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Interdisciplinary learning meets translational science: The Puerto Rico Health Justice Center's role in empowering graduate students in doing trauma-informed and victim-centered research

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OBJECTIVES/GOALS: Develop trauma-informed, victim-centered care skills. Foster student-led, translational research on trauma and victim services engage students in public policy and public health engagement support professional growth through research presentation and publication. **METHODS/STUDY POPULATION:** A review of the 2018–2021 mentorship program that engaged ten graduate students from diverse institutions (seven from San Juan Bautista School of Medicine, one from Interamerican University, one from UPR-Medical Sciences Campus, and one from Ponce Health Sciences University). Students participated in trauma-informed and victim-centered research projects focusing on sexual violence, child abuse, and victim services. They were mentored by Dr. Linda Laras and Dr. Linda Pérez at the Puerto Rico Health Justice Center, receiving hands-on experience through case discussions, literature review, research design, data collection, and presentations at the Start By Believing Symposium. **RESULTS/ANTICIPATED RESULTS:** From 2018 to 2021, students developed trauma-informed care skills and conducted research on topics such as therapy dogs in courtrooms, victim services, and the impact of child sexual abuse. The results of this mentorship program included a publication in *Cureus* (10.7759/cureus.13644) and presentations at the Start By Believing Symposium, attended by legal and community professionals. The Fundación Intellectus Sexual Violence Research Scholarship was awarded, and the research earned award winning posters at multiple symposiums, including the SJBSM Interdisciplinary Research Symposium. **DISCUSSION/SIGNIFICANCE OF IMPACT:** This mentorship translates trauma-informed research into real-world applications for sexual violence intervention. Medical students gain practical skills to address trauma in residency, while public health students shape policy. These research efforts have resulted in best practices and policy changes in Puerto Rico.

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Translational Biomedical Sciences (TBS) Training Program: A model for developing the seven characteristics of a translational scientist

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OBJECTIVES/GOALS: Biomedical researchers must understand disease pathology mechanisms and participate in the translation of laboratory findings, research dissemination, and discovery implementation to improve health outcomes. Also, they need experience engaging diverse stakeholders. This requires intentional training as a translational scientist. **METHODS/STUDY POPULATION:** Our

T32, pre-doctoral Translational Biomedical Sciences (TBS) Training Program addresses the 7 characteristics of a translational scientist: domain expert, boundary crosser, team player, process innovator, skilled communicator, systems thinker, and rigorous researcher. Core curriculum components include a clinical practicum where trainees shadow a clinical researcher; community-engaged research training with community member interactions to apply learned principles; a translational research informatics class with informatics, bioinformatics, and natural language processing training; a research seminar providing practical research dissemination and implementation experience; and a team science course where trainees learn to participate on/lead research teams. Trainees tailor the courses to their research areas. **RESULTS/ANTICIPATED RESULTS:** Using the 7 characteristics of a translational scientist as a guiding framework, we developed five, one-semester courses (described above) integral to the development of the TBS trainees. The initial cohort of trainees are taking the classes, and they will evaluate the courses using Kirkpatrick's Model, assessing reaction, learning, behavior, and results. The trainees will complete follow-up surveys annually throughout the doctoral program to evaluate ongoing changes in behavior and results. At semester end, trainees will also participate in focus groups to provide feedback about the courses, their relevance to the characteristics of a translational scientist, and barriers and facilitators to the development of the 7 characteristics. Iterative changes will be made to the courses based on trainees' feedback. **DISCUSSION/SIGNIFICANCE OF IMPACT:** The TBS Program will provide a comprehensive educational experience that prepares trainees for successful, independent research careers in the broad area of translational science as well as equipping them with the confidence to work across disciplines with diverse stakeholders to design, disseminate, and implement their research.

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Micro-credentials and translational workforce development: Motivation and benefits

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OBJECTIVES/GOALS: Micro-credentials (MCs) or digital badges are short programs designed to allow learners to gain knowledge and skills at their own pace to tailor their professional development. This study aims to examine the characteristics of learners completing MCs and explore their motivation for pursuing MCs through the University at Buffalo Clinical and Translational Science Institute (CTSI) program. **METHODS/STUDY POPULATION:** Currently, the CTSI offers five MCs in Effective Teaching, Good Clinical Practice, Responsible Research, Scientific Communication, and Translational Teamwork. Individuals who completed an MC (2019–2024) were identified by the UB Office of Micro-credentials. An invitation email and two reminders were sent to all individuals who received MCs asking them to complete a short online survey in July–August 2024. The survey included three questions about the type(s) of MCs completed, learners' motivation for pursuing MCs,

