participants. Time and funding are 2 of the most important resources, and the majority of members agree that there is no substitute for “skin in the game.” Attempts at last minute, opportunistic engagement were provided as examples of what had not worked. One ongoing tension is the balance between process and product. Individual members are beholden to organizations to different degrees, and the need to produce something in the form of publications or grant money can limit the amount of time members can commit to the collaborative. At the same time, these products are unlikely to materialize if members are not invested in the process of growing and sustaining the collaboration. The research collaborative is able to leverage the knowledge and expertise of the academic researchers and the community partners to focus on health topics most salient to the local Chinatown community.

Collaborative translational workforce development: Standardizing clinical research nursing education in good clinical practice
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OBJECTIVES/SPECIFIC AIMS: The proposed pilot study seek to enhance the network of CTSAs at Rockefeller University, NYU, ISMMS, and other community members to support translational workforce development of clinical research nurses and establish a standardized nurse-specific training curriculum in GCP for use within the CTSAs network, in other research centers, and in nursing school curricula. This will be coupled with a rigorous evaluation study to test the impact of the training and a comprehensive dissemination plan to make the training available to all nurses and nursing students via modern e-learning method. Aim 1. To create an integrated network of local CTSAs and community partners to develop, validate, and refine a pilot e-learning GCP educational and training program and content and outcomes dissemination plan. It is vital to integrate the efforts of CTA leaders, community partners, and nursing educators to develop a pilot e-learning nurse workforce training curriculum and the associated evaluation measures and assessment plan. Delphi methods will be employed, coupled with rigorous assessment of face validity, content validity, and item reliability. The resulting educational training program will then be used for an e-learning educational intervention study in CTSAs, other sites, and nursing schools. Aim 2. To test the effect of the pilot GCP educational and training program for practicing CRN within the collaborating CTSAs and community partners, we will perform a randomized controlled trial using a Solomon 4 group design for the student nurse population, we will develop a randomized control trial using a Solomon 4 group design block on course section. Survey measures of CRN GCP knowledge and efficacy will be obtained pre and post educational intervention. RESULTS/ANTICIPATED RESULTS: Aim 1. Expected outcomes are pilot e-learning nurse workforce training modules curriculum, and evaluation measures and plan appropriate for CTSAs, community sites, and nursing schools. Specifically, 14 modules (averaging 30 minutes each) for practicing CRNs, and one 45 minute module for nursing students. The significant of these findings will provide a framework for the e-learning educational intervention study. Program is entitled to demonstrate module development and refinement and will provide direction for consistency in formatting with current CITI Program modules, set-up of learner groups for comparison, and evaluative measures such as completion data and scoring. Aim 2. Expected outcomes are an effective pilot educational intervention for practicing nurses and students and valid and reliable evaluation tools and plan that can be generalized to the larger CRN and nursing community. Aim 3. Expected outcomes are an enhanced CTSA dissemination plan that includes non-CTSA resources and reaches non-CTSA employed nurses and nursing students. DISCUSSION/SIGNIFICANCE OF IMPACT: The expected outcomes of this pilot study are: (1) an enduring GCP education that can be continually updated and training curriculum for CRNs, and nurses and nursing students throughout the United States; (2) a reproducible effective standardized basic nurse-specific GCP curriculum for dissemination; (3) assessment tools to evaluate programmatic success, nurse and nursing student knowledge and efficacy on nurse-specific GCP; (4) and a CTSA dissemination plan that to reach non-CTSA nurses and nursing students. Our ultimate goal is the development of advanced translational workforce educated and competent in GCP at CTSA sites, at other sites, and nursing schools. Specifi...
OBJECTIVES/SPECIFIC AIMS: Our objectives are to provide opportunities for graduate students, clinical interns, and postdoctoral fellows in traditional training programs to have direct experience with clinical research conduct from a CRP perspective. In addition, we aimed to address common causes of job dissatisfaction by providing professional development and networking opportunities for the existing CRP workforce. METHODS/STUDY POPULATION: In collaboration with the CTSA workforce development group, the Duke Office of Clinical Research hosted a site visit for 19 PhD scientists interested in nontraditional career pathways and a short lecture series on project management careers in clinical research. Additionally, we crafted specific clinical research training electives for 20 masters students and 10 dietetic interns. Finally, in collaboration with UNC-CH, we combined Research Professional Networks to provide a pilot joint professional development event for 109 CRPs from both schools. RESULTS/ANTICIPATED RESULTS: The number of Masters students enrolling in the CRP elective grew from 7 students in year 1 to 13 students currently enrolled. A retro- pre/postprogram adapted CRAI survey was issued following program completion. Students self-reported increases in competence across all 24 skills measured. Largest increases were seen in areas specific to CRP roles such as consenting patients, understanding the IRB, and reviewing key study documents. A baseline 24% took the test, and droppers did “click to learn more information” on each module, and checks with feedback; resources, including downloadable job aids; end of module quizzes, and documentation of course completion. The full curriculum takes 2–4 hours to complete, with individual modules taking 30 minutes to complete. RESULTS/ANTICIPATED RESULTS: Pilot testing to evaluate the effectiveness of the eLearning course is underway at 5 sites: University of Minnesota, Boston University, University of Rochester, University of Florida, and SUNY Buffalo. DISCUSSION/SIGNIFICANCE OF IMPACT: This eLearning course provides relevant, comprehensive GCP training specifically for social and behavioral researchers. Unlike existing GCP training that is geared towards drug and device researchers, this course includes scenarios and examples that are relevant to social and behavioral researchers. The engaging, interactive nature of this course is designed to improve learning and retention, resulting in improved job performance. In addition, the modules are designed for both investigators and clinical research coordinators, thus eliminating the need for different training modules for different study team members.

