

advertising campaigns designed for 160 studies were collected from U-M's Research Data Warehouse, Meta, and other administrative sources. MICHR's participant recruitment team systematically reviewed these data and rated the relevance and effectiveness of the recruitment strategies for each study. Stepwise linear regressions were used to test predictors of the efficiency and effectiveness of social media campaigns on Meta, as measured by the 1) total reach, 2) total clicks, 3) the "click-through rate," and 4) cost per "click" of the campaign over time. Differences between the impact of campaigns for clinical trials and other clinical and translational research were found. Improvement initiatives informed by these results are underway and their impact is being evaluated. RESULTS/ANTICIPATED RESULTS: 64 clinical trials and 94 non-trials were identified, with an average of \$1,635 spent on social media campaigns for trials and \$950 spent on non-trials. Across all social media campaigns, an average of 121,500 people were reached at a total cost of \$1,220 per campaign, returning 4,288 clicks (4% click through rate) at \$0.38 per click. The campaigns for trials reached more people than non-trials (152,998 vs. 101,261) and they attracted a larger number of clicks (6090 vs. 3106). The resulting average click-through rate was higher for clinical trials (4.9% vs. 3.7%), and the cost per click was lower (\$0.35 vs. \$0.39). Campaigns for clinical trials cost significantly more (Mean = \$1,635, SD = \$1,473, $p = .020$) but returned more clicks (Mean = 6,090, SD = 5,105, $p = .007$), and higher click-through rates (Mean = 4.9%, SD = 2.2%, $p = .017$). DISCUSSION/SIGNIFICANCE OF IMPACT: There is great variation in the efficiency and effectiveness of social media advertising campaigns for recruitment into clinical trials and other clinical and translational studies. While the size and cost of these campaigns were found to be higher for clinical trials than for non-trials, the effectiveness of trials' campaigns can also be greater.

Defining, prioritizing, and solving problems in translational science: An innovative framework for community-driven strategic investment

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OBJECTIVES/GOALS: Clinical and Translational Science Award hubs will be the primary investors in advancing translational science until academic reward structures and funding agencies incentivize these efforts. As such, hubs will benefit from systematic methods to strategically identify and efficiently solve challenges in the translational process. METHODS/STUDY POPULATION: Translational science (TS) problems are abundant, complex and typically reside within systems of interconnected processes and people. These characteristics are informing efforts at the Michigan Institute for Clinical & Health Research (MICHR) to create a framework that guides how we select the right translational science problems to invest in solving and how we solve these problems in user-centric, efficient, and effective ways. Our framework leverages methods from the fields of design and systems thinking. Design thinking is a human-centered approach to problem solving and innovation that is ideal for tackling ill-defined and complex problems. Systems thinking methods help us situate and analyze problems within broader dynamics, structures, and perspectives, ultimately informing key levers for change. RESULTS/ANTICIPATED RESULTS: Applying design and systems methods, we created an eight-step TS framework that centers on the diverse perspectives of those experiencing a TS problem and those

implementing solutions. The first four steps guide in defining the TS problem within its context, understanding why previous solutions have not worked, and determining the value and generalizable knowledge that a solution would create. The last four steps are solutions-focused, with iterative brainstorming, testing, and refining of potential solutions before they are implemented locally and disseminated widely. Each step is underpinned by guiding questions, methods, outputs, and metrics to ensure a scientifically rigorous approach to defining, prioritizing, and solving TS problems. We are currently prototyping the framework with various case studies. DISCUSSION/SIGNIFICANCE OF IMPACT: A framework that guides strategic investment in TS should ensure resources are allocated to the most well-defined and pressing problems that are important to the community and should speed up the process of creating solutions. Engaging myriad viewpoints leads to more viable solutions that foster a commitment to real change within the research ecosystem.

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Research operations dashboard: Developing a shared data infrastructure for multisite quality improvement

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OBJECTIVES/GOALS: Lack of comparative data limits research operations quality improvement (QI). The Northwest Participant and Clinical Interactions (NW PCI) Network, a group of 17 unaffiliated university and health system-based research centers, built an operations dashboard to track efficiency and enable multisite QI projects. METHODS/STUDY POPULATION: A Data Governance Working Group was assembled to establish shared data governance, draft nondisclosure (NDA), and data transfer and use agreements (DTUA) suitable across organizations and standardize research operations metric definitions. Sites in the NW PCI Network were recruited to participate in a pilot program to assess data sharing and governance infrastructure, data collection, upload procedures, and data visualization tools. The NW PCI Coordinating Center developed an analytical data dashboard of research operations metrics and conducted semi-structured interviews with participating sites to understand barriers and facilitators of program success. RESULTS/ANTICIPATED RESULTS: Four sites (2 health systems, 2 universities) were recruited for the pilot and reviewed and executed NDAs and DTUAs. Three of the sites have submitted data for a total of 1,405 studies. Of the 24 requested data operations metrics (e.g., study startup, recruitment, implementation, and basic study information), 71% of the metrics were submitted by all three sites ($n = 17$), 25% were submitted by at least one site ($n = 6$), and 4% were not submitted by any site ($n = 1$). Interviews with sites after data submission found areas for improvements (clarification of data definitions, efficiency of data upload process) and positive effects for sites (e.g., process improved insight into own data operations). DISCUSSION/SIGNIFICANCE OF IMPACT: Unaffiliated research centers created data governance procedures to enable sharing of operations data. Pilot sites successfully loaded most but not all operations data to the dashboard. Interviews identified process limitations and opportunities for improvement to inform expansion to all NW PCI sites.