

framework for prioritizing and developing the sequence and timeline for supporting elements in aligning their evaluation methods with CQI. The scoring sheet assessed: 1) impact – defined as the results from completing the task and implementing enhancements; 2) effort – defined as the amount of resources (time, personnel, and materials) needed to complete the tasks; 3) reach – defined as number of individuals (e.g., CTSA employees, members, researchers, trainees, and community members) impacted by the tasks or products of the tasks; 4) urgency – defined as a task that is time-sensitive due to a deadline and has a clear consequence if not completed on time. Each component was assessed using a 3-point scale (e.g., minimal, moderate, and high). **RESULTS/ANTICIPATED RESULTS:** In Fall 2024, the CCTST evaluation team met with respective elements to collect data on their: 1) need from the evaluation team to support aligning their evaluation methods with CQI, 2) challenges and barriers to improving evaluation and aligning with CQI methods, 3) number of hours per month available to support improving evaluation methods, and 4) current resources to dedicated to conducting an evaluation. Next, the evaluation team will transcribe the data from the meetings and code the data into the scoring sheet for each element. The scoring sheet is anticipated to produce a score that will be used to develop the sequence, timeline, and initial tasks for supporting elements in improving evaluation methods and aligning with CQI over the first year of the UM1. **DISCUSSION/SIGNIFICANCE OF IMPACT:** CTSA hubs' evaluation teams operating at full capacity may encounter barriers to implementing CQI efforts. This systematic approach – assessing the impact, effort, reach, and urgency to sequence evaluation and CQI alignment – can support evaluation teams by ensuring a balanced workload and optimizing operations for quality improvement.

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Visualizing impact: Operationalizing community engagement evaluation using the RE-AIM framework

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OBJECTIVES/GOALS: We operationalized our evaluation using the RE-AIM framework, by defining its dimensions as nodes within a net effect diagram in the form of radar charts to visually display group variation among nodes. This enhanced our ability to measure the reach, effectiveness, and implementation of our efforts in under-resourced Los Angeles communities. **METHODS/STUDY POPULATION:** We applied the RE-AIM framework to guide the operationalization of evaluation methods, defining the RE-AIM dimensions generally with a focus on reach, effectiveness, and implementation. We developed and defined a standardized scoring system for metrics that contributed to the RE-AIM dimensions of focus, using data from our activities such as health education workshops targeting diverse, under-resourced populations in Los Angeles. Our standardized scoring system ranged from 1 to 5, reflecting the degree of success within each metric/dimension. Scores were mapped in net effect diagrams in the form of radar charts to enable comparative analysis and visualization, highlighting a variety of grouped variables (i.e., language, locations, and adaptation). **RESULTS/ANTICIPATED RESULTS:** The operationalized and developed scoring system allowed us to standardize assessment across the RE-AIM dimensions, making it possible to visualize our impact through net effect diagrams. These diagrams illustrated variations in reach, effectiveness, and implementation across

different community engagement activities stratified by group variables, providing insights into our impact and areas for adjustment. Preliminary results suggest that the net effect diagram effectively captures both broad and nuanced impacts and serves as a viable application of the RE-AIM framework. The use of standardized scoring enhances data comparability and offers a dynamic visual tool for monitoring ongoing and future initiatives while serving as a tool to display and report our impact. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Operationalizing evaluation with the RE-AIM framework and implementing a standardized scoring system allows us to visualize and monitor effectiveness in real time. This system supports data-driven decision-making for our sustainable, impactful community engagement initiatives ultimately contributing to our goal of improving health equity.

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Opening up translational data impact through the Data Citation Corpus

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OBJECTIVES/GOALS: Evaluate use and reuse of data in biomedical fields to explore how data advances translational benefit for science and patients. **METHODS/STUDY POPULATION:** In this study, we use the metadata for 5 million data citations in the Data Citation Corpus as a source to analyze the use of datasets from biomedical fields across a number of facets, including date, affiliations, and funders. We identify examples of datasets that have been used across different research fields by analyzing the disciplinary scopes of the datasets and the publications that cite them and explore patterns of reuse of datasets beyond the original research project from which it was created. **RESULTS/ANTICIPATED RESULTS:** The analysis will provide insights into datasets showing broad usage in biomedical fields, the patterns of data use over time, and the affiliations and funders associated with highly used datasets. The analysis will also dive into examples of datasets showing use across different fields and usage beyond the original project. The results will showcase examples of valuable datasets in translational research and serve as a basis for exploring different considerations around the impact of open datasets. **DISCUSSION/SIGNIFICANCE OF IMPACT:** The exploration of data citations will provide insights into open data showing translational reach and an example of how the Data Citation Corpus can support evaluation of the impact of research data.

