

and 60 included no central actor on the team. In the latter group, more PIs were clinical faculty and fewer were full professors. Network analysis of affiliating departments showed that Medicine was the prominent actor in the central actors group, while the network of no-central actor group was more fragmented with Neurology as central. **DISCUSSION/SIGNIFICANCE OF FINDINGS:** Widely recognized researchers are more likely to collaborate with each other in bridging studies possibly marginalizing less experienced peers. Bridging grants led by less central researchers, often clinician-scientists, may thrive where supportive culture and departmental facilities exist.

### *Health Equity & Community Engagement*

83678

#### **Bridging Gaps to Equalize Community-Academic Partnership: A Comparison of Capacities With Research Needs Across CTSA Program Hubs**

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**ABSTRACT IMPACT:** Our research identifies key opportunities for increased cross-CTSA collaboration, as a means to improve community-research cooperation and better CBPR practices. **OBJECTIVES/GOALS:** Currently, team science training prioritizes developing the collaborative competencies of interdisciplinary scientists to work with each other and, more recently, with communities. Community-facing team science resources are scarce but present among some CTSA, suggesting that capacity gaps might be remedied through cross-hub collaboration. **METHODS/STUDY POPULATION:** We reviewed online information provided by the 62 current CTSA to identify: (1) which hubs engage in community research, and (2) what resources the hubs utilize to orient, train, and support community stakeholders as research partners. We then examined the capacities of the collectively available CTSA resources to address needed knowledge, skills, and attitudes that community-engaged researchers have identified as essential for community-based stakeholders to partner equally in research. Finally, we explored practical challenges in team-based dynamics (e.g., interpersonal difficulties, expertise gaps, resource management) that may facilitate or hinder communities' research endeavors, and suggest resources that CTSA might implement to facilitate team science dynamics. **RESULTS/ANTICIPATED RESULTS:** Hubs (n=59) have community engagement programs, 12 of which provide community-based participatory research toolkits. Toolkits vary from basic checklists to fully developed modules. Some hubs also offer consultation services and partner match-making. Learning objectives include: outcome definition, logic models, and goal-setting. Learning resources remain underdeveloped to help communities appreciate the benefits of research engagement and convince academic partners of the value of real-world knowledge and community improvement relative to scientific advancement. Also lacking is easily accessible support to understand the research process, build verifiable trust, maintain bidirectional knowledge and assets, and implement consistent, best practice methodological and reporting protocols. **DISCUSSION/SIGNIFICANCE OF FINDINGS:** Gaps

between current hub offerings and community needs suggest prioritizing creation of resources whose learning objectives highlight the benefits of research engagement for community partners; foster mutual values affirmation between partners; and offer tools that build warranted community-researcher rapport.

### *Translational Science, Policy, & Health Outcomes Science*

46733

#### **Strategy for Effective Team Formation: A Case Study of Rutgers' Big Ideas Initiative**

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**ABSTRACT IMPACT:** This study will provide valuable insight regarding the effectiveness of a top-down approach for team formation. **OBJECTIVES/GOALS:** Rutgers' Big Ideas is a philanthropic initiative designed to gather team science ideas and present them to donors. We intend to evaluate this Team Science intervention and determine its feasibility in catalyzing the inception of team formation. We will explore the composition of teams that are formed using this particular method and team outcomes. **METHODS/STUDY POPULATION:** Our group will first evaluate the themes that were covered by the initial 210 submissions as well as the 40 ideas chosen to be presented at the Big Ideas Symposium. We will also be taking a look at the donor population that these ideas were presented to. Then, we will evaluate the 8-12 winning teams that were chosen to move forward. We will compare various success metrics of the 8-12 teams that were chosen compared to the 40 ideas that had not been chosen. **RESULTS/ANTICIPATED RESULTS:** Encouraging team science through an initiative such as the Big Ideas forum is not only feasible, but also highly effective in creating resilient teams that show prolonged productivity in fundraising, publications, and other academic metrics. **DISCUSSION/SIGNIFICANCE OF FINDINGS:** Team Science is an exciting movement with immense potential. To that extent, this study seeks to discuss ways that academic leadership can inspire and foster effective team science collaboration. Concurrently, our case review lays the groundwork for further improvements to Team Science initiatives.

66361

#### **TL1 Team Approach to Predicting Response to Spinal Cord Stimulation for Chronic Low Back Pain\***

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**ABSTRACT IMPACT:** Understanding how spinal cord stimulation works and who it works best for will improve clinical trial efficacy and prevent unnecessary surgeries. **OBJECTIVES/GOALS:** Spinal cord stimulation (SCS) is an intervention for chronic low back pain where standard interventions fail to provide relief. However, estimates suggest only 58% of patients achieve at least 50% reduction in their pain. There is no non-invasive method for predicting relief provided by SCS. We hypothesize neural activity in the brain can fill

