

ChatGPT to develop a diagnosis and treatment plan would produce better outcomes than either ChatGPT or the clinical mental health care provider working independently. We will also expect to find a positive attitude toward the integration of ChatGPT applications, viewing them as useful tools that complement traditional psychological interventions for Hispanic LGTTQI+ young adults. The study will provide evidence of the effectiveness of ChatGPT to complementing clinical practice involving Hispanic LGTTQI+ young adults. Those results in a preclinical phase are preconditions to a more applied intervention. **DISCUSSION/SIGNIFICANCE OF IMPACT:** We aim to improve the quality of life for LGTTQI+ Hispanics by developing innovative psychological treatments enhanced by AI apps. By developing innovative treatments, we are addressing and mitigating health disparities within the LGTTQI + Hispanic community in Puerto Rico and contributing to a broader effort of inclusivity and health equity.

## Education, Career Development and Workforce Development

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### Transitioning PhD Journal Club and works-in-progress sessions to a translational science-focused format: Enhancing relevance and increasing engagement

Carmen Silvano and DeLisa Fairweather Marina Walter-Antonio  
Ryan Wuerz Juliet Parlette Zacch Olorunnipa Felicity Enders  
Mayo Clinic

**OBJECTIVES/GOALS:** The expanding emphasis on translational science necessitates a rethinking of traditional academic formats. To align with the central themes of CTS, we have redesigned our PhD journal club and WIP sessions, introducing novel and innovative approaches that enhance the relevance of these activities to real-world scientific and clinical challenges. **METHODS/STUDY POPULATION:** The newly adapted journal club format for CTS Predoctoral students at Mayo Clinic maintains the traditional focus on literature review but now incorporates a structured analysis of the clinical implications and potential applications of the research. This innovation aims to foster a deeper understanding of how basic research findings can be translated into improved patient outcomes and healthcare practices. Similarly, the WIP sessions have been restructured to offer an engaging and dynamic learning environment designed to empower clinical and translational science predoctoral students to effectively present their research while emphasizing the challenges they have overcome, demonstrating the translational potential of their findings, and enhancing their communication skills. **RESULTS/ANTICIPATED RESULTS:** Feedback from participants demonstrates strong support for the new format. Students report a greater engagement with the material and a clearer understanding of how their research can contribute to improving patient outcomes. **DISCUSSION/SIGNIFICANCE OF IMPACT:** These changes accommodate the diverse projects in CTS and embody a commitment to pushing the boundaries of knowledge in CTS. This dual transition marks a significant advancement in preparing PhD students for careers in translational science, ensuring that their research is not only rigorous but also impactful in the real world.

## Competency-based training in translational research: A curriculum crosswalk for enhanced mentorship in NIH Career Development Programs

Holly Zink<sup>1</sup>, Holly R. Zink<sup>2</sup>, Jennifer Goldman<sup>3</sup>, Matthew W. Mosconi<sup>2</sup>, Jacob Sosnoff<sup>2</sup> and Nikki Nollen<sup>2</sup>

<sup>1</sup>Frontiers Clinical & Translational Science Institute; <sup>2</sup>University of Kansas Medical Center and <sup>3</sup>Children's Mercy Kansas City

**OBJECTIVES/GOALS:** This poster details the development, implementation, and assessment of a comprehensive competency-based curriculum crosswalk and training plan aimed at enhancing the mentorship and skill development of translational research mentees within the National Institutes of Health (NIH) KL2 and TL1 Career Development Award programs. **METHODS/STUDY POPULATION:** The Center for the Improvement of Mentored Experiences in Research (CIMER) Mentoring Up for Early Career Investigators program, first developed by the University of Wisconsin-Madison, was further adapted by the Frontiers Clinical and Translational Science Institute (Frontiers CTSI). A competency crosswalk illustrates connections between a training curriculum and expected competencies. Developing a competency-based training crosswalk is a strategic approach designed to align mentoring practices with established NIH competencies, including the Seven Characteristics of a Translational Scientist, Mentoring Competency Assessment, Responsible Conduct of Research, Translational Teams, and TeamMAPPS. **RESULTS/ANTICIPATED RESULTS:** The KL2 and TL1 Award Programs serve as ideal platforms for applying the developed curriculum. Implementing a competency-based, evidence-based, and culturally responsive curriculum for research mentee training has shown substantial benefits. Our pilot tests and full-scale implementation within the KL2 and TL1 Award Programs have demonstrated marked improvements in mentee competencies, such as technical skills, research design, and professional development as shown through evaluation feedback. Integrating the new Frontiers CTSI curriculum has fostered more effective and supportive mentoring relationships. Mentees have reported high satisfaction levels with the training program, particularly appreciating the interactive didactics, continuous feedback mechanisms, and reflective practices. **DISCUSSION/SIGNIFICANCE OF IMPACT:** By adopting these recommendations, Clinical and Translational Science Awards (CTSA) and similar programs can improve research mentorship quality and impact, fostering a diverse cohort of skilled researchers. Implementing these strategies in CTSA mentorship programs offers a model for broader application in research training.

