

DISCUSSION/SIGNIFICANCE OF IMPACT: Sustained enrollment in pragmatic trials demands greater-than-expected engagement. In partnership, the study and informatics teams oversaw intervention processes based on trial-specific issues, identified issues quickly, explored feasible solutions, and refined the process to support trial success.

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Rigor in assessing real-world impact: Applying a standardized coding tool to identify Translational Science Benefits

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OBJECTIVES/GOALS: Six CTSA hubs collected Translational Science Benefits (TSBM) Model data and implemented standardized coding to enhance rigor and reproducibility, assess the real-world impact of CTSA-supported research, and analyze cross-institutional impact trends. **METHODS/STUDY POPULATION:** Six CTSA hubs surveyed supported investigators who self-reported the TSBM benefits resulting from hub-supported project(s). De-identified data was shared with the University of California (UCI) CTSA. UCI coordinated with hubs to code their own data using a TSBM coding tool to assess which applicable criteria were met. UCI collected feedback on usability and facilitated discussions to enhance reliability across coders. UCI provided final datasets to hubs for site-specific analysis of benefits and conducted cross-site analyses of TSBM benefits. A benefit was demonstrated when 2 necessary criteria were met, and 80% of the possible criteria were met. **RESULTS/ANTICIPATED RESULTS:** TSBM data were coded by 6 CTSA hubs from 86 pilot research projects. Most pilots were funded for 1 year (80%) with the mean award over \$41,000. Investigators for projects were surveyed up to 7.5 years post-award, with the median timepoint around 3 years. Across hubs, 274 potential benefits were reported and 34 demonstrated benefits were confirmed from coding. Pilots more commonly had demonstrated clinical and medical benefits (16.3% of projects) than community (5.8%) or economic (3.5%). No projects had demonstrated policy benefits. Over 24% of projects had one or more demonstrated benefit of any kind. Demonstrated benefits were reported in 27.8% of projects surveyed within 2.5 years, 18.2% of projects from 2.5 to 5 years, and 50% of projects over 5 years post award. **DISCUSSION/SIGNIFICANCE OF IMPACT:** A standardized, reliable coding process for TSBM data creates rigor for assessing real-world impact data that hubs can confidently connect to their support of CTSA funded-projects. This shared methodology across hubs allows for cross-institutional impact analysis and dissemination.

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CTSI service usage project: Monitoring CTSA hub impact through an internally created dashboard

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OBJECTIVES/GOALS: The Wake Forest Clinical and Translational Science Institute (WF CTSI) provides resources such as services and tools for investigators. Due to the number of service users over the past six years, it has been a challenge to track usage and impact across the institution. Our goal is to create an internal dashboard to assist with tracking CTSI service usage. **METHODS/STUDY POPULATION:** The Dissemination, Implementation, and Continuous Quality Improvement (DICQI) team collaborated with members of the Service Programming team to develop an internal dashboard for tracking service usage. Service Programming team members sourced data from multiple systems, including the CTSI Service Request Form, CTSI Metrics Form, Profiles, and program-specific datasets. The PI Dashboard aggregates this data: service request and metrics form data are retrieved via the REDCap API, while publication data are queried from the Profiles database using Python's pyodbc library. All collected data are parsed and stored in the dashboard's internal database to support analytics and reporting functions. **RESULTS/ANTICIPATED RESULTS:** Data pulled from multiple sources were integrated into a centralized internal dashboard for Wake Forest CTSI to review and evaluate metrics data such as service usage, program participation, and training/tool utilization. This CTSI service usage dashboard also was efficient for filtering data by dates, faculty researcher, or CTSI usage rate, which is helpful for reporting and long-term impact evaluation. This internal dashboard now will be integral in not only impact tracking but reporting for grant renewal periods of the Wake Forest CTSI. **DISCUSSION/SIGNIFICANCE OF IMPACT:** A central database enables clear snapshots of WF CTSI impact, supporting long-term goals through strategic decision making, data quality, and collaboration. Understanding the broader impact of our CTSI is important for impact evaluation, reporting, and aligning with academic learning health system goals.