this gap. **METHODS/STUDY POPULATION:** We tested SCS patients at 3 time points: baseline (pre-surgery), at day 7 during the trial period (post-trial), and 6 months after a permanent system had been implanted. At each time point participants completed 10 minutes of eyes closed, resting electroencephalography (EEG) and self-reported their pain. EEG was collected with the ActiveTwo system and a 128-electrode cap. Patients were grouped based on the percentage change of their pain from baseline to the final visit using a median split (super responders > average responders). Spectral density powerbands were extracted from resting EEG to use as input features for machine learning analyses. We used support vector machines to predict response to SCS. **RESULTS/ANTICIPATED RESULTS:** Baseline and post-trial EEG data predicted SCS response at 6-months with 95.56% and 100% accuracy, respectively. The gamma band had the highest performance in differentiating responders. Post-trial EEG data best differentiated the groups with feature weighted dipoles being more highly localized in sensorimotor cortex. **DISCUSSION/SIGNIFICANCE OF FINDINGS:** Understanding how SCS works and who it works best for is the long-term objective of our collaborative research program. These data provide an important first step towards this goal.

78046

### **The Kansas City Quality & Value Innovation Consortium (KC QVIC): Leveraging Team Science, Translational Research and Training to Improve the Value of Healthcare in the Community**

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**ABSTRACT IMPACT:** Implementing a team science approach with broad engagement from academic researchers, healthcare payers, providers, patients, and community-based organizations is complex, yet critical to implementing evidence into real world settings. **OBJECTIVES/GOALS:** 1. Participants will be able to deploy novel strategies for creating and training a regional multi-stakeholder consortium to improve the quality and value of healthcare.

2. Participants will be to examine ways in which team science provides holistic sustainable strategies to improve care and outcomes in real-world settings. **METHODS/STUDY POPULATION:** The Quality & Value Innovation Consortium (QVIC) has created a network of hospitals and other stakeholders (providers, payers, purchasers, patients, community-based organizations, and researchers) to collaborate and innovate on healthcare delivery. This initiative began with a team of a physician researcher, a health services researcher, and a nurse researcher first identifying healthcare systems' priorities through individual meetings with leadership from 14 regional hospitals. Concurrently, meetings were held with other stakeholders. These interviews identified 32 key quality improvement topics.

Focus groups and surveys reduced these to 11 topics that were then selected for community forums. Through a mixed methods approach, two priority topics were selected for regional implementation. **RESULTS/ANTICIPATED RESULTS:** The QVIC meetings have prioritized two topics and highlighted novel information sharing across entities, and strategies to address the social determinants of health. The QVIC efforts have been recognized as a community asset for helping build collaboration and partnerships among diverse

stakeholders. Ultimately, two regional initiatives, opioid management, and transitions in heart failure care were selected for implementation. Both of these initiatives aim to reduce readmissions by addressing social determinants of health. Implementation strategies and evaluation metrics are being customized for pragmatic integration within each system, utilizing a collaborative team science approach. **DISCUSSION/SIGNIFICANCE OF FINDINGS:** While the entire country is grappling with the challenge of improving the quality of care, while lowering its costs, Kansas City has modeled a unique culture and strategy for achieving this goal, important for learning health systems and communities.

87842

### **The Effects of Head Impact Exposure on Changes in Neurocognitive and Oculomotor Function Across a High School American Football Season: A Pilot Study**

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**ABSTRACT IMPACT:** This work reveals the influence of a season of American football-related head impact exposure on two functional outcome measures in a cohort of adolescent boys, shedding light on the chronic effects of 'subconcussive head impacts.' **OBJECTIVES/GOALS:** To examine the influence of a season of exposure to head impacts in American football on changes in neurocognitive and oculomotor function in adolescent male athletes. **METHODS/STUDY POPULATION:** Participants were recruited from a local high school: the football group (FB; n = 26) was instrumented with sensor-installed mouthguards to track impact exposure during games and practices, and members of the men's cross-country team were recruited to the control group (CON; n = 9). All participants were administered Immediate Post-concussion Assessment and Cognitive Testing (ImPACT) and were assessed for near point of convergence (NPC) at pre- and post-season. Linear models will be fit for changes in the five ImPACT composite scores and NPC values, with group and one of the head impact variables as predictors for each model. In a secondary within-group analysis, correlation coefficients will be calculated for the relationships between the head impact variables and the functional change scores for the FB group. **RESULTS/ANTICIPATED RESULTS:** The two groups did not differ significantly on age or number of previous concussions; the CON group had significantly lower BMI. Group assignment was significantly associated with change in NPC ( $p < 0.05$  for all three models); no significant associations were observed for any of the head impact variables with change in NPC. Group and each of the head impact variables (total impacts, sum of peak linear acceleration [PLA], and sum of peak rotational acceleration [PRA]) were not significantly associated with change in any of the five ImPACT composite scores. Change in visual memory composite score was negatively correlated with total impacts ( $r = -0.37$ ,  $p = 0.034$ ) and sum of PRA ( $r = -0.36$ ,  $p = 0.040$ ). **DISCUSSION/SIGNIFICANCE OF FINDINGS:** Significant, albeit relatively weak, correlations between change in visual memory composite score and two head impact kinematic variables, coupled with significant increases in NPC in the FB group compared to the CON group, suggest that a season of exposure to football-related head impacts has the potential to elicit minor functional impairments.