

13/25 (87%) also viewed their mentee/mentor relationship to be excellent or good. Most mentors 10/15 (67%) stated it was their first time serving as a mentor for the program. Mentees also found their experience in the program very beneficial with 6/15 (40%) stating that MATCH changed their career plans. In addition, most mentees 14/15 (93%) indicated that they are community college or four-year college/university bound. Most mentees 11/15 (73%) indicated an interest in pursuing a health or medical career. Also, 10/15 (67%) mentees stated an interest in pursuing a career in research. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Both mentees and mentors have benefited from the program's daisy chain mentoring and the program has helped facilitate a potential lifelong mentorship between mentees and mentors. The program also demonstrates promise of developing a pre-health pathway for historically underrepresented students in STEM.

### **The importance of interdisciplinary synergy in TL1 trainees – the University of Minnesota (UMN) model**

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**OBJECTIVES/GOALS:** The University of Minnesota's two-year TL1 program provides flexible and individualized education and training for a diverse cohort of scholars committed to pursuing impactful careers in clinical and translational science (CTS). The program aims to strengthen the nation's biomedical workforce by developing scientists skilled in clinical and translational research. **METHODS/STUDY POPULATION:** The TL1 program recruits PhD candidates and postdoctoral fellows from a wide variety of graduate programs in colleges and departments across the University. To date, we have trained 26 predoctoral and 9 postdoctoral Scholars in 3 cohorts. Scholars represent dozens of disciplines and the full translational spectrum. These interdisciplinary cohorts are in a unique position to realize the fundamental characteristics of a translational scientist. Entrance/exit surveys and exit interviews provide program leadership with information for quality improvement and areas scholars believe contribute the most to their education and training in CTS. **RESULTS/ANTICIPATED RESULTS:** Entrance/exit surveys indicated Scholar-perceived benefits of training in an interdisciplinary program, including growth in translational scientist characteristics (e.g., Boundary Crosser, Team Player). Exit interviews showed Scholars appreciated the cohort model bringing together trainees from many different research areas. They valued exposure to varied perspectives, talking through challenges and solutions with each other, and learning others shared similar issues. They valued the Scholar community they developed. Several felt siloed in their careers before the program and reported that TL1 participation connected them to others outside their own area of focus, expanded their knowledge about different research methods and revealed more pathways for translation. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Recruiting and training a diverse interdisciplinary cohort of pre- and postdoctoral TL1 Scholars promoted synergy in translational research, science skills and competencies, and transformed the perspectives of Scholars' views on the importance of interdisciplinary collaboration to accelerate science.

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### **Recategorizing SC CTSI's Online Educational Library using ACTS competencies for research professionals: Process and lessons learned**

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**OBJECTIVES/GOALS:** The SC CTSI's Online Educational Library (OEL) is a robust clearinghouse for educational content, containing approximately 250 videos. We outline the motivation, method, process, and outcomes for undertaking a massive recategorization of our OEL to better align the videos with applied skills necessary for clinical research professionals. **METHODS/STUDY POPULATION:** Our hub's robust workforce development and educational cores produce seminars, classes, lectures, and symposia that are recorded and repackaged for the OEL. The audience for our OEL includes research professionals from all stages of their career, such as research coordinators, research administrators, regulatory experts, biostatisticians, students, academics, investigators, community members, and others at our institution and globally. The content in the OEL was not efficiently organized and thus difficult for researchers to use. We employed qualitative content analysis to organize the videos in alignment with the eight competencies created by the Association for Clinical Research Professionals (ACRP), augmenting the competencies to best capture the content of and skills being taught in our videos. **RESULTS/ANTICIPATED RESULTS:** We refined the ACRP categories to best fit our needs and applied the categorization mechanism to approximately 250 videos. Our categories included communication, dissemination, and teamwork (45 videos), data management and informatics (27), ethics and participant safety (13), leadership and professionalism (24), regulatory and quality sciences (48), research and study conduct (44), research and study design (49), study and site management (54), and other (27). Some videos appear in multiple categories. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Detailing our approach and process will help other CTSAs harmonize their educational offerings to move toward a more unified method and process for organizing trainings and education in the CTR space and will better serve learners.

