Improving Bi-Directional Learning, Engagement, and Recruitment in Human Neuroimaging Research

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Challenge: More Representative and Diverse Participants in Human Neuroimaging Research

- Much human neuroimaging research continues to rely on non-representative convenience samples, undermining many key assumptions supporting causal inference in research [1]
- A significant barrier to bidirectional learning is **conflation of engagement and recruitment**. ENGAGEMENT centers on improving research literacy and interest. RECRUITMENT focuses on individual research studies [2]
- Human neuroscience research does not reflect the racial, ethnic, geographic, and socioeconomic diversity of the population [3]

Need: New Tools & Approaches for Neuroimaging Researchers to Engage Underrepresented Communities

- Insufficient ethical guidance & tools for neuroimaging researchers on conducting community-engaged research with underrepresented and minoritized (URM) populations [4]
- Pursuit of more diverse participant pools requires careful consideration about how diversity and population descriptors (e.g. for race, ethnicity, gender) should be defined [5]

References & Additional Resources: Scan QR Code for References and link to REACH for BRAIN project website

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REACH for BRAIN

Improving Recruitment, Engagement, and Access for Community Health Equity for BRAIN Next-Generation Human Neuroimaging Research and Beyond (REACH for BRAIN)

Motivation: REACH for BRAIN directly addresses the need for deeper community engagement and more representative participation in neuroimaging research.

METHODS:

- REACH for BRAIN implementing strategies developed by Hemley et al (in press) [6]
- Stakeholder network comprised of 12 Black and Latinx community leaders across Boston will co-develop a targeted, community-led and participant-centered sampling, engagement, and recruitment framework for neuroimaging researchers to reach motivated participants from URM communities, including selection metrics and catchment modeling
- Theory of Change (ToC) process and a detailed roadmap and evaluation plan for inclusive recruitment for research [7]
- Co-created events, Community Engagement Studios, and touchpoints in the community to facilitate bi-directional learning

Initial Implementation with Connectome 2.0 Scanner Research

- Connectome 2.0 is a next-generation human connectomics scanner optimized for study of neural tissue microstructure and neural circuits across multiple length scales [8]

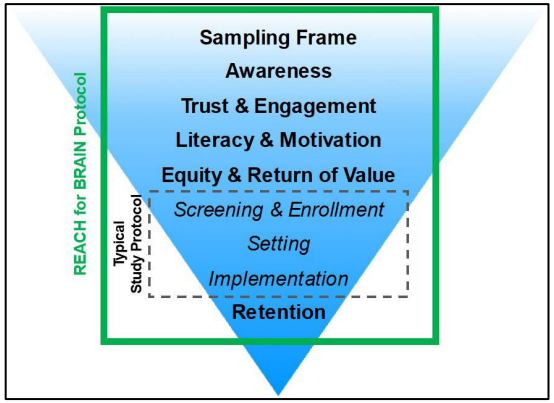

Figure 1. Ordered workflow of decisional stages, contextualizing research protocols within a framework of activities that includes recruitment, engagement, and retention efforts. Typical study protocols only develop standard operating procedures for the stages in the dotted line box. REACH for BRAIN is designed to address the entirety of this expanded workflow in green box.

PRELIMINARY WORK & NEXT STEPS:

- Community engagements events being held
- Stakeholder network being built
- Neuroethics & neuroimaging teams meeting to build protocols
- Next steps are to convene the stakeholder network, finalize ToC, and expand engagement work