Development of a skills assessment for the formative evaluation of clinical research professionals working in behavioral and social science research contexts

157

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OBJECTIVES/GOALS: To support the growing number of clinical research professionals (CRP) working in behavioral and social science contexts, relevant formative assessments of research skills are needed. This study examines the development of an objective formative assessment designed to assess skills relevant to conducting social and behavioral research. METHODS/STUDY POPULATION: A multidisciplinary group at the University of Michigan was convened to develop the assessment. Case studies depicting clinical and translational research conducted in behavioral and social science contexts were used to measure proficiency in seven of the eight ECRPTQ competencies: Scientific Concepts & Research Design, Ethical & Participant Safety Concerns, Clinical Trial Operations (Good Clinical Practice), Study & Site Management, Data Management & Informatics, Leadership & Professionalism, Communication, and Teamwork & Team Science. Three difficulty levels of questions were developed: basic, intermediate, and advanced. To reinforce knowledge and skill development, the assessment was designed to give respondents formative feedback after responding to each question. RESULTS/ ANTICIPATED RESULTS: A preliminary "pre-pilot" test was conducted with three postdoctoral scholars to ensure that the assessment items were understandable. The assessment was then pilot tested with a larger group of 40 clinical research professionals (CRP) to test for the clarity and difficulty level of the items. A smaller group of 20 of these CRPs agreed to participate in focus groups to obtain feedback on their user experience. Data regarding years of experience as a CRP, types of studies engaged with, and information regarding professional certification were collected and used in the analyses. Demographic data collected were not connected to user responses. Results of the pilot test and focus groups were used to revise the questions on the final version of the assessment. DISCUSSION/SIGNIFICANCE OF IMPACT: To our knowledge, this is the first objective assessment of research skills for CRP working in behavioral and social science contexts. We will discuss how other institutions can use this instrument to evaluate the training needs of their social and behavioral research workforce.

Designing an online mentoring platform for clinical research coordinators: A structured approach Alexandria Carey, Jennifer Moses, E. Mendy Dunn and

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OBJECTIVES/GOALS: Developing an online platform for the clinical research coordinator (CRC) mentoring program aimed to create an accessible space for professional development and peer support using Microsoft Teams. The platform fosters communication, community, and connection to share best practices and resources, 159

enhancing competencies and growth within the CRC research learning community. METHODS/STUDY POPULATION: The CRC group mentoring program was developed using the ADDIE model. In the analysis phase, CRC needs were assessed to identify gaps in professional development, leading to the choice of Microsoft Teams for its effective communication and resource-sharing capabilities. The Design phase established objectives and content outlines for mentors and mentees. During development, training materials and interactive activities were created. Implementation involved onboarding participants and facilitating scheduled sessions. Finally, the Evaluation phase employed the Kirkpatrick model to assess program effectiveness: Level 1 gathered participant feedback, Level 2 measured knowledge gains, Level 3 tracked skill application, and Level 4 evaluated overall CRC performance and professional development impact. RESULTS/ANTICIPATED RESULTS: Building and maintaining a learning community in Microsoft Teams with 16 mentors and 34 mentees across two health locations offers benefits and challenges. Benefits include the structured organization that facilitates collaboration, resource sharing, and real-time communication, regardless of location. Specific channels can focus discussions and virtual meeting scheduling streamlines coordination. Teams allow easy access to training materials and assessments. Challenges include maintaining engagement and fostering community. Asynchronous communication may lead to uneven participation, while digital literacy levels can hinder involvement. Sustaining meaningful interactions requires intentional facilitation and consistent encouragement to keep discussions dynamic and supportive. DISCUSSION/SIGNIFICANCE OF IMPACT: The online Microsoft Teams mentoring platform boosts professional development, enhances community, and provides a vital space for resource sharing and discussion, thereby improving CRC competencies. Despite challenges like digital literacy and asynchronous communication, effective facilitation is crucial for empowering future leaders.

Benefits of career development grant coaching groups for early career clinical and translational investigators beyond funding success

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OBJECTIVES/GOALS: We reorganized the University of Illinois Chicago, Center for Clinical and Translational Science education programs in part to extend assessment beyond funding success. We evaluated the impact of early career grant coaching on applicants' perceived preparedness for grant submission, confidence in securing grants, and self-reported benefits. METHODS/STUDY POPULATION: Modeled after the National Research Mentoring Network, groups of ~5 investigators who wanted to submit a career development grant proposal met weekly for ~12 weeks with a senior faculty coach to refine aims pages, biosketches, and career development plans using a real-time peer review process. To evaluate impact, we assessed perceived preparedness ("How prepared do you feel to submit your grant proposal?") and funding confidence ("How confident do you feel in your proposal's funding chances?") on entrance and exit surveys using a visual analog scale (max 100 points). Exit surveys also included an open-ended question: "What did you learn or accomplish during the coaching group?" We used paired t-tests to

