

three cohorts of doctoral students (N=30) to identify sub-disciplinary knowledge integration and application. **RESULTS/ANTICIPATED RESULTS:** Integrated Final Projects indicate that the integration of IS, Program Theory and Research design within semester two yields application of integrated, sub-disciplinary knowledge to research design, identification of mechanisms of action and the address of barriers and facilitators to implementation of findings. Future analysis will be conducted to determine the degree to which dissertations reflect a similar level of sub-disciplinary integration and focus on implementation within the appropriate service setting. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Training future translational researchers to understand and use implementation science theories, models and frameworks can potentially result in narrowing the science-to-service gap.

3440

Emergency Dispatch Research Workshop: Engaging a Forgotten Professional Population in Research

Allissa L Wheeler¹ and Isabel Gardett

¹International Academies of Emergency Dispatch

OBJECTIVES/SPECIFIC AIMS: Emergency (911) dispatchers are the first link in the chain of care for the estimated 240 million emergency calls made each year. Yet even as emergency medicine, public safety, and public health have seen increasing study, emergency dispatch has very seldom been included in that research. Part of the reason is that, while emergency medicine is connected with hospital physicians and public health with university departments, emergency dispatch is largely invisible, not represented in university programs, and staffed by professionals without research training—and often without higher education or academic degrees. The purpose of our Dispatch Research Workshop is to engage these professionals in guided research projects of their own design, with the ultimate aims of both engaging more emergency dispatchers in research and increasing the field's overall capacity to generate evidence-based practice. **METHODS/STUDY POPULATION:** The workshop is help in tandem with a national Emergency Dispatch conference. Participants are recruited through advertisements in professional journals and relevant social media sites. The workshop is co-led by members of a partnership between the nonprofit organizations the International Academies of Emergency Dispatch and the UCLA Prehospital Care Research Forum, along with the dispatch data aggregation company FirstWatch. The Workshop occurs over two eight-hour days, and participants generally have no research experience or background. By the end of the second day, groups have developed research questions and methods, begun to write IRB proposals, and created data collection and analysis plans. Throughout the remainder of the year, research mentors support the completion of the project, and completed projects are presented at the following year's conference and submitted (if desired) for publication. **RESULTS/ANTICIPATED RESULTS:** During the first two years of the workshop, 36 attendees participated (17 the first year and 19 the second). Three successful attendees of the first workshop helped lead the second as research mentors. Three research projects were completed from the first year; all three were presented as posters and are now being prepared for publication as manuscripts. Four projects have emerged from the second year's workshop. Assessments and one-on-one interviews with participants at the end of each workshop have led to continuous change and improvement in the delivery of the material, as well as the outline of a year's worth of support materials, which is currently in development.

DISCUSSION/SIGNIFICANCE OF IMPACT: Developing a true evidence base for practice in emergency dispatch will serve all of our communities, and feedback from our participants (as well as significant existing research in practitioner-engaged research) indicates that those who participate in research have a better understanding of the value of evidence-based practice, are more likely to adopt it, and are more likely to raise questions and test theories in their own professional life. Also, providing these practitioners the opportunity to conduct and publish research raises their stature and the stature of their profession, helping it achieve its rightful place alongside other professions in public safety and health.

3457

Engaging American Indian Students in Oncology Research and Health Professions Education: A Review of the Literature

Ellen Jackson¹, Amber Anderson¹, Janis E. Campbell¹, Kathleen Moore¹ and Julie A. Stoner¹

¹University of Oklahoma Health Sciences Center

OBJECTIVES/SPECIFIC AIMS: The primary goal of the project was to conduct a narrative review of the published literature to identify and summarize best practices for developing oncology-focused research and training experiences for AI/AN undergraduate, graduate and professional students. A secondary goal was to identify methodological limitations and areas for future research related to rigorous educational program evaluation. **METHODS/STUDY POPULATION:** Published literature was searched using databases relevant to oncology (PubMed, Web of Science) and sociology (PsychINFO, SocIndex). The bibliographies of identified relevant papers were searched for additional references by title. Search terms included synonyms and commonly used terms for three general areas: (1) target population (e.g., American Indian), (2) training area (e.g., oncology), and (3) educational program (e.g., undergraduate). **RESULTS/ANTICIPATED RESULTS:** A current total of 107 original publications and 33 review papers that are relevant to the project goals have been identified. Key areas of program development and implementation relate to advertising and recruitment; didactic curriculum in research methods, cancer health disparities, and professional development and career planning; research immersion experiences through shadowing, networking, application of research skills, and opportunities to develop oral and written communication skills; ongoing career development support; mentoring by faculty, advanced trainees, and peers; and culture-specific enrichment. Important areas for program evaluation relate to measures of reaction, knowledge, practice and long-term outcomes. Evaluation design approaches include observational and experimental designs with recommendations for identifying relevant control groups. Strategies to ensure complete long-term follow-up are also summarized. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Successful programs address barriers related to perceived lack of abilities, lack of AI role models, limited culture-specific enrichment, and limited mentoring and ongoing career development support. Program directors should work with local tribal and community leaders when creating a new program. A high degree of coordination is needed to create a bicultural program to interest students in a research career and avoid the creation of barriers hidden to the program director. There are opportunities to improve the rigor of educational program evaluation in this setting by including measures beyond self-reported reaction and knowledge to focus on educational program enrollment and completion and long-term career outcomes. Methodologic