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### Training Medical Interns and Graduate and Professional Students on Community Engaged Research: Lessons Learned from Implementing a Community Scholars Program

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**OBJECTIVES/GOALS:** 1. Describe the development and implementation of a Community Scholars Program to train graduate and professional students on principles of community engagement and its application to their research. 2. Evaluate lessons learned and overall impact implementing a Community Scholars Program. **METHODS/STUDY POPULATION:** After identifying a need to train scholars on the principles of community engagement, the Community Engagement Research Core's (CERC) Community Advisory Council (CAC) developed the Community Scholars Program (CSP) in 2014. The CSP was designed to educate scholars on community engaged research and how it can be applied to their research projects. The program is currently in its ninth cohort with 19 graduate and professional students having participated in the program to date. Prospective scholars identify a community partner and faculty mentor and apply to conduct a community engaged research project over the course of an academic year. The purpose of this project is to describe the development and implementation of a CSP and identify lessons learned throughout the process. **RESULTS/ANTICIPATED RESULTS:** Five lessons learned have been identified: five major lessons learned from implementing the CSP: (1) establish partnership agreements between the scholars and their community partners and faculty mentors, setting expectations to avoid conflict and increase mutual understanding; (2) expand and implement more creative outreach approaches to cultivate a more diverse pool of applicants; (3) increase networking between current and past scholars to share experiences and serve as a resource for each other; (4) provide formal CE training for scholars to develop a better understanding of the principles of CE and CE research; and (5) document progress of the program through formal feedback and evaluations. **DISCUSSION/SIGNIFICANCE:** The CSP was constructed to fill a gap in CE research training for graduate and professional scholars. Over the course of the program, the identified lessons learned have created program clarity and increased accountability for scholars, mentors, and community partners alike.

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### Trauma-informed, culturally responsive clinical and translational research with African American communities

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**OBJECTIVES/GOALS:** To present a community engaged pilot study of minority participation in clinical research that translates principles of trauma informed care and culturally responsive education into research practices for Investigators that elevate African American patients' trauma survivorship, and prioritize their values for meaningful research engagement. **METHODS/STUDY POPULATION:** Data will be generated from Phase 1 pilot project research activities including: a) a scoping review of trauma-informed

care and culturally responsive education principles, and published recommendations for translating these principles to clinical research practices, b) semi-structured Key Informant interviews (~10) capturing the perceived impact of trauma on Portland-area African Americans' health, well-being, and clinical research participation, and c) a 2-day stakeholder council meeting with clinicians, patients, community health workers, Investigators, and IRB staff that will prioritize the clinical research principles and practices that matter most to African American patients, from pre-design to dissemination. Data will be collected Fall 2022/Winter 2023, and analyzed in Winter 2023. **RESULTS/ANTICIPATED RESULTS:** The results will empirically validate published recommendations on how to apply trauma-informed, culturally responsive (TICR) principles to clinical research practices, specifically for African American patients. They will illuminate the sociocultural and historical contexts under which clinical research is conducted with minoritized patients—drawing on the experiences of personnel who intersect at various levels of the clinical research ecosystem, and African American patients with varying experiences with clinical research. Results will illuminate challenges, needs, assets, cultural funds of knowledge, and values for meaningful research engagement, and provide practical, tangible strategies for Investigators to align with equity- and justice-based clinical research practices. **DISCUSSION/SIGNIFICANCE:** The TICR research approach disrupts the cycle of trauma, health disparities, and low minority research participation through a paradigm shift that equips Investigators to exercise universal precautions to minimize harm, protect African American research participants from retraumatization, prioritize their cultural values, and promote safety.

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### Uganda-based Survey of Challenges in Breast Cancer Detection in Low and Middle Income Countries

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**OBJECTIVES/GOALS:** Low and middle income countries (LMICs) face challenges in early detection of breast cancer resulting in high breast cancer mortality. This study serves to identify gaps and opportunities for innovators seeking to address problems in early detection of breast cancer in Uganda and other LMICs. **METHODS/STUDY POPULATION:** Two methods were used: 1) Three weeks of ethnographic research in Uganda through primary stakeholder interviews and clinical observations. Interviews were conducted with patients, clinicians, NGOs, and key opinion leaders from the Uganda Cancer Institute, Makerere University, and JHPIEGO. Clinical observations were performed to note the workflow and availability of resources across diverse health centers ranging from village health teams in rural settings to the national referral hospital in the urban center. 2) A targeted literature search focused on breast cancer detection in LMICs. Keywords included breast cancer, screening, and diagnosis. Identified challenges were validated through stakeholder interviews and categorized. Potential solutions to each challenge were explored. **RESULTS/ANTICIPATED RESULTS:** Three broad categories of challenges and suggested innovation targets were identified. 1) Ineffective clinical processes: deskilling and improving training around the process of clinical breast examinations, imaging operation and interpretation, and pathology preparation and

interpretation; 2) Accessibility: increasing screening throughput, improving rural community access to breast cancer care, and increasing opportunistic screening; 3) Sensitization: increasing patient and health worker awareness of clinical presentations of breast cancer, reducing cultural barriers, and improving trust in the medical community. **DISCUSSION/SIGNIFICANCE:** Innovators seeking to solve problems in early breast cancer detection in LMICs should focus on ineffective clinical processes, accessibility, and sensitization. In conjunction with prompt treatment, there is potential to reduce breast cancer mortality rates in line with the Global Breast Initiative.

