207

The future of community-engaged research: The development of a graduate certificate in community-engaged research for health

Stacey Gomes[1], Lori E. Crosby[1], Farrah M. Jacquez[2], Jackie Knapke[3], J Michell[1] and Jareen Meinzen-Derr[1]

[1]Cincinnati Children's Hospital Medical Center; [2]University of Cincinnati and [3]University of Cincinnati Monica

OBJECTIVES/GOALS: The goal of this poster is to 1) describe the development of a graduate certificate program for community-engaged research for health (CEnRH) in a Clinical and Translational Science Awards-funded institution; 2) describe the initial impact of the program; and 3) discuss strengths, implications, and potential improvements for the future. METHODS/STUDY POPULATION: The CEnRH graduate certificate is a 12-credit, post-baccalaureate program offered at the University of Cincinnati co-created by faculty from the Community Engagement and Translational Workforce Cores of the CCTST with community partners. The goal is to support learning about community-engaged research (CEnR) and enhances capacity for academic-community partnered research. Student demographics are collected as part of university registration. Quantitative course evaluations are collected each semester. Program evaluations including qualitative data are collected from students enrolled in the program during and upon completion of the certificate. RESULTS/ANTICIPATED RESULTS: The CEnRH curriculum includes 3 existing courses/electives in the College of Medicine and Psychology and three new courses in social justice and action research methodologies. Notably, the committee advocated for a scholarship to cover tuition for the certificate program to promote access for community partners. Since the fall of 2022, 17 students have enrolled in the CEnRH program, including 9 Faculty/Staff within CCTST institutions, 2 University of Cincinnati PhD Students, 5 Fellows, and 1 Community Member (who receives the scholarship). Notably, 24% of these students are from underrepresented minority backgrounds. Impact and evaluation data, as well as lessons learned, will be presented. Future directions for the CEnRH program will also be discussed. DISCUSSION/SIGNIFICANCE OF IMPACT: The CEnRH is an impactful program for trainees, faculty, and staff who are planning to conduct CEnR, while also strengthening research capacity among community partners and advocates. This certificate program may be especially valuable to academic researchers as more funding agencies require community and stakeholder engagement in their proposals.

208

Interinstitutional competency-based interactive workshops: Impact on continuing education of Clinical Research Professionals (CRPs)

Diana Lee-Chavarria[1], Roth Tara Mary[2], Carey Alexandria[3] and Stephanie Warth[2]

[1]Medical University of South Carolina; [2]Boston University Medical Campus, Boston Medical Center and [3]University of Florida

OBJECTIVES/GOALS: Clinical research professionals (CRPs) are vital to the conduct of clinical research and require ongoing, high-quality training to be effective. This poster will explore participating CRPs' assessments of the impact of the inter-institutional Research Professionals Network (RPN) Workshops on their work and ability to perform their roles. METHODS/STUDY POPULATION: The RPN Workshops are a consortium of four academic medical centers and their affiliates that collaborate to host peer-led workshops for CRP continuing education. CRP presenters and attendees include a wide variety of roles, responsibilities, and levels of experience. From September 2023 to December 2024, workshop attendees received bi-annual evaluations to assess the workshop impact, including skill application and understanding of topics. Responses from these bi-annual evaluations, along with monthly session evaluations, were analyzed to identify key outcomes on the workshops' impact in regard to participating CRP application of learnings and confidence in their role. RESULTS/ANTICIPATED RESULTS: Preliminary review of the bi-annual RPN Workshop Impact Survey data, alongside monthly workshop evaluation responses from workshop participants, revealed attendees indicated that they valued the topics presented. Key findings indicated that CRPs' participation in the workshops: reinforced their existing practices,tncreased their confidence in knowledge and/or skills discussed, enhanced their collaboration with CRPs from other institutions, and more detailed results of the analysis will be presented. DISCUSSION/SIGNIFICANCE OF IMPACT: Overall results demonstrated increased confidence in CRP roles. Participants valued the inter-institutional collaboration, which is facilitated by the sharing of best practices and diverse perspectives within the workshop format.

209

The Clinical Research Education in Genome Science (CREiGS) short course: An innovative program for enhancing research capacity in genome science

Emma Benn[1], Yvette Hutson[1], Lewis Tomalin[1], Christian Porras[1], Felicity Enders[2], Amanda L. Golbeck[3], Simone Heyliger[4], Lawrence[5], Xiaoxuan Zhong[5] and Umut Ozbek[6]

[1]Icahn School of Medicine at Mount Sinai; [2]Mayo Clinic; [3]University of Arkansas for Medical Sciences; [4]Hampton University Steven; [5]Langone Health and [6]Eli Lilly

OBJECTIVES/GOALS: The Clinical Research Education in Genome Science (CREiGS) program was developed to address the need for faculty and trainees conducting biomedical research to gain foundational training in genome science and accelerate the clinical adoption of genomic medicine. CREiGS, funded by NHGRI, offers comprehensive training in genomic analysis and statistical computing. METHODS/STUDY POPULATION: CREiGS targets a diverse pool of medical/doctoral students, postdocs, and faculty from academic institutions nationwide. The hybrid program included an 11-week online phase and a 3-day in-person phase, focusing on genomic science, statistical analysis and R programming, rigor and reproducibility, and engaging diverse populations in genomics research. Advanced special topics lectures included: decision analysis for genomics research, bioethical engagement of indigenous communities in genomics research, elucidating gene networks for advancing human health, etc. Strategies for recruiting diverse participants and ensuring an inclusive learning environment were informed by the Diversity Recruitment External Advisory Board. Participants' skills were evaluated via pre- and post-course surveys. RESULTS/ANTICIPATED RESULTS: Of 187 participants over 5 cohorts,

