

60 interviews were conducted (n = 30 pharmacists, n = 30 patients). Qualitative data analysis is ongoing and is expected to be completed by December 2024. Interviewee's responses describing knowledge, attitudes, barriers, facilitators, pharmacies' organizational readiness, and recommended program elements will be categorized according to the CFIR domains of "inner setting," "outer setting," "intervention characteristics," and "characteristics of individuals." Domains will be summarized with over-arching themes. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Findings are expected to inform development of a community pharmacy-based MBSR program for chronic pain management. This serves as the first step in building and implementing a sustainable, accessible community pharmacy-based program offering a nonopioid alternative for pain management in the underserved rural Deep South.

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### **The Blacker the Berry: A study of anti-neuroinflammatory food preferences and acceptability among Black American pregnant and postpartum people living in food apartheid**

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**OBJECTIVES/GOALS:** This study aimed to identify preferences for nutrient-dense foods with critical nutrients associated with reduced neuroinflammation and perinatal depression risk. Aim two evaluated the acceptability of daily intake and preparation methods of select foods in Black American pregnant and postpartum people living in food apartheid in St. Louis. **METHODS/STUDY POPULATION:** The study included a mixed-methods sequential explanatory design with data collection at the YWCA of Metro St. Louis during Early Head Start programming with 21 participants living in geographies with low grocery-to-convenience store ratios. We conducted an open-ended online survey to determine participants' preferences for specific foods with high nutrient density. Food preferences were subjected to nutrient analyses using FoodData Central, and foods with the highest concentrations of critical nutrients associated with reduced neuroinflammation and perinatal depression risk were identified. We presented results during a focus group with participants who completed the survey and evaluated the acceptability of daily intake and preparation methods. **RESULTS/ANTICIPATED RESULTS:** Preferred food choices with the highest concentrations of critical nutrients associated with reduced neuroinflammation and perinatal depression risk included dark red kidney beans, black beans, pinto beans, black-eyed peas, peanuts, almonds, pistachios, walnuts, pecans, carrots, spinach, red bell pepper, sweet potatoes, and salmon. Participant justifications for low acceptance of daily intake included allergic reactions, "dry" or "slimy" texture, undesirable taste or appearance, absence of cravings, preferring alternatives, complicated preparation methods, and financial tradeoffs. Participant justifications for high acceptance included desirable taste and texture, diverse modification and preparation options, and nutrient composition critical for anemia treatment. **DISCUSSION/SIGNIFICANCE OF IMPACT:** The study identified nutrient-dense food preferences within a sample vulnerable to nutrient-poor alternatives and health consequences. Participant acceptance of nutrient-dense intake was contingent upon recipes fulfilling cravings, acceptance among persons preparing meals, and diverse options to prevent boredom with preparation methods.

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### **Community engagement in secondary analysis research: A case example**

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**OBJECTIVES/GOALS:** Community engagement is critical to promoting equity for those affected by clinical and translational research. Despite its importance, investigators rarely involve community stakeholders in ancillary projects such as secondary analyses. I use a study example to demonstrate how to meaningfully partner with communities in ancillary research. **METHODS/STUDY POPULATION:** Using data collected in a previous study, the aim of this secondary analysis was to examine whether pregnant women's reports of social adversity during the third trimester were associated with their infant's resting cortisol level at 1, 6, and 12 months of age. Community engagement at the study design phase included consultation with an institutional Community Advisory Board (CAB) whose expertise included lived experiences relevant to the context of the study (i.e., social adversity and pregnancy). Community engagement at the analysis and dissemination stage included deeper collaboration with three community research consultants (CRCs) from the CAB; all identified as women of color and mothers with relevant lived experiences. CRCs received compensation for time and effort and an invitation for co-authorship. **RESULTS/ANTICIPATED RESULTS:** Consultations included written review as well as a live presentation and discussion with the CAB for feedback on the study proposal prior to submission for IRB approval. The focus of discussion was around the use of inclusive terminology and ensuring respectful and equitable representation of all participants in the original study, including those who reported experiences with social adversity during pregnancy. After receiving study approval, statistical analyses were finalized and CRCs actively engaged in discussions with the PI around the interpretation of results. CRCs significantly contributed to the development of solutions-oriented implications for practice, policy, and future research. All CRCs were co-authors on the study manuscript that was published in a top-tier international journal. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Community engagement in ancillary research is feasible and essential. True equitable collaboration requires partnership during all study activities, including critical phases (e.g., developing aims, data analysis). Researchers also should prioritize the use of datasets from studies that incorporated community partnership and engagement.

