

implications for evaluation approaches in these dynamic healthcare environments. We aim to disseminate lessons learned to help inform best practices for other CTSA hubs operating under a LHS model. **METHODS/STUDY POPULATION:** Our investigation builds upon our prior qualitative analysis of the LHS literature and contextualization of unique challenges, and potential remedies, of a LHS in Academic Health Centers. As evaluators, we are particularly interested in understanding how evaluation work is conducted in LHS and exploring ways to optimize the role of evaluators and their skillset in this context. For this investigation, we examined the competencies necessary for evaluators working in LHS and the specialized evaluation approaches needed to fulfill these requirements. Our approach drew from multi-faceted data and experience. We leveraged insights from our literature review, direct experience within WFUSOM CTSA, and discussions with other evaluators. This combination of data sources provided the foundation for our analysis. **RESULTS/ANTICIPATED RESULTS:** We expect that as more health systems move toward the LHS model, they will have an increased need for various forms of evaluation, requiring resources well beyond what they are currently dedicating to evaluation. Expectations for evaluators will be enhanced in the following distinct, yet complementary, categories: generating new knowledge and translating research knowledge into practice. Anticipated results include identifying essential competencies for evaluators in LHS, such as data proficiency, clinical understanding, and adaptive skills. We also expect to uncover various evaluation approaches specific to LHS, including quality improvement studies, pragmatic trials, and stakeholder-engaged research. **DISCUSSION/SIGNIFICANCE:** Understanding the evolving role of evaluators and specialized evaluation approaches in LHS is crucial. It enhances the ability to generate localized evidence, customize interventions, and improve patient care. This knowledge empowers healthcare systems to adapt, innovate and deliver high-quality care for a higher impact on patient outcomes.

174

Validating a Coding Tool for Translational Science Benefits Model (TSBM) Data: Delphi Methodology

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OBJECTIVES/GOALS: To develop and validate a tool to systematically identify benefits accruing to research within the Translational Science Benefits Model (TSBM) framework. We used a Delphi panel to reach consensus among a group of experts on criteria required for a clinical, community, economic, or policy benefit to be verified as coming from research. **METHODS/STUDY POPULATION:** A coding tool with proposed criteria to verify each of the 30 benefits was created at UCI to confirm the TSBM benefits resulting from funded research. We convened 11 experts from 8 CTSA hubs, who consisted of evaluators (faculty and staff) with experience using the TSBM. A web-based survey was used for Round 1, followed by a panel discussion of remaining unvalidated criteria, and a Round 2 survey as the final decision for inclusion of items in the tool. Response options for each criterion were “yes, required” or “no, not required”. Criteria that reached consensus (>70% agreement) were considered validated for inclusion in the final version. Panelist suggested criteria in Round 1 were also incorporated in the Round 2

survey for consideration by the experts. **RESULTS/ANTICIPATED RESULTS:** In the web-based survey for Round 1, all 11 experts participated and 92% of criteria reached the determined consensus level (N = 157). The remaining 8% of the criteria (N = 13) were discussed during the panel meeting. The discussion, in which 8 experts participated, was moderated by UCI and took place virtually via Zoom. All experts were sent a recording of the discussion and given the opportunity to post comments online about the remaining criteria before, during, and for a day after the discussion. Round 2 will include 50 newly proposed criteria from panelists and the 13 criteria that did not reach consensus in Round 1. Based on the results of Round 2, the criteria that reach consensus will be included in the final version of the coding tool that can be used across all TSBM benefits. **DISCUSSION/SIGNIFICANCE:** Using the Delphi Methodology, we will have a standardized set of criteria that may be applied to determine whether a TSBM benefit has resulted from a specific research project or program. This standardization will allow for aggregation and comparison of data across CTSA hubs and further multi-level evaluation of impact.

175

Benchmarking MICHHR's Clinical and Translational Science production as a continuous quality improvement initiative.

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OBJECTIVES/GOALS: In line with NCATS funding requirements, the Michigan Institute for Clinical and Health Research (MICHHR) established a continuous quality improvement (CQI) process and used the process to guide the implementation of a benchmarking project to evaluate and set goals for MICHHR's production of Clinical and Translational Science manuscripts. **METHODS/STUDY POPULATION:** We aimed to increase the number of Clinical and Translational Science papers MICHHR produces and to set a reasonable goal for improvement. Benchmarking was used to obtain a baseline and inform the identification of a reasonable goal for improvement. 11 Peer institutions were identified with similar funding levels. 1,225 Publications from 2022 for all 12 CTSA were obtained from NIH Reporter. All publications were reviewed by title to identify probable CTS content. Two staff reviewers confirmed a total of 108 CTS publications across all CTSA, and coded each paper to characterize the theoretical approach, method (quantitative and/or qualitative), analytic method and topic. All publications that were selected for benchmarking were also tracked and compared using Altmetrics for Institutions and Overton platforms. **RESULTS/ANTICIPATED RESULTS:** A total of 108 CTS publications were produced by 12 benchmarked CTSA in 2022; of those, 70% (77) regarded research infrastructure, 37% (41) regarded research methods, and 15% (16) regarded clinical care. Over half, 53% (58), of the benchmarked papers are empirical research papers; of those, 67% (39) used quantitative methods, 28% (16) used qualitative methods, and 5% (3) used mixed methods. A clear majority of the benchmarked papers, 70% (76), provided only descriptive analyses, 18% (19) provided inferential analyses, and 12% (13) provided predictive analyses. We identified an opportunity to produce more manuscripts with descriptive analyses of research infrastructure. In the long-term, we saw an opportunity to produce predictive analyses of translational