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68.4% were female and 47.0% from underrepresented groups. The cohort spanned career stages, with 35.3% students, 34.2% postdocs, and 30.4% faculty, most of whom were at the junior level. Competency evaluations showed improvements in all core competencies of the course: (1) independently carrying out small-scale research improvements, (2) confidence collaborating with statisticians, bioinformaticians, and other genome science experts, (3) applying appropriate statistical methods for the analysis of genetics and genomics data, (4) accurately interpreting findings from genome research studies, (5) critiquing the internal/external validity of genome research studies, and (6) effectively engaging diverse populations and community stakeholders. DISCUSSION/SIGNIFICANCE OF IMPACT: CREiGS successfully provided inclusive, high-quality, genomic and statistical training, to diverse scientists enhancing their research capacity and methodologic competency. Findings from longer term evaluations examining the contribution of CREiGS to participants' genome science-related scholarly productivity are forthcoming.

210

Addressing burnout in radiologists: Causes, impact on patient care, and potential solutions

Pardaman Setia, Linette Penney, Vedant Shukla and Mikhail Lobo
University of Toronto

OBJECTIVES/GOALS: This study objective is to evaluate the prevalence and risk factors of burnout in practicing radiologists, with a focus on personal as well as systemic factors. It aims to identify and assess the existing strategies to mitigate burnout, enhance radiologist performance, and improve the quality of patient care. METHODS/STUDY POPULATION: The present study is a systematic review that summarizes existing literature on burnout in radiology, examining its prevalence, risk factors, and effect on diagnostic accuracy, decision-making, and job satisfaction. The review will synthesize validated evidence for emotional exhaustion, depersonalization, and professional fulfillment. The review discusses trends and solutions that have emerged from analysis of data within differing countries, subspecialties, and career stages, focusing on elevated risk of burnout in radiologists. It also assesses downstream effects on patient care quality such as missed diagnoses and increased medical errors. The review also discusses potential strategies for mitigating these negative effects on healthcare delivery. RESULTS/ANTICIPATED RESULTS: The anticipated results of this review are expected to reveal significant variability in burnout rates across radiology subspecialties and practice settings, with prevalence ranging from 33% to 88% (Fawzy et al., 2023). Emotional exhaustion and depersonalization emerge as the most reported symptoms as consistently highlighted in previous studies. Major contributors such as workload, administrative burdens, and technological isolation (e.g., remote work and reduced face-to-face interaction) are anticipated. Radiologists in high-demand areas like interventional radiology and those in private practice may show higher burnout levels than those in academic settings. Protective factors, like exercise, supportive environments, and work-life balance, are expected to reduce burnout levels. DISCUSSION/SIGNIFICANCE OF IMPACT: This study calls attention to the importance of addressing radiologist burnout as a key institutional priority. Early and effective interventions are essential for improving job satisfaction, reducing medical errors resulting in enhanced patient care. Addressing burnout is crucial for maintaining a sustainable and effective radiology workflow.

211

Building a community of practice among research managers supporting mentorship research

Julie Hau[1], Jada Holmes[2], Krystina Karcz[3] and Melissa McDaniels[4]
[1]University of Wisconsin-Madison; [2]Morehouse School of Medicine; [3]University of Pittsburgh and [4]University of Wisconsin-Madison

OBJECTIVES/GOALS: The National Research Mentoring Network Coordination Center (NRMN CC) received funding from NIH to create an Online Community of Practice (OCoP) for Research Managers (RM). These RM contributed to advancing the research on the science of mentorship in STEMM. In a Proof of Concept, RM explored various aspects of their mentorship research support work. METHODS/STUDY POPULATION: An OCoP met 18 times across the 5-year grant to share experiences working to advance the science of mentorship in STEMM. Topics, frequency, and length of meetings were selected based upon several needs assessments surveys from the RM community. RM were invited to join the OCoP based on their roles as the point people for administrative activities in research projects (e.g., finances, budgets, training, and project management). RM often supervised staff, collected data, monitored IRB protocol compliance, and conducted research. RM played a pivotal role in the gathering and sharing of common measures across the 11 U01 studies to allow for greater confidence in research findings on mentorship (McConnell, 2021). RESULTS/ANTICIPATED RESULTS: Our primary goal was to provide a supportive community for RM contributing to mentorship research and data sharing. The results from several needs assessments exemplified a request for this support from the community to engage in an OCoP focused on their professional development. Therefore, the OCoP served as a starting point to explore the duties, functions, roles and responsibilities of RM, and extended into providing professional development. Although the number of RM attending decreased as the grant entered the no-cost extension phase, a subgroup of RM expressed interest in continuing the OCoP to focus on dissemination of research findings, further supporting the need for this community. DISCUSSION/SIGNIFICANCE OF IMPACT: RM supported 11 research projects and contributed to the data collection for over 6,000 participants. Few opportunities exist to create an OCoP for large scale data collection on experiences with mentorship in STEMM. RM were pivotal in their role with the NRMN to enhance the training and career development of individuals from diverse backgrounds.

212

HCTRECD's K to R Club: Adapted model to support research independence of Clinical and Translational Researchers in Puerto Rico

Carmen Buxo[1], Carmen J. Buxó-Martínez[1], Ruth Ríos-Motta[1], Brenda Delgado[1], Maria T. San Martín, Barbara Segarra-Vázquez[1], Karen G. Martínez-González[1] and Doris Rubio[2]
[1]University of Puerto Rico-Medical Sciences Campus and [2]University of Pittsburgh

OBJECTIVES/GOALS: A limited number of Hispanic researchers compete successfully for NIH career development and research

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