

analysis and builds on a growing focus within the CTSA program on research's role in shaping policy. It moves beyond citation counts to identify meaningful cases of CTSA-supported research influencing policy and demonstrating impact.

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Dynamic dashboards to track KL2 scholar trajectories and outcomes

Bailee Rue, Amber E. Osterholt and Bethany C. Bray
University of Illinois Chicago

OBJECTIVES/GOALS: The University of Illinois Chicago's CTSA is developing dynamic dashboards to track K awardee outcomes. Integrating data on grants, publications, and milestones, the dashboard illustrates scholars' research journeys while highlighting the role of the K program in advancing their careers. **METHODS/STUDY POPULATION:** Since 2007, CCTS has supported over 60 KL2 scholars and affiliates. To track scholar outcomes, the evaluation program has developed Power BI dashboards that visualize scholars' career trajectories. These dashboards draw on several sources, including publicly available data, institutional records, and FlightTracker. They highlight key career outcomes such as grant awards and peer-reviewed publications since program entry, providing an overview of scholars' careers while illustrating how they advanced after the program. The dashboards shown continue to evolve. Our current efforts are focused on incorporating impacts from the TSBM and streamlining data collection. **RESULTS/ANTICIPATED RESULTS:** The dashboards provide a comprehensive and interactive view of KL2 scholars' career trajectories, illustrating how the K program contributes to research productivity and career advancement. They reveal trends in grant funding, publications, and other key career milestones over time. The dashboards enable us to more easily identify patterns across cohorts, explore individual scholar achievements, and assess broader program impact. Continued refinement of processes in collecting and displaying data, including AI-supported data collection and incorporation of TSBM outcomes, is expected to ensure a more complete picture of the translational impact of K award support. **DISCUSSION/SIGNIFICANCE OF IMPACT:** The dashboards enhance tracking of K awardees by providing a clear, data-driven view of scholar and affiliate outcomes. They can inform program improvements and highlight broad impacts on career development and translational science. This approach may be adopted by other CTSA hubs.

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Qualitative evaluation to explore barriers and facilitators to implementing a dietary intervention among people living with multiple sclerosis

Madison Mintz and Brooks C. Wingo
University of Alabama at Birmingham

OBJECTIVES/GOALS: Multiple sclerosis (MS) is an autoimmune disease located within the central nervous system. Evidence suggests nutrition may affect MS progression, but intervention research remains early. This study aims to identify barriers to dietary

adherence hindering successful translation of dietary interventions into large-scale effectiveness studies. **METHODS/STUDY POPULATION:** We are currently conducting the Functional Outcomes of Diet in Multiple Sclerosis (FOOD for MS) study, a randomized controlled feeding trial testing the efficacy of two diet interventions for improving symptoms of MS. Participants who complete FOOD for MS will be invited to complete an individual interview. We will use a semi-structured interview guide based on the Health Action Process Approach to complete the interviews. Interviews will be recorded via Zoom, transcribed using Microsoft 365 transcription, and thematically analyzed using NVivo Software to derive themes related to diet adherence. **RESULTS/ANTICIPATED RESULTS:** Study findings will describe key themes related to barriers and facilitators of long-term adherence to the FOOD for MS diets. Anticipated barriers may relate to study structure and dietary maintenance, while potential facilitators may involve behavioral supports and study incentives. Participants will also provide recommendations for enhancing the behavioral support components of the intervention to promote sustained adherence. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Results from this qualitative interview will guide refinement to the FOOD for MS protocols and support the development effectiveness and implementation trials.

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Advancing translational science evaluation: Validated sales to assess short- and long-term real-world impacts

Nicole MacCalla^{1,2} and Saira Shah²

¹David Geffen School of Medicine at UCLA and ²Southern California Clinical and Translational Science Institute (SC CTSI)

OBJECTIVES/GOALS: Our hub's annual survey evaluates the impacts of our institute's support on investigators' research productivity and real-world impacts. We have piloted new measures to establish valid and reliable approaches to measuring short- and long-term translational science impacts of interest to the CTSA's. **METHODS/STUDY POPULATION:** SC CTSI developed an annual survey to assess our institute's impact on investigators' research productivity, sustained engagement in behaviors of translational scientists, and real-world impacts. In 2023, we piloted two versions of the TSBM 30-elements across four domains. In 2025, we piloted a 20-item hallmarks of a Translational Scientist scale covering collaboration, mindset, capacity building, and planning for D&I and real-world impact. After online administration to over 700 CTSI-supported USC and CHLA-affiliated researchers, data are analyzed using descriptive statistics and exploratory factor analysis, to assess factor structure, item loadings, validity, and reliability. **RESULTS/ANTICIPATED RESULTS:** Prior analyses showed that 27/30 TSBM items aligned well with intended domains, with clinical/medical and policy benefits demonstrating strong internal consistency. Current analyses will establish the psychometric properties of the new Hallmarks of a Translational Scientist scale and sub-domains. Refinement of items and best practices will be shared. Anticipated outcomes include standardized tools for CTSA evaluators to assess short- and long-term translational science impacts. The survey aims

to enable consistent measurement of translational science benefits, support longitudinal tracking, and strengthen cross-hub comparisons of real-world impact beyond research productivity. **DISCUSSION/SIGNIFICANCE OF IMPACT:** The validated impact measures shared in this session advance translational science evaluation. Standardized items assessing translational science short- and long-term impacts are of interest to the CTSA community and any organization engaged in translational science capacity building.