158

evaluate pre-to-post participation changes and reviewed free responses for additional context. RESULTS/ANTICIPATED RESULTS: From June 2023 to September 2024, 21 people (12 postdocs/1 research assistant professor/7 tenure-track assistant professors/1 other; 13 female) were enrolled in 4 sessions. Seven people did not finish the sessions and were lost to follow-up. For the 14 participants who completed both the entry and exit survey, perceived preparedness for grant submission increased from 30.1 ± 23.5 to 67.1 ± 24.6 (p = 0.001). Funding confidence in securing funding also increased from 40.8 ± 19.1 to 64.0 ± 20.7 (p = 0.003). Participants valued the structure and accountability of the groups and reported other benefits, such as improved writing skills. Opportunities for feedback were also appreciated, with one participant stating, "I learned to face my fear of constructive criticism." DISCUSSION/SIGNIFICANCE OF IMPACT: Coaching improved perceived preparedness for grant submission and confidence in securing funding for participants' current submissions and provided potentially durable benefits such as receiving and positively responding to constructive feedback. The impact of such programs likely exceeds the short-term financial return on investment.

160 Empowering future healthcare leaders and clinical researchers across a decade: UCLA's Clinical and Translational Science Institute – Research Associates Program[†]

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OBJECTIVES/GOALS: To assess the impact of UCLA's Clinical and Translational Science Institute Research Associates Program (CTSI-RAP), a student-led undergraduate clinical research initiative, on current members' career interests and development. METHODS/ STUDY POPULATION: To evaluate CTSI-RAP's impact, we surveyed students using the REDCap platform between May and June 2023. The survey captured data on demographics, academic background, motivations for joining, and engagement in clinical research activities. Students also provided self-assessments of how the program influenced their career interests. Both descriptive and qualitative analyses were then used to assess key factors influencing students' experiences, including the program's impact on career decisions in healthcare and clinical research. RESULTS/ ANTICIPATED RESULTS: Out of 43 students surveyed, 40 responded (93%). Before entering, 84.2% of students had less than one year of research experience, and most students (73.6%) did not have family members in healthcare or research professions. Top reasons for joining were gaining clinical research exposure, healthcare setting experience, and pursuing healthcare careers. Overall, 97% of students stated CTSI-RAP "definitely" or "most probably" confirmed their interest in medicine and 76% of students reported CTSI-RAP has "definitely" or "most probably" solidified their interest in clinical research. 100% of students who have applied for a job, professional school, scholarship, or internship included CTSI-RAP as a meaningful experience, reflecting the program's mission to provide motivations for a career in medicine and science. DISCUSSION/SIGNIFICANCE OF IMPACT: Since its establishment in 2013, CTSI-RAP has expanded from 15 students to more than 50 annually, providing hands-on clinical research and professional development opportunities. The program's peer-mentorship

161

and student-led approach have proven effective in preparing students for diverse healthcare and research pathways.

[†]This abstract has been updated since the original publicaiton. A corrigendum detailing these changes has been published (doi: 10.1017/ cts.2025.75).

The effects of micro credentials in training clinical research professionals at a National Cancer Institute Barbara Tafuto, Kathy Black and Barbara Gladson DeMarco Rutgers University

OBJECTIVES/GOALS: Micro-credentialing programs provide a rapid solution to the growing shortage of clinical research professionals (CRPs) by expanding the applicant pool and improving training efficiency. This study evaluates the impact of a micro-credential course on CRP education and its potential to reduce staffing shortages. METHODS/STUDY POPULATION: To address the CRP staffing shortage, new and existing clinical research staff at the Rutgers Cancer Institute of New Jersey (CINJ) participated in a micro-credential badging course developed by NJ ACTS and Rutgers' Master's in Clinical Research Management Program. The course focused on key clinical research topics designed to equip participants with foundational knowledge. Post-completion, surveys were administered to both participants and CINJ management to assess the program's effectiveness. The survey measured perceived knowledge gains, interest in further opportunities, and the program's potential to alleviate staffing shortages. Survey results were analyzed to determine the program's overall impact on CRP education and staffing challenges. RESULTS/ANTICIPATED RESULTS: Survey results demonstrated significant knowledge gains among participants, with 85% reporting increased confidence in clinical research topics after completing the micro-credential course. Additionally, 70% of participants expressed interest in pursuing further opportunities in the field. CINJ management reported smoother onboarding processes and noted an improvement in job readiness among new hires. The CRC Badge has since been integrated into CINJ's formal onboarding process. Overall, the micro-credential program contributed to expanding the CRP applicant pool, improving training efficiency, and offering a short-term solution to alleviate staffing shortages. DISCUSSION/SIGNIFICANCE OF IMPACT: This research demonstrates the effectiveness of micro-credentialing in addressing the critical shortage of CRPs. By rapidly equipping staff with essential knowledge, the program broadens the applicant pool, enhances onboarding, and offers an immediate solution to workforce gaps.

163

A customizable training curriculum for developing and enhancing clinical research professional expertise and performance across a five-state region

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