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### **The Indiana CTSI Postdoc Challenge: Catalyzing early-career success using experiential training in grant proposal writing and peer review**

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**OBJECTIVES/GOALS:** To strengthen postdocs' skills in developing and reviewing competitive proposals, advancing translational

research by leveraging core facilities at Indiana University, Purdue University, and the University of Notre Dame, fostering collaboration, and preparing participants of the program for future funding success. **METHODS/STUDY POPULATION:** The Postdoc Challenge is a state-wide program for postdoctoral scholars across Indiana to gain hands-on experience in developing and reviewing competitive grant proposals. Participants compete for a \$5,000 award to use any of the Indiana Clinical and Translational Science Institute (CTSI)-approved core facilities. Through workshops and following NIH guidelines for the review process, participants refine their proposal-writing skills and serve as reviewers for peers' proposals. The program is designed to support translational research, utilizing the core facilities at Indiana University, Purdue University, and the University of Notre Dame. Participants are trained in grant proposal writing, reviewing using NIH criteria, and engaging in peer discussions, developing critical skills necessary for future funding success. **RESULTS/ANTICIPATED RESULTS:** Since its launch in 2014, the Indiana CTSI Postdoc Challenge has funded 54 postdoctoral researchers, with 276 applications reviewed. The program has strengthened participants' grant proposal writing skills and peer review capabilities. Career outcomes include several postdocs securing assistant professor positions and other prestigious roles, such as an Associate Principal Investigator at the National Biodefense Analysis and Countermeasures Center, and a Toxicologist at the CDC. Participants also report enhanced collaboration, greater access to core facilities, and significant career advancement, including support for international postdocs seeking permanent residency. **DISCUSSION/SIGNIFICANCE OF IMPACT:** The Postdoc Challenge has significantly improved postdoctoral researchers' grant proposal writing and peer review skills, helping them secure faculty and research positions. By fostering collaboration across Indiana's top universities and utilizing core facilities, the program accelerates translational research and career success.

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### Advancing primary care through implementation of social justice didactics in a family medicine residency

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**OBJECTIVES/GOALS:** To assess the attitudes toward social justice of residents and faculty following the didactic series and evaluate the impact of the longitudinal curriculum on resident engagement in social justice activities through community engagements. **METHODS/STUDY POPULATION:** Data were gathered through questionnaires collected from participating residents and faculty. The session topics were chosen based on "Precepting Toward Social Justice" curriculum from the University of Minnesota Department of Family Medicine and Community Health, including sessions on advocacy, diversity, and implicit bias, among others. The self-assessment questionnaires were specific to the topics of the lecture, assessing knowledge, skills, and attitudes before and after the education sessions. Participants were asked to rate these aptitudes of each topic from "none" to "expert." **RESULTS/ANTICIPATED RESULTS:** Out of 22 total participants, 16 returned surveys. Overall, there was a substantial improvement in aptitudes after the lecture. There was an increase in reported above average

knowledge of topics: Agency (12.5% to 56.25%), Humility (18.75% to 62.5%), Dignity (12.5% to 62.5%), Partner (18.75% to 50%), Awaken (37.5% to 75%), Place (12.5% to 43.75%), Asset (0% to 37.5%), Sanctuary (6.25% to 50%), Belonging (0% to 37.5%), Whole (0% to 43.75%), Liberation (12.5% to 68.75%), and Heal (37.5% to 75%). 31% reported that the lectures alone had an above average influence on pursuing more social justice activities through community engagement. 44% reported that the lectures had an above average impact on their subsequent patient encounters. 69% stated that this series helped develop their overall social justice skills. **DISCUSSION/SIGNIFICANCE OF IMPACT:** All patients deserve equitable care. Family physicians have a unique role in addressing social justice concerns to eliminate inequalities and drive for better health outcomes. By enforcing social justice in education and implementing it into practice, satisfaction, trust, and well-being of patient and provider will be improved.

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### Long-term outcomes with Just in Time Training for Undergraduate Medical Education

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**OBJECTIVES/GOALS:** Undergraduate Medical Education (UME) may apply Just-in-Time training (JITT) to provide medical students with learning experiences closely aligned with real-time clinical needs. The purpose of this scoping review is to offer an overview of the implementation of JITT training in UME. **METHODS/STUDY POPULATION:** Following the five-stage framework by Arksey and O'Malley to methodically collect and analyze studies on JITT in UME, five electronic databases were searched, and a supplemental search for grey literature was conducted. Studies exploring the integration of JITT principles into UME clinical training and their time to follow-up after training were included. Bloom's Taxonomy was used to assess educational goals of JITT interventions. **RESULTS/ANTICIPATED RESULTS:** The review yielded 21 studies across 4 countries. The majority were cohort studies (13) and randomized control trials (5). Assessment definitions and use of JITT varied widely. Most studies focused on short-term outcomes, defined by being measured immediately after JITT session (15) or at the end of JITT-based rotation or clerkship (3). Three studies evaluated outcomes at a period longer than 2 weeks after completion of session or clerkship. Attitudes (9), followed by skills (8) were the most common educational goals of intervention. The efficacy and utility of JITT in improving educational goal acquisition was demonstrated in 90% (17/19) of the studies with reported outcomes. **DISCUSSION/SIGNIFICANCE OF IMPACT:** The introduction of JITT in UME has been shown to meet the immediate needs of health-care environments; however, evidence is limited in the evaluation of longer-term outcomes. Further research to determine the impact of JITT on long-term learning retention and education goal acquisition in UME is merited.