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### Evaluating Patient Influences on Comfortability for LGBTQIA2+ Patients in Clinical Spaces (EPIC)

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**OBJECTIVES/GOALS:** The objective of this project was to evaluate the factors that contribute to LGBTQIA2+ patient comfortability. This information was then used to understand how best to create a comfortable space for LGBTQIA2+ patients. **METHODS/STUDY POPULATION:** This survey was focused on underinsured and uninsured patients seen at the Rainbow Clinic - a free student-run LGBTQIA2+ clinic. Surveys were distributed by undergraduate volunteers on tablets as a qualtrics survey. Surveys collected demographic information in addition to 5 questions that assessed patient comfortability. These questions included evaluating the patient's comfort with sharing information with the provider and the patient's comfort of coming into clinical spaces. These surveys were distributed before and after clinic appointments to capture any changes in comfortability that could have occurred as a result of the appointment. **RESULTS/ANTICIPATED RESULTS:** Up to May of 2023, 49 patients were seen in Rainbow Clinic. 33 patients filled out the intake survey and 31 patients filled out the check-out survey resulting in a 67% and 63% response rate respectively. Questions were asked on a likert scale (1-5) from Strongly Disagree to Strongly Agree. Questions evaluating patient comfort in sharing information with their provider yielded an average score that was statistically significant, suggesting patients felt comfortable at the Rainbow Clinic. Additionally, patients indicated that the LGBTQIA2+ specific labeling of the Rainbow Clinic made them significantly more comfortable coming into the clinic. **DISCUSSION/SIGNIFICANCE:** This project suggests that patient comfortability can be improved by training and intentional LGBTQIA2+ labeling. Considering the hesitancy of this community towards healthcare, improving comfortability not only benefits clinical care and outcomes but can also bolster the body of research on this community.

## Education, Career Development and Workforce Development

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### Flight Tracker: A REDCap Tool to Streamline Career Development Grant Preparation and Reporting

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**OBJECTIVES/GOALS:** Compiling information about characteristics and progress of scholars is required for career development applications and progress reports. The range of information is substantial, and preparation is onerous. We sought to create a tool to facilitate gathering key data about trainees and mentors who participate in programs like NIH K- and T-awards. **METHODS/STUDY POPULATION:** Using the REDCap platform, we developed forms and surveys to support intake of applicants, updates from scholars, and information about their participation in activities and use of resources. We deployed application programming interfaces (APIs) to automate capture of publicly available data about publications, impact metrics, and federal grant funding. Similar tools

capture descriptions of mentor expertise including grant funding, prior trainees, and publications with mentees We also built modules to 1) allow connection to institutional grant and contract data to capture foundation and other funding; 2) pre-populate follow-up surveys to update information about career trajectories with minimal scholar effort; and 3) support mentee-mentor agreements as living documents. **RESULTS/ANTICIPATED RESULTS:** After a pilot period at our institution, we disseminated Flight Tracker to more than 50 academic institutions, most of whom are CTSA hubs. They track scholars in TL1/T32s, KL2/K12s, MSTP programs, and academic groups. Beyond federal reporting, uses now include publication impact factors (relative citation ratios, Altmetrics scores), grant funding of groups, maps of network relationships among investigators, scholar receipt of internal pilot awards, and statistics about transition to independence and time-to-promotion. Scholars can be separated into smaller cohorts by demographics, training dates, and funding dates. Over 34,000 scholars are tracked nationally among over 260 programs. Having structured data supports program evaluation, continuous improvements, and documents program strengths. **DISCUSSION/SIGNIFICANCE:** We informally estimate Flight Tracker reduces staff and leadership effort in preparation of program data by 75%, preserving time to focus on service to scholars. Ready access to data over time and within and across institutions creates new opportunities for collaborative data analysis to support evidence-based career development.

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### Creation of an undergraduate certificate program in clinical and translational science following a six-step curriculum development process

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**OBJECTIVES/GOALS:** Academic research centers often struggle to recruit and retain a diverse and competent clinical and translational science (CTS) workforce. Specifically, the clinical research professional (CRP) career pathway is not well known to undergraduate students and other individuals outside of academic medicine despite various potential career routes. **METHODS/STUDY POPULATION:** To address these workforce challenges, the CRP Task Force at the University of Cincinnati (UC) aims to train a competent and diverse CRP workforce through targeted educational programming in the UC undergraduate population. Using a six-step curriculum development process that included: 1) performing a needs assessment, 2) determining content, 3) writing goals and objectives, 4) selecting the educational strategies, 5) implementing the curriculum, and 6) evaluating the curriculum, we designed an undergraduate certificate program in CTS. **RESULTS/ANTICIPATED RESULTS:** The needs assessment included both internal and external data gathering to inform curriculum development and program decisions. Content was determined using the CRP Competency Framework 2.0, and program learning outcomes were written with both the competency framework and local workforce needs in mind. Educational strategies were selected based upon optimization of available resources and local expertise with an emphasis on interactive didactics complemented by experiential learning. Implementation is underway and evaluation will follow once students begin enrolling. **DISCUSSION/SIGNIFICANCE:**

We anticipate an increase in numbers of well-qualified, diverse applicants who pursue CRP careers locally and regionally. In addition, we expect that the certificate program will build competency earlier in CRP staff, improving job satisfaction and retention as a result of a stronger foundation from which to build their professional skills.