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Beyond bibliometrics: Altmetric analysis as an early signal of the impact of the National Center for Advancing Translational Sciences (NCATS) Clinical and Translational Science Awards (CTSA) Program

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OBJECTIVES/GOALS: To identify and characterize future potentially high impact research generated by the Clinical and Translational Science Awards (CTSA) Program, we evaluated the Altmetric Attention Scores (AAS) of recent articles associated with the Program and conducted an initial assessment of the attributes associated with high AAS for Program articles. **METHODS/STUDY POPULATION:** We used the NIH Query, View, Report (QVR) tool to identify recently-published scientific papers that cited

support from a CTSA Program grant. The unique publications identified by QVR were used to construct an Altmetric Explorer report. We examined the relationship between the AAS and other variables, including number of authors, number of grants supporting the publication, number of CTSA program institutions supporting the publication, and if the publication included group authorship. RESULTS/ANTICIPATED RESULTS: Our analyses confirmed that the Program indeed supports potentially high impact research, as indicated by the highest scoring papers, across a wide range of diseases and conditions. Nearly all the highest scoring papers were focused on a specific disease or condition rather than broader methodological research, despite the disease-agnostic focus of the CTSA program. We also found that the Program significantly contributed to critical research on the once-in-a-century COVID-19 pandemic. We confirmed the entire CTSA consortium is contributing to potentially high impact research, with all institutions represented in the highest scoring publications. DISCUSSION/SIGNIFICANCE OF IMPACT: Understanding the impact of the CTSA Program presents a unique challenge – the program supports biomedical research infrastructure and training programs whose outcomes and impact can be difficult to track or measure. These data offer early signals of impact and can assist evaluators with designing future evaluations.

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Expanding access to perinatal trauma care: Evaluating the perinatal narrative exposure therapy (PNET) training for interdisciplinary providers*

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OBJECTIVES/GOALS: Posttraumatic stress disorder (PTSD) is common during pregnancy and postpartum, leading to adverse birth outcomes. Despite effective interventions like narrative exposure therapy, PTSD often goes untreated due limited training opportunities and lack of community support. Expanding training for PTSD is crucial to improving access to care. METHODS/STUDY POPULATION: Six 3-day PNET trainings were delivered to 57 participants over a 23-month period. Workshop attendees represented a variety of professions (19% Social Workers, 19% Mental Health Graduate Trainees, 18% Psychologists, 18% Counselors, 12% Doulas, 11% Physicians, and 5% Home Visitor/Parent Educators) with varying levels of specialty experience from diverse locations (2 countries and 13 states). Key workshop outcomes included participant one-week post-workshop satisfaction, perceptions of acceptability, appropriateness, and feasibility of the intervention, and pre- to one-week post-workshop perceptions of connectedness to trauma treatment and perinatal healthcare communities. Data will be explored at 6 months post-workshop to evaluate longer-term effects on connectedness. RESULTS/ANTICIPATED RESULTS: The majority of workshop attendees (84%, $M = 4.76$, range 1–5) reported being “extremely satisfied” with the training and 98% indicated they would “recommend it to others.” Most attendees found NET to be acceptable ($M = 4.64$, range = 1–5), appropriate ($M = 4.37$, range = 1–5), and feasible ($M = 4.49$, range = 1–5) to use within their practice. Paired t-tests revealed a significant increase in a sense of connectedness to both the trauma treatment and perinatal healthcare communities from pre- to post-workshop. DISCUSSION/SIGNIFICANCE OF IMPACT: Findings indicate that the PNET workshop is feasible and effective in training interdisciplinary providers on perinatal PTSD evidence-based interventions. By training

a range of professionals and fostering a sense of connectedness, the PNET workshop has the potential to make effective trauma treatments accessible to underserved populations.

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Root cause analysis of barriers and facilitators to accrual to a pragmatic, EHR-embedded clinical trial

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OBJECTIVES/GOALS: Electronic health record (EHR)-based recruitment can facilitate participation in clinical trials, but is not a panacea to trial accrual challenges. We conducted a root cause analysis to identify EHR-based accrual barriers and facilitators in a pragmatic randomized trial of metformin for those with prostate cancer and glucose intolerance. METHODS/STUDY POPULATION: We quantitatively analyzed enrollment drop-offs among eligible patients who either did not complete a consent (with analysis of EHR-embedded consent process) or who completed a consent but were not enrolled (with analysis of EHR implementation of a Best Practice Alert). We summarized data from the EHR by eligibility, provider encounters, and alerts, and generated CONSORT diagrams and tables to trace the enrollment pathway. We supplemented quantitative findings with a thematic analysis of semi-structured individual interviews with eligible patients ($n = 10$) and study providers ($n = 4$) to identify systematic barriers to recruitment and enrollment of eligible patients. RESULTS/ANTICIPATED RESULTS: CONSORT diagram analysis found that 24% of potentially eligible patients (268 of 1130) had an eligible study encounter but were not enrolled. Additionally, BPAs were not triggering for some eligible patients. Interviews revealed that study providers wanted more detailed information about which study arm their patient would be assigned to, and about next steps after enrollment, especially relating to additional lab tests and follow-up care needed. Patient interviews suggested that patients often did not remember completing the consent process and felt overwhelmed with appointments and information; patients expected providers to actively bring up research opportunities during appointments. DISCUSSION/SIGNIFICANCE OF IMPACT: While pragmatic EHR-embedded trials are often characterized as lower-burden, these trials still require active engagement by providers, as well as ongoing attention from both research and informatics teams to ensure that EHR-embedded processes are functioning as designed, and that they are effective in recruiting study participants.

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Mixed-method approaches to evaluating UIC's CTSA Hub

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OBJECTIVES/GOALS: The University of Illinois Chicago's Center for Clinical and Translational Science has implemented an innovative approach to program evaluation. We blend high-impact quantitative and in-depth qualitative approaches to identify local and national impacts and areas for improvement that are not captured solely by traditional quantitative methods. METHODS/STUDY