Developing clinical research units to improve quality, efficiency, and cost effectiveness within an academic institution

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OBJECTIVES/GOALS: The Stanford CTSA Program has started to create Clinical Research Units (CRUs) with the goal to establish CRUs in all clinical departments by the end of 2020. CRUs will be responsible for managing the portfolio of projects proposed and conducted by faculty within departments. CRUs will be responsible for reviewing all clinical research studies. METHODS/STUDY POPULATION: CRUs will be an integral part of the Stanford's research infrastructure, tasked with 5 key functions to ensure clinical research conducted by Stanford investigators: scientific merit, feasibility, funding, compliance, progress. Each CRU will review all clinical research projects proposed by investigators within the department prior to moving forward with IRB review. Studies will be evaluated annually to ensure compliance with the protocol, applicable laws and regulations, and recruitment goals. The Stanford CTSA will provide guidelines, SOPs and personnel to assist CRUs. In fall 2019, a landscape analysis of SoM clinical departments was conducted to identify:

1) similar existing CRU-like systems,
2) unique needs of departments/divisions for developing CRUs and
3) barriers to implementation.

RESULTS/ANTICIPATED RESULTS: Challenges the pilot CRU has faced include communication and concerns regarding additional obstacles to conducting research. However, as study teams moved through the initial CRU formation, the feedback was overwhelmingly positive. Study teams were appreciative of the constructive feedback and the support for setting up studies. Results from the landscape analysis identified CRU-like systems in 5 departments and highlighted concerns regarding resources needed to implement CRUs. Based on feedback from the landscape analysis, a faculty and operational lead was identified in each clinical department to oversee CRU implementation. Facilitated by CTSA personnel, CRU leads have met quarterly since April 2019. Meetings consist of discussing expectations, sharing ideas and identifying potential roadblocks. DISCUSSION/SIGNIFICANCE OF IMPACT: CRUs will constitute a new organizational structure that consists of teams of investigators and staff to promote high quality, efficient clinical research and enhance collaborative opportunities. The CRU leadership will champion new initiatives in CTR and create pathways for investigators to access research infrastructure and resources. CONFLICT OF INTEREST DESCRIPTION: NA.

Development and Evaluation of a Pilot Mentor Training Program for Clinical Translational Research Professional Workforce

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OBJECTIVES/GOALS: The goal of this project was to develop and evaluate a pilot mentor training program for clinical research professionals. This project presents an evidence- and theory-based mentoring program that has been developed, implemented, and evaluated for this group of translational research professions. METHODS/STUDY POPULATION: The curriculum for the program was designed for aspiring mentors and aligned with the topics of existing Entering Mentoring curriculum for translational workforce (Pfund, Branchaw & Handelsman, 2015). Eleven experienced CRPs participated in the pilot training program. The training was delivered in two-hour meetings over eight weeks. Qualitative e-mail interviews and a validated mentoring competency assessment (Fleming et al., 2013) and mentor role assessment (Dilmore, 2010) tool were used for process and outcome evaluation. Cases studies specific to the CRPs work environment were developed and used to facilitate discussions throughout the training. RESULTS/ANTICIPATED RESULTS: Pre- and post-training scores for mentoring competency assessment were compared across six sub-indexes. Paired t-tests showed a significant difference for the maintaining effective communication competency, $p = 0.0202$. Comparisons of individual items also showed positive changes in the promoting professional development competency, $p = 0.0161$). Qualitative assessment revealed that most mentor trainees recognized a distinction between a mentor and a supervisor or on-the-job-trainer. Furthermore, most have been informal mentors without a formal role assignment, the need for ongoing mentoring, and potential of mentoring networks. DISCUSSION/SIGNIFICANCE OF IMPACT: CRPs is a diverse group of research support professionals who may hold the roles of research study coordinators, research nurses, regulatory and compliance specialists. Tailored mentoring can provide essential infrastructure for ongoing professional development and support talent retention.

Driving Research: An Interdisciplinary, Vibrant, Engaged Network (DRIVEN)

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OBJECTIVES/GOALS: We focus on the following mission aligned activities centered upon optimizing the culture around inclusion, equity and diversity in the clinical and translational research faculty at UAB:

- To identify, support and promote Diversity, Equity and Inclusion (DEI) faculty award recognition and leadership program participation locally, regionally and nationally
- To identify, support and promote senior faculty representation on DEI-focused regional, national, and international scientific advisory committees of foundation, professional society and federal programs
- To identify opportunities and support the development of competitive DEI-focused foundation, professional society and federal grant applications
- To support the academic advancement, promotion and tenure among DRIVEN community
- To sponsor and convene professional development and social activities for the DRIVEN community