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### **Appalachian Kentucky Rural Research Hub: Ensuring the success of community-engaged research**

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**OBJECTIVES/GOALS:** To facilitate engagement between university researchers and Appalachian Kentucky communities, the UK Rural Research Hub (RRH) promotes Community Engaged Research (CEnR) and academic-community partnerships that have the greatest potential to conduct impactful research to improve health and reduce regional health disparities. **METHODS/STUDY POPULATION:** Through the UK RRH, a wealth of expertise and a range of services sustain successful CEnR. Hub coordinators provide research consultations, accelerate researchers' engagement with

the community, and facilitate the success of studies through study coordination, assistance with participant recruitment, data collection and interventions, and through dissemination back to the community. RESULTS/ANTICIPATED RESULTS: UK RRH coordinators have supported numerous studies across the region. For example, RRH staff facilitated recruitment of and collected data from 40 Appalachian caregivers of patients with Alzheimer's disease and related dementias (ADRD) in a study to improve home environments for patient well-being. The study provided pilot data for a successful K23 application. Other examples of supported research include studies to improve cancer screening uptake, self-management of diabetes, and cardiovascular disease risk reduction, resulting in improved care in the community and often providing pilot data leading to larger national grants. DISCUSSION/SIGNIFICANCE OF IMPACT: Research addressing the complex health issues that burden Appalachian Kentucky requires community engagement to be successful. The UK RRH is at the heart of successful CEnR that benefits researchers and communities alike.

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### Do translational stage or research experience affect funding applicant views on engaging interest holders?

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OBJECTIVES/GOALS: Engaging interest holders in research is increasingly common, and guidelines include creating engagement plans. A detailed plan may be especially helpful when researchers perceive engagement as difficult or less relevant. We tested whether a study's translational stage or an investigator's years of research experience affect their perceptions. METHODS/STUDY POPULATION: Since 2019, the Tufts Clinical and Translational Science Institute Pilot Studies Program required applicants to submit plans to engage interest holders. Applicants in three cohorts responded to a survey about this requirement, including perceived difficulty developing an engagement plan, perceived relevance of engagement, and self-reported years of research experience ( $\leq 5$ , 6–10, and  $\geq 10$  years). Two raters assigned translational stage(s) of proposed studies: T0 (basic science), T.5 (pre-clinical to initial human studies), and T1 through T4. Separate analyses were conducted when multistage studies were coded as the earliest vs. latest stage and for individual stage vs. groups of stages (T0/T.5/T1 vs. T2/T3/T4). The Fisher's exact statistical test was used to assess associations between variables. RESULTS/ANTICIPATED RESULTS: Analyses included 67 participants. Developing an engagement plan was perceived as more difficult for studies at earlier translational stages when those studies were coded as the earliest applicable stage. This significant association held both when stages were grouped as T0/T.5/T1 and T2/T3/T4 ( $P = .03$ ) and when analyzed as a single stage ( $P = .01$ ); however, when studies were coded as the latest applicable stage, there were no significant associations. Similarly, when

multistage studies were coded as the earliest applicable stage, engagement was perceived as less relevant for early-stage studies when grouped ( $P = .04$ ), but not for individual stages or when studies were coded as the latest applicable stage. No significant association between years of research experience and perceived difficulty was identified. DISCUSSION/SIGNIFICANCE OF IMPACT: Results show that investigators conducting early-stage research perceive more difficulty engaging interest holders, aligning with prior qualitative studies. These investigators may need more evidence of the value added to early-stage studies, targeted and practical training, and funder requirements to establish a culture of engagement.

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### Culturally tailoring infographic messages to increase Alzheimer's prevention among Black adults

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OBJECTIVES/GOALS: This study will integrate scientific evidence to create messaging about the modifiable risk factors for Alzheimer's disease (AD) and examine how culturally tailoring elements in message content, such as text and visualizations in infographic messaging, impacts cognitive processing of AD prevention messages among Black adults. METHODS/STUDY POPULATION: This study is guided by the two-dimensional theory of cultural sensitivity and the elaboration likelihood model (ELM). The two-dimensional theory distinguishes between surface structure (visualizations) and deep structure (text with embedded cultural features) in messaging. The ELM considers how message attributes influence cognitive processing. A  $2 \times 2$  factorial experiment will test the impact of cultural features (surface vs. deep) and message type (text-based vs. infographic) on persuasive outcomes regarding modifying AD risk factors. Black adults will be recruited from local churches and randomly assigned to one of four conditions, after which they will complete post-test measures. Statistical analyses will determine the effects of cultural tailoring and message effects on outcome variables. RESULTS/ANTICIPATED RESULTS: Guided by previous literature (Resnicow et al., 1999; Lazard & Atkinson, 2015; Lam et al., 2022), we hypothesize an interaction effect of cultural tailoring and message type, wherein surface structure infographic messages and deep structure text-based messages will outperform the other two message conditions, resulting in greater cognitive processing and more positive attitudes and behavioral intentions toward modifying AD risk factors. In addition, a research question asks whether there will be differences between surface structure infographic messages and deep structure text-based messages on outcome variables. The study will advance understanding of the effects of cultural sensitivity and visual vs. text-based messaging by integrating these literatures. DISCUSSION/SIGNIFICANCE OF IMPACT: This research will contribute to the literature on culturally tailored health messages and persuasive effects of text vs. visual messages. The findings can inform the development of more effective, culturally relevant public health campaigns for AD prevention by reducing risk for AD through modifiable risk factors in diverse populations.