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### **Understanding the utility of an evaluation instrument and a feedback mechanism in community-based participatory research (CBPR) partnerships**

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**OBJECTIVES/GOALS:** To examine i) how longstanding ( $\geq 6$  years) community-based participatory research (CBPR) partnerships nationwide implemented a validated questionnaire to measure success and its contributing factors and ii) how the CBPR partnerships utilized and applied a feedback mechanism, or reports of findings from the questionnaire and a facilitation guide **METHODS/STUDY POPULATION:** This mixed methods study builds upon a larger NIH-funded project entitled 'Measurement Approaches to Partnership Success (MAPS). MAPS developed and validated the 109-item MAPS questionnaire to measure success in longstanding ( $\geq 6$  years) CBPR partnerships. In 2020, 55 CBPR partnerships nationwide completed the MAPS Questionnaire and, a year later, received the MAPS Feedback Mechanism, consisting of questionnaire findings and a facilitation guide on how to present the findings. In this follow-up study, we administered multi-method surveys to each partnership contact person in 2022 to examine their experience with and utility of the MAPS Questionnaire and the MAPS Feedback mechanism. We performed descriptive analysis of quantitative responses using SAS and thematic analysis of qualitative responses. **RESULTS/ANTICIPATED RESULTS:** Survey responses have been presently collected from 14 partnerships. Preliminary findings suggest that the most frequently reported benefits of completing the MAPS Questionnaire included stimulating partnership reflections and ease of completion. Many partnerships shared results of the MAPS Questionnaire by e-mail or during partnership meetings. Nearly half of the partnerships rated components of the MAPS feedback mechanism as useful. Over one-third of the partnerships reported that the COVID pandemic limited their capacity to engage with the MAPS Feedback Mechanism. Key qualitative suggestions included making the MAPS Questionnaire shorter, providing it in a different format, and offering additional facilitation to support the implementation of the MAPS Feedback Mechanism. **DISCUSSION/SIGNIFICANCE:** This study examines how CBPR partnerships utilize an evaluation instrument and apply results on success. Current findings suggest potential utility of the MAPS Questionnaire and Feedback Mechanism for ongoing evaluation. Reducing the questionnaire length and providing facilitation resources may enhance implementation across diverse settings.

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### **Use of Community Review Boards to Evaluate the Utility of the ICF Navigator - A Browser-based Tool to Create Plain-Language Informed Consent Forms**

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**OBJECTIVES/GOALS:** To evaluate the clarity of plain-language informed consent forms (ICF) created using a browser-based tool called the ICF Navigator, we solicited feedback from two community review boards (CRB) to ensure the resulting ICF met the informational needs of all potential participants, including those with limited health literacy skills. **METHODS/STUDY POPULATION:** Community-engaged research highlights the importance of involving community members in the planning and execution of translational research projects. Virtual discussions were held to elicit feedback from two separate CRBs on the understandability of an ICF that was generated using an online, browser-based tool that we designed to aid researchers in the creation of plain-language ICFs. CRBs included representation of diverse communities from across the state of Arkansas, including individuals who may have limited health literacy skills, those with and without prior experience participating in clinical research projects, members living in rural and urban settings, and those whose race or ethnicity have been traditionally underrepresented among clinical research participants. **RESULTS/ANTICIPATED RESULTS:** CRB feedback was used to inform actionable improvements to the tool, such as removing content redundancies and embedding tips to guide researchers on how best to optimize the clarity and understandability of resulting ICFs. Program refinements in response to the feedback have been implemented and will be evaluated in another round of CRB discussions in early 2023. Feedback from this follow-up CRB session will also be presented in addition to a discussion of how the feedback was used to improve the online tool, which will ultimately be available for free use by other institutions. **DISCUSSION/SIGNIFICANCE:** The use of community feedback to optimize the functionality of the ICF Navigator demonstrates the value of CRBs for ensuring that ICFs are culturally salient and readily understandable by all potential research participants, particularly those who may have limited health literacy skills, thereby promoting more equitable opportunities for all.

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### **Using Learning Health System Principles to Improve Cancer Research: The Citizen Scientist Cancer Research Curriculum**

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**OBJECTIVES/GOALS:** Team science is a focus of the University of Florida Clinical and Translational Science Institute (UF CTSI) Learning Health System Initiative. Citizen Scientists (CSs) are integral research partners who provide pragmatic feedback. The UF Health Cancer Center (UFHCC) aspired to adopt a similar approach to