

rating for each rubric item, open text feedback for each theme, and an open text holistic assessment. We now use the rubrics in our study design course, which features student presentations of planned research, and in our writing course. We anticipate collecting formal student feedback to further evaluate the rubrics. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Our rubrics can supplement existing science communication training and can be integrated into all CTS coursework and research activities. For future clinical and translational scientists to have the greatest impact, they must learn to effectively communicate findings to multiple audiences, ranging from experts in their field to the general public.

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### **Individual Retention Conversations (IRC): Unlocking clinical research professional engagement**

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**OBJECTIVES/GOALS:** The clinical research professional (CRP) workforce suffers from high turnover. Stay interviews have led to increased satisfaction and reduced turnover in other industries. We describe a multi-institutional project to develop, disseminate, and evaluate a CRP-tailored Stay Interview tool reimagined as the Individual Retention Conversation (IRC) toolkit. **METHODS/STUDY POPULATION:** In August 2022, following on the heels of a series of un-meeting conversations focused on CRP workforce development, the CRP taskforce initiated a working group to tackle issues related to CRP workforce retention. As a first initiative, this multi-institutional working group set out to develop, disseminate, and evaluate a Stay Interview tool tailored for a CRP audience and reimagined as the IRC toolkit. A 2-phase pilot study was initiated across six academic medical centers (AMCs: ASU, Duke, MUSC, UAB, UPenn, VCU) to: 1) optimize the toolkit for the CRP audience and 2) evaluate the impact of the toolkit using a standardized CRP satisfaction survey. Quantitative and qualitative data were collected via surveys using the REDCap platform. **RESULTS/ANTICIPATED RESULTS:** The optimization phase of the pilot included 69 participants (16 managers and 53 of their CRP team members) from 6 AMCs. Respondents identified most and least useful questions for stimulating meaningful conversations regarding job satisfaction and retention issues with additional feedback on the IRC experience and tools. CRPs and managers represented a variety of roles, with 77% patient facing. The majority were satisfied with the IRC experience (82%) and found the experience personally beneficial (76%). Managers were satisfied with the manager's guide (90%). Quantitative and qualitative feedback was used to optimize the toolkit prior to launch of phase 2 in September 2024, which includes a longitudinal survey-based assessment of CRP job satisfaction and IRC-consequent work environment changes. **DISCUSSION/SIGNIFICANCE OF IMPACT:** CRP retention is impacted by complex factors, many related to job satisfaction, supervisor /employee relationships, and beneficial work environments. Initial evaluation of the IRC suggests that this intervention fosters positive supervisor/employee relationships and beneficial work environment changes, which may lead to improved retention.

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### **Attitudes toward bioethical issues in the applications of big data and artificial intelligence in clinical and translational research in underrepresented populations: A qualitative assessment**

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**OBJECTIVES/GOALS:** We designed a forum to educate participants about bioethical issues in the application of big data (BD) and artificial intelligence (AI) in clinical and translational research (CTR) in underrepresented populations. We sought to determine changes in participants' interests in ethics, bias, and trustworthiness of AI and BD. **METHODS/STUDY POPULATION:** 141 individuals registered for the forum, which was advertised to our partner institutions, minority-serving institutions, and community organizations. Registrants received email instructions to complete an AI Trustworthiness (AI-Trust) survey, a questionnaire with integrated qualitative and quantitative measures designed to better understand learners who engaged with the institution-specific AI/Data Science curriculum. Respondents completed the survey using personal devices via a link and QR code, with anonymized responses and enhanced privacy features. 82 people attended; 22 responded to the survey pre-forum and 22 post-forum. Pre- and post-forum responses were qualitatively compared to assess shifts in attitudes toward AI and BD and related interests in ethics, bias, and trustworthiness. **RESULTS/ANTICIPATED RESULTS:** We found increased interests post- vs. pre-forum in the use of AI for CTR, AI bias and its effects on underrepresented populations, and ethical risk assessment and mitigation strategies for the use of BD to empower research participants. In contrast, trust in AI was lower post- vs. pre-forum. Moreover, respondents also indicated that the current application of AI in healthcare practice would result in increased racial, economic, and gender bias. In comparison, interest in ethical challenges, bioethical considerations, and trustworthiness regarding use of BD and AI in health research and practice did not differ pre- vs. post-forum. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Interest in the application of BD/AI in CTR increased post-forum, but AI distrust and bias expectations also increased, suggesting that learners become more skeptical and discerning as they become more knowledgeable about the complexity of the ethics of AI and BD use in healthcare, especially its application to underrepresented populations.

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### **Modeling biomedical graduate student career development needs and training contexts**

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**OBJECTIVES/GOALS:** To design and implement programming that better prepares graduate students for diverse roles in a variety of workforce environments, our study models the training landscape and programming needs of graduate students in behavioral, clinical, and biomedical graduate programs at a large Midwestern school of medicine and public health. **METHODS/STUDY POPULATION:**