

about \$2.7 billion to U.S. Academic Medical Centers to build a national network of clinical and translational science program hubs that serve to meet their key goals and initiatives. Today there are about 60 Clinical and Translational Science Award (CTSA) program hubs. Each CTSA program hub has a corresponding website highlighting its clinical and translational science centered programs and activities. These websites are a critical communication gateway to promote NCATS goals and initiatives. Objective: The objective of this research is to evaluate the NIH funded Clinical and Translational Science Award (CTSA) program hub websites for NCATS goals and initiative content alignment, navigability, and interactivity. METHODS/STUDY POPULATION: Methods: Each CTSA program hub website was systematically evaluated for information or tools that align with the five NCATS / CTSA Goals and eight CTSA nationally identified program initiatives. Each NCATS goal and CTSA initiative was subsequently ranked by information diversity level (text, tool, interactivity) and navigation level (click distance from the home page). RESULTS/ANTICIPATED RESULTS: Results: Four of the five NCATS goals are thoroughly and consistently represented among the CTSA Consortium with workforce development, patient and community engagement, and quality and efficiency of research being the top three. Informatics is thoroughly and consistently represented, but not always clearly identified on the home page. The most underrepresented goal is integration of special and underserved populations which was identified on only 60% of CTSA program hub websites. The most common focus of the eight CTSA program initiatives is the Trial Innovation Network in CTSA program hub websites. The Smart IRB comes in a distant second. The remaining six initiatives are severely underrepresented. DISCUSSION/SIGNIFICANCE OF IMPACT: Discussion: The identification of these gaps among the CTSA program hubs presents an understanding of content management and website functionality among the consortium from 3 principal approaches. First it creates an understanding of CTSA program hub content alignment with its funding source goals and initiatives. Such an understanding presents an opportunity to promote ways to create a better aligned consortium with improved collaboration pathways by the funding source through program hub website content standards. Second, it creates an opportunity for program hubs to understand and respond to the messaging their websites are presenting as it relates to the funding source. Third, it provides an opportunity to identify specific program initiatives and goals the CTSA institutions independently chose to highlight which can open a dialog to the better understanding the value of the program initiatives as they relate to the needs of CTSA program hubs. Ultimately, CTSA websites through content alignment should lead to an improved user experience.

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A TL1 Team Approach to Identify Factors Affecting Rural Tobacco Users' Participation in Research and Quitting Tobacco Use*

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OBJECTIVES/GOALS: Guided by the health belief model and social identity theory, we aim to identify socio-cultural and psychological

factors that influence rural tobacco users a) participation in research and b) quitting tobacco use. We also explore how citizen scientists are perceived as disseminators of messages. METHODS/STUDY POPULATION: In Phase I of this multi-stage project, we are conducting in-depth interviews with approximately 30 tobacco users. Interviews are on-going, and have been conducted with 16 participants thus far from four rural counties in Florida. The interview consists of semi-structured questions and multiple validated questionnaires. Specifically, we ask a series of questions about participants' barriers to participating in research, tobacco use history, and internet use and message preferences. Additionally, we include questionnaires on participants' substance use, nicotine dependence, motivation to quit, and willingness to participate in research studies. RESULTS/ANTICIPATED RESULTS: Initial findings suggest that rural tobacco users have an overall positive perception of research, and many choose to participate in research for altruistic reasons (i.e. they want to help others). Further, participants noted described feeling stigmatized due to their tobacco use. Although most began smoking to fit in with their community, many now feel on the outs. Participants also reported logistical barriers to participating in research, including lack of transportation. DISCUSSION/SIGNIFICANCE OF IMPACT: Findings can inform the development of recruitment materials to resonate with rural adults, including by emphasizing the collective potential to help by participating. This interdisciplinary highlights areas for collaboration to enhance the reach of health education and public health messages.

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Assessing Leadership Skills in Translational Science Training: The Rockefeller University Leadership Survey

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OBJECTIVES/GOALS: There is universal recognition of the importance of team science and team leadership. We have developed a semi-quantitative translational science specific team leadership competency assessment tool and have begun implementation studies to assess the impact of personalized feedback on the team science leadership skills of KL2 Clinical Scholars. METHODS/STUDY POPULATION: To create the instrument, we employed a modified Delphi approach by conducting a thorough literature review on Leadership to concretize the relevant constructs, then used these extracted constructs as a springboard for the Rockefeller Team Science Educators (TSE's) to discuss and refine the leadership domain areas, collectively create domain-specific survey items. Further discussion helped refined the number, grouping, and wording. Scholars also contributed feedback in item development. We piloted the Leadership Survey by having all of the Rockefeller TSEs rate Clinical Scholars, and having each Scholar rate themselves. Each item was answered using a six-point Likert scale where a low score indicated poor expression and a high score represented excellent expression of the specific leadership attribute. RESULTS/ANTICIPATED RESULTS: Incorporation into a REDCap data base made consenting and rating process by TSE's and the Scholars straightforward. The a priori domains (Foundational Leadership Competencies, Professionalism, Team Building and Team Sustainability, Appropriate Resource Use and Study Execution,