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### Development and implementation of a Pilot Summer Training Program for clinical research professionals

Stephanie Slat, Brenda Eakin, Phillip Ianni and Vicki Ellingrod  
University of Michigan

**OBJECTIVES/GOALS:** Skilled clinical research professionals are essential to efficient and effective research teams, but many

undergraduate students are not aware of staff-level careers in the field. To address this, the Michigan Institute for Clinical and Health Research launched the Clinical and Health Research Professional (CHRP) Pathways Program. **METHODS/STUDY POPULATION:** The 10-week hybrid CHRP Pathways Program was piloted in Summer 2024. Undergraduate students interested in research careers were recruited from local universities and community colleges. The program consisted of 8 hours/week of didactic curriculum guided by ECRPTQ competencies and 32 hours/week of mentored work experience on research teams. Classroom activities were completed with participants from a partner program within the university. Surveys were administered at 3 weeks and 10 weeks along with an end-of-program focus group to assess acceptability and self-reported learning outcomes. **RESULTS/ANTICIPATED RESULTS:** The pilot CHRP Pathways Program enrolled 3 students and was well-received by participating students and mentor research teams. Students agreed that they would recommend the program to their classmates. Students indicated that the program helped them understand the role of a study coordinator, provided insight into research career paths, and helped them form professional relationships. Self-reported confidence levels in a range of research competencies increased. Two students who completed the 10-week program chose to continue working part-time with their research teams while continuing their undergraduate studies. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Experiences like the CHRP Pathways Program provide valuable exposure to staff-level research career opportunities for students engaged in health science studies. They can address an existing workforce gap by equipping college graduates with relevant work experience and basic research competencies.

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### **Development, implementation, and distribution of a Structured Mentorship Program for study coordinators**

Brenda Eakin, Gloria Harrington, Angela Lyden, Reema Kadri and Clare Sansburn

University of Michigan

**OBJECTIVES/GOALS:** Effective research relies on a well-trained study coordinator workforce, but mentorship programs are lacking. Retaining and empowering career development for skilled research staff is challenging. To address this, the Michigan Institute for Clinical and Health Research launched the STEP.up program. **METHODS/STUDY POPULATION:** The Staff Enrichment Program for Research Professionals (STEP.up) was created in 2018. To increase knowledge and awareness of our program, we developed an implementation guide to share best practices and open access to our program structure and content. We identified seven critical elements integral to program success. The implementation guide provides a description and rationale for these elements. We partnered with an instructional designer to build a descriptive and easy-to-use guide that describes insights into the successful implementation of the program, practical strategies for program management, and adaptable resources for institutions to use and tailor to their unique needs. **RESULTS/ANTICIPATED RESULTS:** In the STEP.up program, early career, new-to-role, or new-to-organization research staff members are paired with senior research professionals

in a 9-month structured mentorship and career development experience to promote professional development, job satisfaction, and retention for individuals currently working as research professionals. Of the 82 participants from 2018 to 2024, 76 (93%) have remained in their roles as study coordinators. The STEP.up program implementation guide provides the tools, resources, and insights senior research professionals need to implement this program successfully at their sites. **DISCUSSION/SIGNIFICANCE OF IMPACT:** STEP.up program materials are available as an open-source resource on the DIAMOND portal. This resource can encourage others to invest in structured mentorship for research professionals to help establish a culture of growth and cultivate a resilient, skilled, and committed research workforce.

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### **Empowering Clinical Research Coordinators: A Mentorship Program Evaluation at University of Florida's (UF) Gainesville and Jacksonville Campuses**

Alexandria Carey, E. Dunn, Jennifer Moses and Joyce Goodman  
University of Florida

**OBJECTIVES/GOALS:** Create a supportive Clinical Research Coordinator (CRC) and Clinical Research Nurse consortium at UF. Facilitate mentorship groups to enhance knowledge on key topics. Build strong professional relationships among members. Empower members through collaboration. Develop future leaders and mentor in clinical research. **METHODS/STUDY POPULATION:** The CRC Group Mentorship Program at UF's Gainesville and Jacksonville campuses addresses mentorship needs identified in a recent needs assessment, reflecting strong interest among CRC/CRNs. Small groups are formed using the Group Mentorship and Co-Mentoring Circles models, meeting bimonthly for six months on shared research interests. Co-lead mentors guide learning, peer support, communication skills, and goal setting while tracking progress. Mentees engage in peer learning, skill development, and networking. A dedicated Microsoft Teams platform provides resources to enhance confidence in Joint Task Force Clinical Trial Competencies and fosters collaboration through Q&A sessions, activities, assessments, and meetings, improving real-time and asynchronous interactions. **RESULTS/ANTICIPATED RESULTS:** To measure mentor program impact, pre- and post-program surveys assess changes in knowledge, skills, and confidence among mentors and mentees, providing insights into effectiveness and areas for improvement. Monthly, the program features two meetings focusing on Joint Task Force competencies: a workshop for all groups on essential mentorship and CRC/CRN competencies, followed by evaluations, quizzes, and continuing education credits. The second meeting is group-specific, led by co-lead mentors, requiring submissions that demonstrate the application of learned knowledge and skills. This structure ensures continuous relevance and quality enhancement in future programs. **DISCUSSION/SIGNIFICANCE OF IMPACT:** The program meets CRCs and CRNs' critical needs through structured mentorship, fostering a supportive environment. It promotes continuous learning and professional development, enhancing job satisfaction and ensuring the sustainability of valuable research professionals.