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Assessing the research needs and opportunities of a university-based dissemination and implementation science network

Elias Samuels¹, Veronica Williams², Ellen Champagne², Gretchen Piatt², John Donnelly², Rama Musalia² and Amy Kilbourne²

¹Michigan Institute for Clinical and Health Research and ²Michigan Institute for Clinical Health Research

OBJECTIVES/GOALS: The CTSA at the University of Michigan, MICHHR, has conducted a sequential mixed-methods needs assessment of a network of over 250 dissemination and implementation scientists working at the university. The purpose of this evaluation is to identify the research training needs of this network and to inform efforts to improve the networks' productivity. **METHODS/STUDY POPULATION:** An IRB-approved sequential mixed-methods needs assessment of a network of over 250 dissemination and implementation scientists was conducted. First, surveys were sent to all members of the network using Qualtrics. This survey was designed to measure the challenges and facilitators encountered by members of this network, using response categories aligned with the Translational Science Benefits Model (Luke et al., 2018) to facilitate the identification of programmatic improvement goals. The survey also asked questions regarding network members' training preferences, and their current plans to design specific types of implementation science clinical trials (Fortney et al., 2024). Survey respondents also indicated their availability for subsequent interviews to explore their career and training paths. **RESULTS/ANTICIPATED RESULTS:** Surveys were sent out to over 250 individual members of the Implementation Science Network supported by MICHHR. This network includes 249 U-M employees representing 44 departments or units, 7 individuals from Veterans Affairs and 16 from other Institutions, and of these 32 individuals (11%). Despite this low response rate, the results clearly indicated that accessing D&I training/educational resources, or learning about relevant measures, metrics and testable strategies was a major barrier to 71% of network members, with 61% particularly interested in training on developing and testing strategies. Most respondents (54%) reported that having more financial resources was a facilitator of their work and 62% volunteered to be interviewed about their careers. Interviews are being conducted and analyzed. **DISCUSSION/SIGNIFICANCE OF IMPACT:** The results of this evaluation suggest dissemination and implementation scientists need more formal training programs, specifically ones focused on the selection of implementation strategies for testing in pragmatic and hybrid clinical trials. This work provides a rigorous and reproducible methods for CTSAs to conduct needs assessments.

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Emergency physician decision-making regarding continuous sedative infusions: Preliminary report of a single-center survey study

Kevin Baumgartner¹, Stacey House¹, Rich Griffey¹, Jon B. Cole², Rachel Ancona¹ and Brian M. Fuller¹

¹Washington University School of Medicine and ²Hennepin County Medical Center

OBJECTIVES/GOALS: The emergency department (ED) is a critical locus of care for mechanically ventilated patients. Emergency physician (EP) perceptions and decision-making on sedation for these patients have not been studied. We seek to characterize EP decision-making on sedatives. **METHODS/STUDY POPULATION:** This is a preliminary report of a single-center survey study. We surveyed senior residents and attending EP scaring for patients enrolled in an ongoing prospective cohort study of ED sedation. Surveys were delivered electronically. Respondents were asked to provide demographics, impressions effectiveness of the sedative infusions they administered, occurrence of related adverse events (AE), and ranking of factors influencing their decision-making. Respondents were also asked if they considered using other sedative infusions (propofol [PRO], fentanyl [FENT], dexmedetomidine [DEX], ketamine [KET], and midazolam [MDZ]), and why they chose not to use them. The use of bolus-dose sedatives was not assessed. **RESULTS/ANTICIPATED RESULTS:** From October 2024 through September 2025, 174 surveys were sent and 127 completed (73%). PRO was most commonly used (94%), followed by FENT (51%) and DEX (14%). Effectiveness was highest for PRO (84% "somewhat" or "very" effective; FENT 75%, DEX 72%). The leading AE was hypotension (PRO 32%, DEX 17%). Effectiveness was the most important decision-making factor, familiarity the least. DEX, FENT, KET, and MDZ were considered but not used in about 25% of cases. Emerging themes from free-text comments included perception of under-sedation as an AE and influence of medication accessibility. **DISCUSSION/SIGNIFICANCE OF IMPACT:** EPs perceive PRO as effective but associated with frequent AE, usually hypotension. Perceived effectiveness drives sedative selection. Our findings will inform the design of interventions to optimize ED sedation.

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Research reproducibility and the language of gold standard science: A content analysis of Clinical and Translational Science Award (CTSA) abstracts

Michelle Yee^{1,2} and Alisa Surkis²

¹New York University Clinical and Translational Science Institute and ²New York University Langone Health

OBJECTIVES/GOALS: Established in 2006, Clinical and Translational Science Awards (CTSA) support programs at research institutions that accelerate the "bench to bedside" timeline. This project explores how funded hubs describe their programs' contributions to scientific rigor and transparency. **METHODS/STUDY POPULATION:** Grant information associated with CTSA hub awards were extracted from NIH Reporter through their application programming interface (API). The primary author utilized text mining to analyze the corpus with a predetermined list of terms