

and other types of evidence syntheses are best when collaborative teams with expertise in multiple disciplines participate, including content experts, librarians and information specialists, systematic review methodologists, and statisticians. The Center for Clinical & Translational Science (CCTS), due to its interdisciplinary nature, connectivity to clinical experts, and existing Cores of methodologists, presented an opportune location for a Systematic Review Core. We designed the Systematic Review Core to focus on 2 primary aspects of evidence synthesis support: overall systematic review methodology guidance and in-depth information retrieval planning and execution. After establishing a conceptual partnership, a new position, Evidence Retrieval and Synthesis Librarian, was created to build capacity within the Core. RESULTS/ANTICIPATED RESULTS: Close connections with the CCTS's Population Health Research Foundation have led to better interdisciplinary coverage of systematic reviews and other evidence syntheses produced by the University of Utah. We are able to partner with statisticians and clinical experts from formulating the question to completing the final manuscript. Hourly rates charged through a cost recovery model have enabled us to grow our staff able to work on the Core, as well as offset costs for major databases and resources these bibliographic data-heavy research methods require. After 1 year of existence, the Core is already at maximum capacity, with no sign of slowing. Projects have ranged from brief consultations to highly intense interactions for the duration of the research spectrum. We have also been added as key personnel to grants with systematic review components. DISCUSSION/SIGNIFICANCE OF IMPACT: Systematic reviews and other evidence syntheses are a labor-intensive, interdisciplinary team effort that fit well within the scope of CTSA's. They are a key component of the translation of science to practice, and can be used at all stages of the translational science spectrum. Quality of systematic reviews remains poor, particularly surrounding protocol development, sensitive search strategy design and reporting, and overall reporting. Librarians and information specialist involvement has been shown to positively correlate to the search strategy design and reporting aspects of systematic reviews, and librarians and information specialists increasingly act as systematic review methodologists. By including librarians and information specialists as part of the CTSA's official Core structure, these systematic review methodologists are able to connect with statisticians, other methodologists, and clinical experts in a nexus of interdisciplinarity. At the University of Utah, the visibility and structure provided by the CCTS helps the Systematic Review Core with promotion, creating connections and opportunities for collaboration across the campus. This partnership has already led to increased uptake in services, and over time, we believe it will increase the quality of the science produced. CTSA's have a natural partner with their health science library colleagues in translational science, as shown by this model.

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Evaluating impact of CTSA usage on research productivity outcomes

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OBJECTIVES/SPECIFIC AIMS: In this study, we propose to investigate effectiveness of 2 core services provided by the Center for Clinical and Translational Science (CCTS), home for CTSA program in the School of Medicine at the University of Utah. METHODS/STUDY POPULATION: We will apply a longitudinal database of research and tenure track faculty ($n > 600$) in the School of Medicine at the University of Utah from 2006 to 2016 to estimate the effect of initial usage of the biostatistics and clinical services cores of the University of Utah CCTS on the probability of (a) ≥ 1 peer reviewed publication, (b) external grant funding, and (c) academic promotion within 1, 2, and 3 years after the initial contact. We will apply a "new users" design (Hernan *et al.*, *Epidemiology*, 2008; 19: 766–779) to compare the outcomes of faculty initiating use of the 2 CCTS cores versus faculty without prior use of these cores in a series of cohorts defined by the calendar year of initial contract with the 2 cores, with covariate adjustment performed within each cohort to account for measured confounders. Separate outcome models will be specified for each cohort, but the statistical models will be fit to stacked augmented data sets which include the data from each cohort. Using the stacked data set, results will be pooled across each of the cohorts to increase statistical power. Robust sandwich estimates of standard errors will be used to account for the inclusion of multiple assessments for each faculty member. RESULTS/ANTICIPATED RESULTS: Estimates of the effect of initiation of new CTSA usage on academic productivity outcomes will be obtained, and provided in conjunction with sensitivity analyses to address the potential impact of uncontrolled confounding. DISCUSSION/SIGNIFICANCE OF IMPACT: The proposed evaluation strategy should overcome some of the biases inherent in typical metrics for effectiveness of CTSA programs, and will be applied to evaluate success of future initiatives.

