Based on the popularity of this program with the students, hosts, and teaching faculty, this will be implemented within the engineering curriculum for a second time next year. Additional outcomes data collection are currently ongoing, and we plan to continue to monitor and analyze results. DISCUSSION/SIGNIFICANCE OF IMPACT: In its first year our engineering collaboration exceeded expectations. Engineering students and clinical providers successfully worked toward tangible solutions that were directly applicable to patient care. Furthermore, interactions were both personally and professionally beneficial for students while simultaneously adding value to clinical hosts. Beyond the collaboration, this initiative allowed for secondary connections between engineers and clinicians that are also have great potential for resulting in translational innovation. Despite the overwhelming success of this project, it highlighted the need for increased resources for sustainability. Our pilot highlighted a role for funding with regards to: (1) students in the execution of their projects (eg, transportation to sites, prototype materials); (2) clinical hosts, particularly protecting time to interact with and lead student teams; (3) the Armstrong Institute—to aid the identification and prioritization of high impact, patient safety projects; and (4) the ICTR for staff to facilitate placements, student orientation to the hospital setting, and program execution and maintenance. Ultimately, this collaboration addressed an unmet need for the clinical providers as well as the engineering students: thus, all partners agree that (1) the impact of this pilot would be greatly magnified by more time, longer duration, and additional resources; and (2) this collaboration could provide a useful model for approaching other complex health care problems. In terms of larger and longer-term impact, engaging engineers at the training level together with clinicians provides early exposure, and could potentially prime them to continue collaborations with clinical and translational science, across their careers.

2401

Professional Mentoring Skills to Enhance Diversity (PROMISED): Diversifying the workforce

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OBJECTIVES/SPECIFIC AIMS: To diversify the workforce by providing leadership and career coaching training to mentors so that they can be better leaders with their trainees and incorporate career coaching skills into their mentoring style. METHODS/STUDY POPULATION: PROMISED Program helps current and future members of the National Research Mentoring Network (NRMN) develop management, leadership, and career coaching skills so that they may be more effective in guiding their mentees. Studies show that mentees remain engaged in research when they drive their own careers, but mentors rarely help them recognize ways to do this. PROMISED aims to address by providing online leadership training and career coaching training. We developed innovative online leadership training for mentors committed to mentoring people from diverse backgrounds that are focused on management and leadership skills. These modules contain exercises, self-assessments, and discussion boards. We also have reading materials and other supplemental work such as videos to augment the modules. We also created 2-day training on career coaching skills for mentors. Certified career coaches trained participants in career coaching tools so that they could incorporate these skills into their mentoring style. Mentors tend to view themselves as content advisors, and they focus on the next step in the research project rather than the research career. We trained mentors to provide career coaching to their mentees, which will help the mentee establish a successful biomedical research career trajectory. RESULTS/ANTICIPATED RESULTS: In total, 45 mentors attended the Career Coaching Workshop. We assessed 26 mentoring/career coaching traits. Every trait improved on post survey (Likert scale 1–7), for example, "Taking into account the biases and prejudices you bring to the mentor/mentee relationship" (Pre: 4.16, Post: 5.38) and Working with mentees to set clear expectations of the mentoring relationship (Pre: 4.27, Post: 5.32). Some comments from attendees included: "amazing," "powerful," "excellent program," "learned so much." For the online module, we have a maximum of 20 fellows enrolled in each module. Results show that the fellows rate the module extremely useful. A comment from 1 fellow confirms this: "This session has changed my life and I know that the PROMISED program will transform my abilities as a mentor and as a person." DISCUSSION/SIGNIFICANCE OF IMPACT: Providing Career Coaching Training and Online leadership skills can significantly improve mentors ability to mentor people, particularly those from diverse backgrounds. In addition, this training can help mentors who are committed to mentoring people from diverse backgrounds promote their own careers as well as their mentees.

2419

Clinical research management and regulatory compliance: A graduate distance learning model

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OBJECTIVES/SPECIFIC AIMS: Goal—broaden the academic offer to enhance clinical and translational research productivity and cost effectiveness. Objective—implement a distance learning program on conducting proficient research management. METHODS/STUDY POPULATION: Needs assessment attested students' interest in enrolling and willingness to recruit graduates by the research industry and academia. A master of science in clinical research management and regulatory compliance (MS-CRMRC) was developed using the Core Competency Domains for Clinical Research Professional. Experts from research academia, pharmaceutical industry, composed a Proposal Development Committee. RESULTS/ANTICIPATED RESULTS: Access of a distance learning MS-CRMRC program for students with time constrains. Competent research professional graduates working side by side with the principal investigator on onsite teamwork management, to streamline research processes in compliance to regulations. DISCUSSION/SIGNIFICANCE OF IMPACT: Improvement of clinical and translational research productivity and efficient use of grants funds prevails as a generalized concern. The MS-CRMRC offers an accessible alternative to empower the research enterprise by developing knowledgeable skilled professionals to tackle this need.

2430

Leading diverse and emerging scientists to success (LEADS)

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OBJECTIVES/SPECIFIC AIMS: To diversify the biomedical research workforce by training postdoctoral scholars and junior faculty from 6 Minority Serving Institutions (MSIs) on practical research skills such as Critical and Creative Thinking, Formulating the Problem, Asking the Right Question, Grant Writing, and Team Science METHODS/STUDY POPULATION: In collaboration with our partners, we identified 11 topics where trainees lack research funding. Next, we identified instructors for these topics. We converted the topics to online module with modules ranging from 2 to 8 weeks. In working with an online education expert, we developed innovative online training using Moodle as the content management system. Scholars complete readings, videos, self-assessments and participate in discussion board each week. In addition, we have weekly synchronous sessions for each module. All scholars are required to take the grant writing module and 8 other modules. After each module, trainees complete a brief survey to evaluate the module. The leaders at the MSI participated in an intensive face-to-face training session on how to be a career coach so that they could be career coaches for the LEADS Scholars at their home institutions. RESULTS/ANTICIPATED RESULTS: In the first year, we selected 13 LEADS Scholars. All but 3 scholars elected to take every module. The 3 scholars did not enroll in the Peer Reviewing module. Results of the brief survey at the end of each module indicate that the scholars value each of the modules and rate them very highly. When 1 scholar wanted to leave the program, we decided to have a conference call with all of the LEADS Scholars to determine what was working and what was not working with the program. All scholars recognized the value of LEADS. Some scholars felt that the weekly synchronous session was too demanding as they have competing demands on their time. We consulted with the leadership at the MSI and decided to modify the requirements of the program such that every synchronous call was not required for successful completion of the module and to earn a badge. Scholars need to have at least 9 badges to earn a certificate. In addition to the training, we decided that scholars would also benefit from mock reviews of their grants. This will help them submit successful grants. We learned that the best way to serve the needs of the scholars is to work iteratively with the scholars and leadership to develop a successful program that most effectively meets their needs of the scholars and helps them launch a successful career. DISCUSSION/SIGNIFICANCE OF IMPACT: Postdoctoral scholars and junior faculty from MSI need practical research training to help launch their research career. We suspect that this is true of many institutions and plan to develop these modules so that they can be widely disseminated to other institutions.