and Regulatory Accountability) had high internal validity and good internal factor structure. The congruence between TSE and Scholar self-ratings were uniformly high, and discordance was often a function of “confidence” and “modesty” on the part of the scholar, rather than deficiency. Supporting comments were informative about performance barriers and mechanisms for improvement. Return of results allowed for the exploration of training gaps. Scholars were surveyed to gauge their reaction to the formal feedback. DISCUSSION/SIGNIFICANCE OF IMPACT: This quantification of team science leadership constructs has allowed for A)- the articulation of constructs essential for successful Translational Scientists to acquire during their training, B)- identification of gaps in that training and skill set, and C)- mechanisms for bolstering any identified gaps in these essential leadership constructs. CONFLICT OF INTEREST DESCRIPTION: None

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Collaborative Working Retreats for Interdisciplinary Investigators and Engaged Stakeholders as a Tool for Sparking Creativity and Accelerating the Development of Translational Research Projects

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OBJECTIVES/GOALS: As part of the Cleveland CTSA, “Collaborative Working Retreats” have been developed for the purpose of being a catalyst to move groups of interdisciplinary investigators and stakeholders to collaborative research teams with feasible and actionable translational research projects. METHODS/STUDY POPULATION: Groups of interdisciplinary investigators with engaged stakeholder(s) were invited to apply. Selected groups participated in a 4-hour, professionally facilitated retreat, tailored to the unique needs of each team. In addition to the facilitator, a graphic recorder was utilized to capture ideas and aid in decision making by creating a visual narrative linked to the team’s overall vision. Teams were charged with generating three translational research projects and writing a formal Team Action Plan (TAP) by two months post retreat. Retreat participants were asked to complete a survey to evaluate the retreat, and structured interviews were conducted with team leaders 4-6 months post retreat. RESULTS/ANTICIPATED RESULTS: Six groups were awarded retreats, comprised of 48 investigators (representing all schools in the university and 3 of 4 affiliated hospital systems) and 28 stakeholders for a total of 76 participants. 45% completed the followup survey. 77% said they would recommend the service to other teams or would use it again themselves and 97% stated their team benefited from having a facilitator. At 2 month follow up, one team had completed the TAP and subsequently applied for federal funding. However, 4 of the remaining 5 teams indicated that they had made significant progress, attributing progress to their retreat time. Each teams’ progress is being tracked for 2 years, using a newly developed metric. DISCUSSION/SIGNIFICANCE OF IMPACT: Facilitated retreats appear to serve as an important catalyst for progression of translational research projects, providing needed time and support for brainstorming and planning. Lessons learned, pre-retreat work, and tools for tailoring retreat content and tracking progress will be presented.

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Developing team science for practical applications of artificial intelligence in health systems to improve value and outcomes: A case study in reducing avoidable emergency department use

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OBJECTIVES/GOALS: Health care systems are complex, dynamic, and varied. Advances in artificial intelligence (AI) are enabling healthcare systems to use their own data to elicit patterns and design suitable interventions. To realize this potential, computer scientists and clinicians need an effective, practical, and replicable approach to collaboration METHODS/STUDY POPULATION: In this study, computer scientists partnered with clinicians to investigate predictors of avoidable emergency department use. The team sought an approach to computational medicine that could increase the relevance and impact of prediction to solve pressing problems in the health system. The team adopted an emergent architecture that engaged system leaders, computer scientists, data scientists, health services researchers, and practicing clinicians with deep ambulatory and inpatient knowledge to form the initial questions that shaped the prediction model; to understand nuances of coding and recording in source data and the implications for models; and to generate insights for promising points of intervention. The team recorded decisions and challenges as it progressed to analyze its function. RESULTS/ANTICIPATED RESULTS: Most avoidance models focus on a narrow time period around target events, or on high cost patients and events. This interdisciplinary team used their insights into the health system’s workflows and patient population to adopt a longitudinal approach to their prediction models. They used AI to build models of behavior in the system and consider prevention points across clinical units, time, and place. The holistic, systemwide focus enabled the team to generate insights that the system leaders and subsequently specific clinical units could apply to improve value and outcomes. A facilitated team process using learning system and cooperative network principles allowed a large and modular interdisciplinary team to build a transparent AI modeling process that yielded actionable insights into hypercomplex workflows. DISCUSSION/SIGNIFICANCE OF IMPACT: An architecture for involving diverse stakeholders in computational medicine projects can increase the relevance and impact of AI for solving care delivery problems in complex health systems. Translational science and computational medicine programs can foster this type of engagement and encourage a whole system perspective.

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Effect of individual characteristics, healthcare access, and built environment on care coordination outcomes related to cardiovascular disease risk factors

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OBJECTIVES/GOALS: We examined how individual characteristics and characteristics of the socioeconomic and built environment were