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### Reimagining Entryways: Innovative Apprenticeship Models for New Clinical Research Professionals

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**OBJECTIVES/GOALS:** 1. Standardize pathways, training and evaluations 2. Expose apprentices to a variety of research experiences 3. Remove barriers to hiring early talent 4. Expand opportunities for underrepresented minority applicants to obtain clinical research professional positions **METHODS/STUDY POPULATION:** Collaborators connected by the Clinical Research Professional Taskforce ACTS SIG conducted a landscape analysis survey to identify aspects of CRP Apprentice models and formed a Subgroup. Members will share plans for multiple apprenticeship programs, including specific training modalities and skill sets used to prepare apprentices for a successful clinical research professional career. **Methods across institutions include:** • Increasing awareness of the profession • Facilitating talent identification for managers • Making the business case for funding and staffing • Implementing work-based learning for fundamental competency development **Survey results from CRP institutions demonstrated apprenticeships are value added to teaching how to conduct research.** **RESULTS/ANTICIPATED RESULTS:** The landscape survey of Apprentice programs revealed multiple models in use. The newly formed Apprentice subgroup is engaging in analysis and actively working to build a standardized repository of competency-aligned, research courses and experiences for apprentices. Results will help make the business case for starting or growing programs. Subgroup members have focused on a shared goal of expanding opportunities for underrepresented minority applicants, with current outreach efforts that are extending awareness of the CRP profession. We anticipate a continuous strengthening of connections between institutions to share a variety of models to implement, develop shared tools (e.g., proficiency tests), and share existing tools to standardize pathways and training for CRP apprenticeships. #\_msoanchor\_1 **DISCUSSION/SIGNIFICANCE:** Academic Medical Centers (AMCs) need novel strategies to support clinical research portfolios. Innovative Apprenticeship Models improve efficiency and sustainability of the clinical research professional (CRP) workforce to train the next generation of CRPs in an effective and timely way.

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### Strategies for Training and Advancing under-represented Researchers (STARs)

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**OBJECTIVES/GOALS:** Minority faculty have inequitable access to information, professional development, and research resources.

A structured research-mentoring program could help strengthen the research acumen of underrepresented (UR) faculty, provide a community, and support to ensure their success in becoming independent investigators. **METHODS/STUDY POPULATION:** The Translational Research Institute (TRI) STARs program aims to build a peer support community of UR in biomedical, clinical, behavioral and social sciences to support career development and research success. The program provides a structured peer support group with a 3-month grant training and development program and addresses issues of isolation often felt by UR faculty in academic settings. It encourages the development of innovative research ideas in a safe environment. This peer support group can also help improve confidence and self-efficacy in clinical and translational research development and execution by UR faculty. At the didactic program's conclusion and seed grant application submission, STARs provides \$10,000 as a TRI DEI Equity, Diversity, and Grantsmanship Expertise project. **RESULTS/ANTICIPATED RESULTS:** Since its launch in 2021, 11 scholars have enrolled in the program; three have fully completed the program, and all three have received subsequent grant funding. Four scholars have completed the didactic program and are in the process of using seed funding to collect initial data and working on initial publications. The remaining scholars are currently in the didactic program. Initial scholar satisfaction with the program is high: 100% reported satisfaction with their participation (Very Satisfied/Satisfied), and 100% agree the program provides adequate support to their research project (Strongly Agree/Agree). Overall, scholars reported an average increase in confidence of 7.9% in grantsmanship skills (Scale 0-10). The return on investment is 3106%, with over \$1.9 million in subsequent funding. **DISCUSSION/SIGNIFICANCE:** Research shows diverse teams working together, capitalizing on innovative ideas, and distinct perspectives outperform homogenous teams. Our preliminary experience demonstrates success for the model. Additional, long-term support will be further developed to address additional challenges experienced by UR faculty across their careers.

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### Differences in nurse documented versus reported early mobility for critically ill children

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**OBJECTIVES/GOALS:** In 2014, Johns Hopkins Pediatric ICU (PICU) implemented the PICU Up! early mobilization program. Subsequent studies have shown that these protocols increase mobility of PICU patients. Process improvement requires accurate documentation. Our aim is to evaluate differences in nurse documented and actual reported mobility of PICU patients. **METHODS/STUDY POPULATION:** A quality improvement project evaluating the impact of a simulation-based early mobility training program is being conducted, with initial analysis of pre-intervention data. Inclusion criteria includes children age 1 day to 17 years old admitted to the PICU for  $\geq 3$  days during a day shift and exclusion criteria includes specific mobility contraindications. Data on the number of daily mobilizations, highest level of mobility achieved during each mobilization, and occurrence of safety events is captured via direct query of the bedside nurse at the end of a 12-hour shift by a research