METHODS/STUDY POPULATION: A partnership of the Center for Clinical and Translational Science Training Academy and the Scientific Community of Outcomes Researchers (SCOR), DRIVEN is a multi-faceted solution to enhance workforce diversity by promoting individual and collective professional development,

recognition, and advancement to foster an inclusive, equitable, and diverse research workforce. DRIVEN provides a platform, a community, and a common place where individuals can access resources to more easily identify opportunities aligned with their specific research goals, as well as peer and network support at every step along their professional journey. DRIVEN is uniquely aligned to assist investigators with applying for funding through NIH diversity supplements, foundation opportunities, and other national awards. RESULTS/ANTICIPATED RESULTS: DRIVEN provides networking opportunities, information, and writing support for funding opportunities. Since its inception, less than a year ago, we have seen an increase in writing groups, matched investigators with funding opportunities, and provided networking opportunities for mentors and mentees to meet and for peer mentoring to occur. The interest and momentum surrounding DRIVEN both from internal advisory groups and external advisory groups is significant and will only continue with the endorsement of UAB leadership. DRIVEN is expected to be used as a tool for the recruitment and retention of diverse faculty not only within the UAB community but across the CCTS Partner Network thus changing healthcare in the region. DISCUSSION/SIGNIFICANCE OF IMPACT: According to the NIH, research shows that diverse teams who capitalize on innovative ideas and distinct perspectives outperform less diverse teams. Not only is achieving diversity in the biomedical research workforce critical, but providing diverse researchers with access to support and community is competitive necessity.

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Evaluating Student Team Dynamics

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OBJECTIVES/GOALS: We aimed to explore the students' assessments of workload distribution by comparing personal reflective commentaries and team documents defining division of labor in a team science setting. METHODS/STUDY POPULATION: The Interprofessional Research Design course models the team science experience by bringing together MD and PhD students to write a research grant. Four teams of 13 students were tasked with both individual and team-based assignments: 1) Each week, each student reported their perception of their own and their team members' effort over the week (totalling 100%). 2) Iterative work contracts for each team were submitted at four time-points; assigned work toward project completion totalled 100%. 3) Lastly, each student submitted a short commentary reflecting on the prior week's team dynamics and teamwork. We retrospectively performed a mixed-methods analysis of the workload data. RESULTS/ANTICIPATED RESULTS: Group-reporting in the team contracts remained static throughout the course, often stating equal distribution of workload, whereas individual reporting was more dynamic. Of 13 students, 8 rated more than 50% of the weeks as balanced. Among some students, there was a discordance of workload distribution when comparing the group document to the individual perceptions of work performed by their teammates. Reflective writing mapped more closely to individual quantitative reports. The data also revealed within team variations, where one student may report a higher proportion of their contributions, while the rest of the team attributed that student a lower percentage of the total work. DISCUSSION/SIGNIFICANCE OF IMPACT: An important aspect of team function is workload distribution. Group-based workload discussions may be a useful framework, but does not provide insight into team dynamics, whereas individually reported workload distributions and short reflections seem to more accurately inform us on team function.

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Evaluating the Emerging Investigators Website as an Educational Resource for Early Career Researchers

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OBJECTIVES/GOALS: The aim of this project is to assess the usability and acceptance of a web-based educational resource for early career researchers. The Emerging Investigators website is designed to bring together resources, provide educational support and foster a community of early career researchers throughout the Mount Sinai Health System (MSHS). Locally designed and built, this web-based platform is developed using the principles of Community of Inquiry (COI), which considers how the design of online learning environments might best create and sustain a sense of community among learners. Developing a resource that meets the needs of this cohort of researchers requires an iterative implementation strategy guided by user feedback. A formal website roll-out strategy and accompanied evaluation aims to determine the design, navigability, content, relevance and educational value of this online resource from a user perspective. METHODS/STUDY POPULATION: In order to ensure this resource effectively meets the needs of this cohort of researchers, a mixed process of evaluation and design was utilized. An initial phase 1 survey was conducted with TL1 and KL2 scholars. Surveys consisted of standardized questions with answers arranged as Likert-type scales and additional written responses to collect valuable qualitative data. A convenience sample of early career researchers at Mount Sinai were contacted for initial survey participation (N = 10). A total of 3 junior faculty KL2 scholars, 3 TL1 post-doc and 4 TL1 pre-doc scholars responded to the survey. Participants were initially asked to comment on design, functionality and usefulness of content on a Likert scale with qualitative comments to support the given scores. They were subsequently asked to consider what key topics or resources were missing from the website. Based on the initial survey, changes were made to the format and content of the Emerging Investigators website to improve content relevance and usability. For phase 2, an evaluation rubric was developed to assess design, navigability, content, relevance, along with three key COI criteria to determine the educational value of this online resource. The rubric will be utilized to collect feedback in the wider phase 2 roll out of the website. RESULTS/ANTICIPATED RESULTS: The first phase of survey feedback shaped overall design of the resource. The second phase will comprehensively evaluate the value of the website in the context of teaching and learning for emerging investigators. Ten surveys were captured in the first phase. Data collection is ongoing for the second phase. Phase 1 feedback was primarily qualitative, and valuable in informing overall design choices and content. Overall the website was well received, with participants commenting on the value of the resource in terms of content and educational value. Participants particularly appreciated the regularly updated calendar function and the links provided to a wide range of resources. Functionality issues, such as broken links, were reported by participants and repaired for phase 2. Further topics of content were identified, and additional links and multimedia resources were added to address this feedback. The second phase evaluation is ongoing with data collection being conducted