

September 2021. The application process required participants to provide an initial self-assessment of research skills and a proposed research question. 25 clinicians applied to the program, 11 were accepted, and 9 enrolled. All clinicians in the initial cohort were clinical faculty physicians. Because of the geographical distance of participants as well as the ongoing pandemic, the course used a blended learning approach with both synchronous and asynchronous learning. Participants viewed online lectures on core content coupled with live virtual sessions with opportunities for discussion and application of the content. Relevant CTSI and institutional resources were highlighted in each session. RESULTS/ANTICIPATED RESULTS: Of the 9 clinician participants who enrolled in Research 101, the average attendance per session was 67% or 6 people. 89% or 8 participants attended five or more sessions. 5 participants submitted a letter of intent for the annual CTSI Pilot grant program, and of the five, two were invited to submit a grant application. Formal evaluation of the program is currently ongoing and will close on November 30th, at which time full results will be available. Research competencies will be assessed through a pre-post comparison, each self-rated by course participants. Additionally, participants were asked to provide input on the most and least valuable components of the course, as well as any open-ended feedback. Research 101 leadership will use these results to improve the course for future participants. DISCUSSION/SIGNIFICANCE: A learning health system (LHS) is recognized as an essential means by which research evidence is translated into practice. Important to realizing the LHS vision is the engagement of clinicians into the generation and translation of research into practice. Research 101 is an important way to bolster clinician engagement in translational research.

488

Translational Science Competencies in a Virtual CTSA Internship Program

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OBJECTIVES/GOALS: The Workforce Development Core of the New Jersey Alliance for Clinical and Translational Science (NJ ACTS) has developed an internship program for students to engage in virtual research projects across the CTSA Hub. We sought to evaluate how intern projects within NJ ACTS align with the competencies needed for translational science. METHODS/STUDY POPULATION: Core leads and researchers within NJ ACTS developed 34 projects that were completed by individual interns or pairs of interns. Forty-two professional, undergraduate, and graduate students across the 3 Hub institutions have completed semester-long intern projects. Intern mentors mapped their projects to the C-COMEND competency profile for translational scientists which were further aligned with the seven fundamental character traits defined by Translation Together. RESULTS/ANTICIPATED RESULTS: More than 75% of intern projects addressed the C-COMEND competencies in Personal Development, Communication and Dissemination, Project Management and Time Management. Few projects (< 10%) focused on skills related to preclinical or clinical research. The competencies needed for development as a Rigorous Researcher were most consistently addressed in the intern projects. Additionally, intern projects fostered a number of skills needed for becoming a Domain Expert and Skilled Communicator. DISCUSSION/

SIGNIFICANCE: Taken together, a virtual internship program can be designed to introduce and/or refine the competency skills needed for translational science.

489

The implementation and impact of a mentored professional development program for clinical and translational research staff.

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OBJECTIVES/GOALS: The objective of this evaluation is to show how the STEP.UP program promoted the professional development at Michigan Medicine by providing clinical and translational research staff an experienced research staff mentor in a structured 9-month program. METHODS/STUDY POPULATION: Participant and mentor data was collected from application forms, online surveys, and interviews with both participating mentors and mentees. Validated assessments of mentoring competencies were administered. Participants were tracked over a period of four years with regular reviews of institutional records. Mentor and mentor data was also collected at the point of application each year and the application forms were aligned with NIH definitions for underrepresented populations in science in 2020. As part of a process of continuous programmatic improvement, a STEP.UP Advisory Board consisting of senior research staff and past mentors was involved in the identification, operationalization and evaluation of programmatic outcomes and is involved in the ongoing governance of this mentoring program. RESULTS/ANTICIPATED RESULTS: Four cohorts of mentees and mentors have participated in this program since its inception. Mentees gained the greatest abilities in, Active listening, Establishing a relationship based on trust, Considering how personal and professional differences may impact expectations, and Working effectively with mentors/mentees whose personal background is different. Mentees reported the program contributed to their Career planning, Professional advancement, networking, personal growth, professional networks, and communication skills. Mentors reported learning about new professional techniques and areas of expertise. As of 2021, 75% the first cohort changed their job-classification since participating as did 25% of the second cohort and 100% of mentees have maintained research careers. DISCUSSION/SIGNIFICANCE: The creation of this program in 2019 marked the beginning of a novel professional development opportunity at Michigan Medicine. The evaluation results show how STEP.UP contributes to advancing clinical and translational study teams and how it can inform and the identification of best practices in clinical and translational workforce development.

490

A high-fidelity globe and orbit surgical simulator for ophthalmologic surgical training*

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OBJECTIVES/GOALS: Many ophthalmologic procedures involve operating on or manipulating the globe and bony orbit. Creating