and perceived or actual benefits of completing an MC. The questions included multiple choice, select all that apply, and open-ended format, respectively. The survey was sent using Google Forms; data were analyzed using descriptive statistics. We received 25 completed surveys (29% response rate). RESULTS/ANTICIPATED RESULTS: Since 2019, 85 individuals completed MCs at Buffalo CTSI including 21 faculty, 18 trainees, 26 students, and 20 staff. The most popular MC, Responsible Research (65% of completers), is based on the Responsible Conduct of Research series, which consists of modules on authorship ethics, ethical use of animals (IACUC) and human subjects (IRB), conflicts of interest/commitment, and responsible data acquisition and management. We found that 33% of responders were motivated to obtain the MC to advance their career and for professional development, 30% for lifelong learning, and 23% intended to use the badges to showcase their proficiency to potential employers. The greatest benefits reported were to obtain knowledge/skills for their professional career (46%) and improve their ability to receive research funding (14%). DISCUSSION/SIGNIFICANCE OF IMPACT: Micro-credentials are valuable learning tools to stay current on changing research requirements, with ability to engage asynchronously. Badges also provide unique professional development opportunities for students and research workforce (staff and community stakeholders) who have limited resources (time and money).

A Coaching and Entrepreneurial Mentoring Program for Women

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OBJECTIVES/GOALS: The STEM-Coaching and Resources for Entrepreneurial Women (CREW) Program was developed to promote systemic change in entrepreneurship by engaging women faculty and post-doctoral fellows through educational opportunities, mentorship, and professional coaching to close the gender gap in entrepreneurial leadership. METHODS/STUDY POPULATION: We solicited applications from women at the junior faculty or post-doctoral fellowship stage. Applications were reviewed by the CREW leadership and mentors. Applicants accepted into the program participated in monthly large group coaching sessions, one-one coaching, and small group mentoring sessions. Applicants also completed an online entrepreneurship course and participated in a shark tank-like competition during annual innovation awareness month. Coaches were professionally credentialed and oriented to the biomedical context. Entrepreneurial experts served as mentors. Our program evaluation used the RE-AIM framework. The evaluation included assessments of the program's ability to reach a diverse population, satisfaction with program offerings, and changes in entrepreneurship outcomes. RESULTS/ANTICIPATED RESULTS: To date, three cohorts consisting of 35 women from 13 states participated in the program. Results from Cohort 1 show significant improvements in self-assessed confidence in entrepreneurial activities and high satisfaction with the program. All measures of confidence showed increases, with the largest gains in the areas of

"estimating customer demand for new products or services"; "Clearly and concisely explaining my business idea in everyday terms"; and "Getting others to identify with and believe in my vision and plans for a new business". The percentage of participants who have invention disclosures significantly increased from 33.3% to 83.3% after completing the program. The percentage who launched start-up companies also increased from 17% to 33%. Cohort 2 results will be available before the conference. DISCUSSION/SIGNIFICANCE OF IMPACT: Participants in the CREW program showed improvement in all measures of evaluation. The program is unique in complementing mentoring with coaching. Because the coaching component takes a holistic approach by encouraging women to craft a vision for their work and life, it provides value that will last beyond entrepreneurship activities.

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Accelerated Staff Assistance Program (ASAP): An innovative central staffing support program for human subjects research

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OBJECTIVES/GOALS: The goal of the Accelerated Staff Assist Program (ASAP) is to help fill staffing gaps in clinical and translational research. The program offers centralized staff to fill short-term needs including project startup prior to hiring, project implementation, parental leave, and Spanish-language research support. METHODS/STUDY POPULATION: Promotion of ASAP in the first year was targeted to Penn State College of Medicine faculty to determine demand. Current outreach includes promotion to all Penn State campuses through PSCTSI's newsletter, seminars, and presentations. Consultation intake data includes a project summary, staffing needs, and funding information. A project agreement, charter, and budget are drafted and agreed to by the principal investigator before work begins. Assessments occur at 6 and 12 months to assess satisfaction of the consultation process and quality of staff support, Net Promoter Score, and qualitative feedback about the program. RESULTS/ANTICIPATED RESULTS: In its first year, ASAP conducted 26 consultations and supported 10 projects. Approximately 75% of staff effort has been recovered through agreements during the most recent 6 months. In anticipation of project delays, we found that booking FTE up to 115% results in a consistent recovery of 75% FTE. Consultee needs include short-term, partial effort support (76% of requests), project start-up (12%), staff leave (4%), and other (8%). ASAP staff tasks include participant recruitment and retention, data collection and analysis in English and Spanish, and community engagement for recruitment. Program assessments with research teams are ongoing; preliminary qualitative and quantitative data are unanimously positive. DISCUSSION/SIGNIFICANCE OF IMPACT: The ASAP program has demonstrated fiscal success and sustainability in its first year. Hiring of a well-qualified, bilingual staff person allowed for quick onboarding and project support within one month of hire. ASAP enables CTSI to fulfill our mission by providing critical support for research teams to meet objectives and achieve equity goals.