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Expanding capacity for Clinical and Translational Science by investing in research staff through the strategic teamwork for effective practice-mentor development program (STEP-MDP)

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OBJECTIVES/SPECIFIC AIMS: Skillful research staff members are critical to productive translational research teams and yet their ongoing professional development is rarely formally addressed. Through the Strategic Teamwork for Effective Practice-Mentor Development Program (STEP-MDP), we aimed to both create a community of practice (COP) for research staff and build the skills needed to enhance research team performance. METHODS/STUDY POPULATION: We selected 16 participants of 32 staff-level applicants from among the NYU Schools of Medicine, Social Work and Nursing for the first STEP-MDP cohort. Participants included research assistants, coordinators, managers, and directors. We delivered 3, two-hour workshops, scheduled 3 weeks apart, focused on team communication, identifying team areas for improvement, and mentorship/coaching skills. Peer-Coaching Teams (PCTs) were created by pairing participants at the same position level, and PCTs worked together at each session to explore and practice learned skills. Sessions featured brief didactics, group-based learning and exercises based on participants' real issues. A variety of active learning techniques such as brainstorming, role-playing, problem solving, and peer coaching were used. Practical core readings, worksheets, and summary cards were provided. PCTs met between sessions to practice coaching skills, and troubleshoot problems. RESULTS/ANTICIPATED RESULTS: Participants ($n = 16$) completed a 37-item retrospective pre/post self-assessment of team behaviors and skills, and a STEP-MDP evaluation survey at the end. We saw pre-post improvements in each of 5 self-assessment domains: Communication (4 items, pre-mean 2.66, post mean 3.36, $p \leq 0.001$), Leadership (8 items, pre-mean 2.76, post mean 3.55, $p \leq 0.001$), Empowerment and Motivation (12 items, pre-mean 2.86, post mean 3.51, $p \leq 0.001$), Coaching (6 items, pre-mean 2.40, post mean 3.58, $p \leq 0.001$), and Community (3 items, pre-mean 2.33, post mean 3.76, $p \leq 0.001$). On average, PCTs met twice (range 2–4 times) between workshop sessions. Learners valued the PCTs, and 1 commented on the value of working with peers in PCTs, having no one in a similar position within his immediate work environment. Participants' written comments strongly endorsed the value of the workshops for their work, with the coaching skills session seen as the most valuable. Some participants worry that skills will decrease over time without continued reinforcement. All but 1 participant reported that they planned to continue with the PCT. DISCUSSION/SIGNIFICANCE OF IMPACT: The number of applicants to our program suggests a need and motivation for staff to participate in the STEP-MDP. Participants' reported improved skills and sense of community. To maintain the COP and address worry about degradation of skills we are planning to remind PCTs to meet once a month and will follow-up with them 3 and 6 months post intervention to evaluate their continued development. This spring a second cohort will receive the training. We believe developing these core teamwork skills will lead to more collaborative, efficient, and innovative research. We have implemented a successful program targeting critical members of research teams with potential to facilitate expansion of institutional capacity for translational research. It will be important to understand the long-term impact of the program on individuals, on team science, on research, and ultimately on the health of the public.

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Competency indices for clinical research professionals

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OBJECTIVES/SPECIFIC AIMS: Clinical research in the 21st century will require a well-trained workforce to insure that research protocols yield valid and reliable results. Several organizations have developed lists of core competencies for clinical trial coordinators, administrators, monitors, data management/informaticians, regulatory affairs personnel, and others. While the Clinical Research Appraisal Inventory assesses the self-confidence of physician scientists to be clinical investigators, no such index exists to assess the competence of clinical research professionals who coordinate, monitor, and administer clinical trials. We developed the Competency Index for Clinical Research Professionals (CICRP) as a general index of competency (ie, GCPs) as well as sub-scales to assess competency in the specific domains of Medicines Development; Ethics and Participant Safety; Data Management; and Research Methods. METHODS/STUDY POPULATION: We analyzed data collected by the Joint Task Force on