

and barriers to conducting research at the CTSI and explore ways to improve administrative and clinical research processes. The significance of this research is to inform research training and career development programs within our CTSA hub and the CTSA Program nationally.

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### **Stressful experiences and adherence to HIV care among Black Women Living with HIV: A qualitative analysis**

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**OBJECTIVES/SPECIFIC AIMS:** Our primary objective was to understand the relationship between incident or recent stressful events and adherence to HIV care in the context of other person, environment, and HIV-specific stressors in a sample of Black women living with HIV (WLWH). **METHODS/STUDY POPULATION:** Thirty in-depth interviews were conducted with Black women living with HIV who receive care at an academic HIV primary care clinic in the Southern region of the United States to elicit stressful events influencing adherence to HIV care. Semi-structured interview guides were used to facilitate discussion regarding stressful events and adherence to HIV care. Interviews were audiotaped and transcribed verbatim. Transcripts were independently coded using a theme-based approach by two experienced coders, findings were compared, and discrepancies were resolved by discussion. **RESULTS/ANTICIPATED RESULTS:** Participants described frequently experiencing incident stressful events including death or serious illness of a close friend or family member, and relationship, financial, and employment difficulties. Furthermore, participants reported experiencing traumatic events such as sexual and physical abuse during childhood and adolescents. While experiencing traumatic events such as sexual and physical abuse during childhood and adolescence may be distressing, these events did not influence adherence to HIV care. However, incident stressful events as defined above did influence adherence to HIV care for some participants, but not for others. For participants who reported that stressful events did not influence adherence to HIV care, factors such as personal motivation, access to social support, and adaptive coping strategies facilitated their engagement in care. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Experiencing stressful events, incident or traumatic, is common among Black WLWH and have the potential to negatively influence adherence to HIV care. Thus, Interventions aimed at identifying and addressing stress, social support, and coping are essential to improve adherence to HIV care behaviors.

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### **Student Leadership Training effects on team dynamics and collaborative work in high-pressure, interprofessional team environments**

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**OBJECTIVES/SPECIFIC AIMS:** We aimed to explore the impact of leadership training on student's abilities to work in interprofessional research teams successfully. The Translational Research Design and Interprofessional Skills Development Course (shortened,

Interprofessional Research Design) brings together students from different disciplines (science & medicine) and education tracks (PhD, MD, MD/PhD training) in a seven-week course to learn interprofessional collaborative skills and leadership styles that support success in translational research environments, while undertaking a research grant writing project. Part of the course involves a two-day leadership training workshop (12 hours) with the goal of understanding leadership styles and how to develop productive working relationships with team members to help students work more effectively in high-performance, interprofessional team environments. The course incorporates personality testing to develop self-awareness, with various exercises meant to build empathy, as well as knowledge of project management and effective leadership. **METHODS/STUDY POPULATION:** Nine teams of 32 students (23 MD; 9 Ph.D.) who took part in the Interprofessional Research Design course in 2017 and 2018 were required to write a reflective essay at the end of the course. We used an inductive thematic analysis to evaluate the essays. Reflective essays were coded openly by one study member. Codes were rationalized; then codes were collaboratively developed into themes by the study authors. We identified issues of integration between student groups that functioned well together and those that did not. Reflective writing responses were grouped into overall positive experiences and negative experiences. **RESULTS/ANTICIPATED RESULTS:** Seven of the nine teams collectively described their experiences positively. Themes related to positive team experience were "empathizing with group members", "sophisticated communication" and "collaborative workflow/styles." We found that those who had a positive experience utilized knowledge and skills learned during leadership training to better understand and communicate with their teammates leading to a more collaborative and dynamic workflow. These groups had higher degrees of communication both between their task assignments and within task completion periods. They also showed more awareness of others' needs in work and communication styles. For those that had a negative experience, themes were related to "basic communication", "poor integration" and "theory-practice gap of leadership training." Those who struggled showed much less in- and between-task communication and showed an inability to address the personal needs of other members in communication and workflow (while still often being able to identify them). **DISCUSSION/SIGNIFICANCE OF IMPACT:** These findings demonstrate the usefulness of leadership training that facilitates student self-awareness and empathy, as well as effective communication, leading to collaborative high-functioning interprofessional teams. Further work incorporating conflict management and exercises to overcome the theory/practice gap of leadership and teamwork training are recommended.

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### **The OHSU Physician-Scientist Experience: Integrating intensive translational research training for medical students into a competency-based educational framework**

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**OBJECTIVES/SPECIFIC AIMS:** The aim of this program is to provide early support to motivated medical students interested in a career as a physician-scientist in a framework of competency-based medical education. The CTSA creates an opportunity to provide clinical research education and protected time for research for medical students in clinical and translational research. **METHODS/**

**STUDY POPULATION:** This physician-scientist experience offers research opportunities in a wide variety of research disciplines, focused on clinical and translational investigations. The program offers both five-month and one-year blocks of protected research time. The five-month option is integrated into the four-year medical curriculum. The one-year option requires enrollment in an established Master of Clinical Research degree. Both options provide research experience under the mentorship of a physician-scientist. The five-month option aligns with UME competencies categorized under the six ACGME Domains of Competence. The one-year option includes coursework in research design, biostatistics, research ethics, data management, scientific communication, and proposal development within the CTSA-based education program. All students in the program attend a bimonthly journal club and seminar series starting in year one and extending through the research experience. This includes discussion of the importance of mentorship, selecting a residency, scientific writing and presentation, and personal narratives of physician-scientists and their pathways to this career. All students will be followed to determine career outcome.