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Co-creating Evaluation and Measuring Value for Community-Engaged Research Training

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OBJECTIVES/GOALS: Evaluate the impact of a community-engaged research (CEnR) training institute by assessing knowledge, skills, and sustained engagement and estimating societal value via logic-model guided surveys and social return on investment (sROI)

utilizing a participatory evaluation approach. **METHODS/STUDY POPULATION:** We co-designed a logic model and evaluation plan with community partners for the Great Plains IDEa-CTR 2024 CEnR Institute. The day-long institute amplified community voices through sessions on trust building, co-creation of research, and equity in evaluation. The agenda for the institute was collaboratively developed with community and academic partners. Participants included 54 in-person and 29 virtual attendees representing researchers, community organizations, and practitioners. Using mixed methods, we administered a pre, post, and 6-month follow-up survey to assess knowledge, skills, and engagement; collected qualitative partner feedback; and conducted sROI analysis using stakeholder-defined indicators to estimate broader social impact. **RESULTS/ANTICIPATED RESULTS:** Post-institute surveys showed significant gains in self-reported CEnR knowledge (+22.4%) and skills (+13.9%), along with the formation of 20 new partnerships among attendees. Six-month follow-up ($n = 29$) indicated 99.4% retention of knowledge and skills, as well as 3 newly funded community-academic collaborations averaging \$135,000. Qualitative feedback highlighted strengthened partnerships and multidirectional learning between community and academic participants. sROI analysis estimated a social return of approximately ten dollars (\$9.61) for every dollar invested in the training, demonstrating substantial social value generated relative to cost. **DISCUSSION/SIGNIFICANCE OF IMPACT:** We present a scalable framework combining participatory methods, logic modeling, and sROI to capture the social impact of community-engaged programming. The institute generated a 9.61:1 social return, demonstrating that thoughtfully co-designed programming can measurably strengthen participant capacity and sustainable partnerships.

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Building implementation science research capacity: Assessing facilitators and barriers at a midwestern Clinical and Translational Science Institute (CTSI)

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OBJECTIVES/GOALS: As the field of implementation science (IS) enters its “teenage” years, most published examples describing capacity-building efforts within the field rely on quantitative methods and are retrospective. Very few of these studies engage in prospective, rigorous qualitative research to assess the needs of their local networks in building IS capacity. **METHODS/STUDY POPULATION:** Individual, semi-structured interviews were conducted with local investigators who had indicated prior interest in implementation science research and had been engaged with local CTSA resources at varying levels. The interview guide was informed by the Consolidated Framework in Implementation Research (CFIR) domains, and interviews were conducted via Zoom. Interviews were mostly hand transcribed, while the Zoom Transcribe feature was used for some interviews. Transcribed interviews were uploaded into

Dedoose 10, and an inductive, iterative coding approach was taken for analysis. This study received exempt IRB approval from the University of Kansas Medical Center. **RESULTS/ANTICIPATED RESULTS:** A total of seven faculty members, spanning the early to late career stages, participated in the interviews. They represented three of the major research institutions in the network, and the interviews lasted 24 to 58 minutes. The themes that emerged related to facilitators included mentorship, feedback opportunities, and dedicated funding. Themes related to barriers included a lack of methodological support, limited opportunities for collaboration, and a perceived exclusivity in the field of implementation science. From these, three recommendations were given: provide a dedicated IS funding opportunity locally, facilitate mentorship and collaborations, and promote leadership inclusiveness. **DISCUSSION/SIGNIFICANCE OF IMPACT:** The study findings directly influenced the development of IS activities within the CTSI renewal. By applying IS's best practices, utilizing qualitative assessments of implementation science networks can help the field address specific gaps in capacity building and respond more effectively to the needs of our investigators.

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Listening to the translational workforce: Using survey insights to strengthen engagement and address unmet needs

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OBJECTIVES/GOALS: To showcase a survey tool designed to assess awareness, engagement, satisfaction, and unmet research needs across a six-institution CTSA. To demonstrate how findings can inform strategic planning, resource allocation, and continuous quality improvement (CQI). **METHODS/STUDY POPULATION:** The Institute for Translational Medicine (ITM) is a partnership of six Chicago-area institutions led by the University of Chicago and Rush University. Since 2023, the ITM has conducted an annual online survey assessing engagement, satisfaction, and unmet research needs related to ITM-sponsored activities. Administered via Qualtrics to faculty and staff over a four-week period, the 12-minute survey includes 1) questions to assess engagement and referral to ITM resources; 2) a Net Promoter Score (NPS) to measure satisfaction and likelihood of recommending the program, with scores above 0 interpreted as positive; and 3) a clinical and translational research needs inventory with a “top 3 pain points” ranking to identify unmet needs. Responses were analyzed by institution and translational research stage. **RESULTS/ANTICIPATED RESULTS:** Response rates were 26% in 2023 and 20% in both 2024 and 2025. Familiarity with the ITM increased each year from 68% in 2023, to 73% in 2024, and 79% in 2025, though about one-fifth of respondents remain unfamiliar. Participation in at least one ITM-sponsored activity varied by respondent pool, from 59% in 2023 to 35% in 2024, and 38% in 2025. Referral rates to ITM-sponsored activities ranged from 11 to 45% depending on the activity across the three years. NPS scores were consistently higher among