Enhancing the clinical and translational enterprise through research staff development

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OBJECTIVES/SPECIFIC AIMS: Our project is focused on the development of a robust training pipeline into CRP careers. Future initiative will apply lessons learned toward creating internship programs aimed at improving diversity and inclusion within these careers. In addition, by addressing the professional development needs of the existing workforce, we create a sustainable environment for well-trained professionals. By evaluating these primary initiatives, we can better define the critical elements that must be included in CRP educational, development, and support programs and subsequently apply these to ultimately improve the clinical and translational research being conducted in academic research settings.

An education program for engineering students collaborating with clinician scientists to address priority hospital patient safety problems using an ethnographic research approach

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OBJECTIVES/SPECIFIC AIMS: Enhancing Patient Safety for hospitalized patients is a priority for healthcare facilities, providers, and federal funding agencies. Multidisciplinary partnerships in clinical and translational research better defines the scope of complex patient-safety issues, and is part of more effectively developing interventions. The discipline represented by engineering-trained partners brings valuable perspective to patient safety problems through their training background in human factors and systems analysis. The objective of this education program was to create and implement a collaboration between engineering students and clinical providers. Through the Johns Hopkins Institute for Clinical and Translational Research, a multidisciplinary partnership was created, to identify contributing factors, and suggest novel solutions, to key patient safety problems using an ethnographic research approach. METHODS/STUDY POPULATION: The collaboration was formed between the following Johns Hopkins (JH) groups: (1) The Institute for Clinical and Translational Research (ICTR), (2) The Armstrong Institute for Patient Safety, (3) The JH Hospital Clinical Engineering Services, (4) The Homecare Group, (5) The Masters of Science in Engineering Management Program at the Whitling School of Engineering, and (6) The JH Hospital Risk Management. All 6 provided representation to contribute to the planning, structure, and implementation of the project. The initial cohort was 24 masters students enrolled in the JHU Whiting School of engineering, and included 46% men, 34% women, and 75% international students. Students were placed in teams of 2–3 to work on 9 distinct patient safety concerns, as provided by the Armstrong Institute as priority. Potential clinical hosts from the appropriate clinical departments were vetted for feasibility and scope before students were assigned to them. Students and clinical hosts were oriented to the process. The students then spent 3–6 weeks working on their projects, for a total of 7 weeks, observing and working with patients and health professionals at their specific clinical sites, conducting ethnographic research under the guidance of their hosts. Ethnographic research is the systematic investigation of a culture or system; in our application, teams were looking at the environment, culture, and its contributing factors, with respect to patient safety problems. The main method used was the ethnographic research approach, in which teams made observations, then formulated hypotheses, and collected data relevant to what systems factors may be contributing to the patient safety issue. Following data collection and analyses, teams made recommendations for culture and/or systems shifts that could impact change and improve patient safety. Ethnography research process training is a tenet of the training undertaken by all Masters of Science in Engineering Management Students. RESULTS/ANTICIPATED RESULTS: At the end of the 7-week project, each team generated a comprehensive report suggesting potential solutions for each problem, and gave presentations on their findings to their peers, clinical hosts, and JHU steering committee representatives. Requirements on the student side included a midterm, final presentation, and report. Both students and site leaders submitted mid- and final program evaluations. Based on follow-up surveys, 71% believed the course may impact their career choice, 57% said the collaboration changed the way they viewed themselves, and 28% elected to continue working or were planning to work with their site in some fashion after the course ended. Nearly 60% of students believed additional funding or resources would benefit the course and 71% thought they would benefit from more or similar experiences with their clinical partners. Furthermore, 85% wanted to see the course expanded. Of the clinical hosts, 71% said that students added value, 86% believed students changed their perspective on their problem, unveiled new areas of investigation, and improved or likely would improve patient safety in their department. Seventy-one percent of hosts were actively acting on the students’ findings, and over 86% shared findings with their colleagues. Following the 7-week program, 2 teams also presented their findings to committees within the hospital departments, 2 patient-safety projects are being continued with engineering teams, and 2 new collaborative projects have been initiated.