**RESULTS/ANTICIPATED RESULTS:** Between 2015 and 2018, 67 students entered the program 46% selected the year out, and 56% selected the 5-month option. Students selecting this program constitute about 10% of the medical student population overall. We have had 17 graduates of the program to date. 55% of the cohort is women which parallels the OHSU medical student population. Long-term follow-up of at least 10 years will be needed to determine career outcomes. We assess student productivity by traditional measures of submitted abstracts, manuscripts, and presentations as well as longer term outcomes such as career orientation in medicine such as entry into a research-oriented residency and ultimately into an academic medicine or research.

**DISCUSSION/SIGNIFICANCE OF IMPACT:** The OHSU physician-scientist experience successfully matches medical students with a diverse set of research mentors focused on the CTSA. Although institutional structures determine the variety of specific research opportunities, the integration of physician-scientist training into a CTSA-based training program expands the reach of training programs such as the TLL.

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### Training KL2 Scholars to Communicate Science to a General Audience

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**OBJECTIVES/SPECIFIC AIMS:** Verbal communication is a critical component for professional development and leadership. Yet, many clinical translational scientists lack the skills in communication of their scientific work in a meaningful and exciting manner that conveys the potential impact of their work on human health to the lay public, stakeholders, and to other scientists in different fields. We hypothesized that formal communication training could improve information transfer by trainees that would enhance their career development.

**METHODS/STUDY POPULATION:** We therefore formalized a program for the KL2 scholars at the Ohio State University Center for Clinical and Translational Science that provided training from communications experts to develop a short, concise, and relevant talk about their field of research to general audiences. The program was a hybrid of workshop and individualized training. It culminated in each of the six scholars presenting public talk at the OSU STEM research dissemination and outreach space,

the STEAM Factory. The scholars were administered a survey to assess their knowledge of the concepts presented in the training prior to and following the receiving the treatment, as well as their overall assessment of the experience.

**RESULTS/ANTICIPATED RESULTS:** The poster will present the positive results of this evaluation and the impact of the training on the KL2 scholars.

**DISCUSSION/SIGNIFICANCE OF IMPACT:** The poster explain the training as a model that other CTSA KL2 programs could adapt for their trainees.

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### Transmitting wisdom and enhancing KL2 training through the use of exit presentations

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**OBJECTIVES/SPECIFIC AIMS:** -Transmit learning and wisdom from past scholars -Predispose new scholars towards a receptive attitude -Normalize struggle and failure on the road to success -Encourage a community of accomplishment and celebration -Connect the scholar

**METHODS/STUDY POPULATION:** The exit presentations were given by NCATS funded junior faculty in the CTSI KL2 Scholars Program who had graduated. All KL2 Scholars take part in the K Scholar Multidisciplinary Seminar Series that meets weekly during the academic calendar. The departed scholars returned for the presentations the following semester. The audience was made up of KL2 who had started with a later cohort, the CTSI KL2 program is a 3-year program, and newly appointed scholars. Scholars were given 12-15 minutes to cover: 1) What was learned, 2) Accomplishments on specific aims, 3) Next steps for project and career, and 4) Recommendations for other scholars. Presentations were collected and reviewed for recurring themes. Themes were grouped and quotes were included to identify nuance.

**RESULTS/ANTICIPATED RESULTS:** From the 17 exit presentations, six themes were identified: 1) Don't miss the forest for the trees (x10) – "the KL2 program helps to fill in gaps scholars don't realize they have – it is about more than just the research project, trust in the process and let the program help keep you on track." 2) Diversify and keep an open mind (x7) – "focus is important but diversifying research and reorganizing priorities is ok." 3) Don't be discouraged by failure (x6) – "perseverance is key, all success comes on the heels of many failures." 4) Importance of building network inside and outside of Scholar program (x6) – "importance of exploring and establishing collaborations" 5) Learn to say no and yes (x5) – "protect your time but be open to opportunities" 6) Seek advice and criticism but don't follow blindly (x4)

**DISCUSSION/SIGNIFICANCE OF IMPACT:** The use of exit presentations for graduating KL2 Scholars is a useful tool in transmitting wisdom and enhancing subsequent KL2 cohorts. The Scholar's experience and trajectory, share personal insights and recommendations to help other Scholars get the most out of their KL2 experience, give the community a chance to celebrate the Scholar's accomplishments, and provide the Scholar with a sense of closure in their KL2 journey. Within the exit presentations, six common themes emerged relating to best practices on making good use of resources and guidance, and learning to interact and navigate within networks and responsibilities in a mature way. Scholars in the audience benefit from hearing the insights and advice from their predecessors. The identification of themes helps the program to understand where it adds value.