 7.31 and 81.81 ± 8.40 patients with controlled hypertension. Patients with uncontrolled hypertension lived in areas where an average of 46 ± 11% were not employed, 36 ± 9% rented, and 28 ± 1% lived below the federal poverty line (FPL). Adjusting for age, race, and sex, a unit increase in the proportion of people below the FPL was associated with 43% higher odds of uncontrolled versus controlled hypertension (OR = 1.43, 95% CI 0.44, 4.64). DISCUSSION/SIGNIFICANCE OF IMPACT: Rural, underserved patients with hypertension experience multiple adverse social determinants, such as nonemployment rates, low income, and rental housing. Survey results will allow us to compare assessed and individualized social determinants that may be important to address when caring for this population.

†The abstract has been updated since original publication. A notice detailing the change has been published at doi: 10.1017/cts.2025.10062

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Health data stewardship: Toward transparency, community engagement, and shared governance

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OBJECTIVES/GOALS: To guide UCSF in adopting a justice-based, patient-informed model of health data sharing that moves beyond