

finding. Qualitative data were analyzed using deductive thematic analysis. For our study outcomes, we used both parametric and non-parametric t-tests to examine mean differences between outcomes at baseline and midpoint, and baseline and endpoint. RESULTS/ANTICIPATED RESULTS: The findings demonstrate that Peer Caregiver Navigation (PCN) is acceptable, appropriate, and feasible to deliver to hospice family caregivers of cancer patients. Appropriateness of our selected target outcomes was determined by confirming expected measurement change in depressive symptoms (lower), anxiety symptoms (lower), benefit finding (higher), and self-efficacy (higher). Exit interviews revealed that participants responded favorably to our selected measures for these outcomes and to our data collection time intervals. Moreover, recruitment and consenting processes, survey completion rates, and attrition outcomes (i.e., study exit due to active withdrawal vs. patient death) were analyzed to inform recruitment and retention feasibility for future studies. DISCUSSION/SIGNIFICANCE: Peer Caregiver Navigation (PCN) was determined to be feasible, acceptable, and appropriate to hospice family caregivers of patients with cancer. Moreover, PCN has the potential to improve caregivers' symptoms of psychological distress by providing them much needed psychoeducation, coping skills training, and emotional support.

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### Training in Responsible Conduct of Research: Evolution over 12 years

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OBJECTIVES/GOALS: We developed institution-wide RCR training to include all required elements; support trainees to identify key ethical questions that arise in research; and to identify methods to identify a solution; and disseminate results. METHODS/STUDY POPULATION: In 2011, we participated in developing an experimental model of RCR training led by the University of Michigan. We continue to offer this training model to career development awardees in clinical and translational research at OHSU across the institution. Interactive discussion in faculty and trainee groups includes responsibilities of a researcher and a systematic process to address real world research ethics issues. Each participant identifies a key research issue they have encountered and presents a poster at the final session. We have tracked post-training assessment of participant confidence in ethical decision making and in the range of topics identified by participants. RESULTS/ANTICIPATED RESULTS: Since 2012, 227 scholars and trainees have participated in the program with 44 faculty mentors facilitating. We will describe the current curriculum as it has evolved over the past 12 years, presenting trainees with an approach to identify ethical challenges that arise in their research and identify approaches to find a practical solution. We will report on the specific challenges in research ethics identified by participants over this period and how they have evolved. We will also present pre- and post-training data about confidence in ethical decision making. DISCUSSION/SIGNIFICANCE: This approach to RCR training is well-received, has evolved over time, and has led to dissemination. Success is attributed to allowing choice in topics relevant to trainees and practicality of the stepwise approach that is transferable to any situation.

## Evaluation

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### Knowledge and Implementation of Tobacco Control Practices in Rural Louisiana Community Health Centers

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OBJECTIVES/GOALS: Tobacco use remains a significant public health problem in rural America. Community health centers (CHCs) can help reduce the burden of tobacco use in rural areas, but we know little about their knowledge and implementation of best practices for tobacco control. This study assessed the knowledge and existence of tobacco control practices in rural CHCs. METHODS/STUDY POPULATION: Using a cross-sectional study design, we electronically surveyed health administrators and providers (n=64) in six rural CHCs in Louisiana between March 2021 and June 2023. The assessment measured 1) knowledge of the U.S. Public Health Service Clinical Practice Guideline for Treating Tobacco Use, 2) the priority given to smoking cessation programming, 3) the presence of best practices for tobacco control programming, such as having a tobacco control champion and team, 4) establishment of treatment and smoke-free campus policies, and 5) existence of referral procedure to external cessation services. We used descriptive statistics to characterize survey participants and responses. RESULTS/ANTICIPATED RESULTS: Most of the respondents were female (80%), White (61.8%), between 35 and 49 years of age (48.1%), and non-smokers (72.7%). Only half (51.6%) reported knowledge of the guideline for treating tobacco use among all respondents. Only a third (32.8%) said their health center gave smoking cessation high priority relative to other health priorities. Only a third (35.9%) reported having a tobacco champion; less than a fifth (18.8%) said they had a tobacco control team at their health center. Although all health centers had a smoke-free campus policy, about a quarter (23.4%) were unaware of the policy. Less than a quarter (23.4%) reported having a written policy for smoking cessation treatment at their health center, and less than half (46.7%) knew about cessation services to which they could refer patients. DISCUSSION/SIGNIFICANCE: Rural CHCs had limited knowledge of the guideline for tobacco use treatment. Smoking cessation lacked priority, and the prevalence of tobacco control best practices implementation was low. Rural CHCs must improve their implementation of guideline-recommend policies and clinical strategies to promote treatment and reduce the burden of tobacco use.

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### Predicting Success: A Mixed Model of KL2 Trainee Profiles and Outcomes

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OBJECTIVES/GOALS: Penn State CTSI supports KL2 career development awards for faculty seeking to become leaders in clinical and translational research. CTSAs can benefit from a better understanding of KL2 applicant profiles and trainee outcomes. Predictive modeling of KL2 records provides insights into institutional processes and continuous improvement goals. METHODS/STUDY

**POPULATION:** Collecting KL2 application records at Penn State CTSI from 2017 to 2023, comprising both accepted and not accepted candidate profiles, this study used a generalized logistic mixed model with binomial distribution to understand the factors predictive of KL2 trainee acceptance, (n=47). The following factors were modeled as potentially predictive of scholars' acceptance: Institution-specific Processes—Campus; Terminal Degree Type; College of Residency, Applicant Demographics and Portfolio—*Minoritized* or Protected Groups; Mean Application Score; Rurality Focus; Gender, and Outcomes—Post-Program h-index. **RESULTS/ANTICIPATED RESULTS:** Only Campus and Degree were significant factors predictive of trainee acceptance ( $r < .0001$ ), with a particular campus and the MD degree-designation both exerting selection pressures on acceptance rates. Applicant demographics were not significant historical factors in selection despite the most recent trainee cohort comprised of all women. Similarly, while our CTSA focuses on rural inequality and accessibility, a research proposal focused on rurality was not a significant factor for acceptance. Notably, NIH-scaled application scores and post-program h-indices were not significant for accepted and non-accepted applicants. **DISCUSSION/SIGNIFICANCE:** The absence of applicant-focused selectional pressure is striking—Penn State CTSI does not significantly select for gender, URM, or URP status. Administration is now empowered to intentionally engage, recruit, and retain from our other affiliated campuses and colleges.

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### **Radiation Therapy and Irreversible Electroporation (RTIRE) for Intermediate Risk Prostate Cancer**

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**OBJECTIVES/GOALS:** Prostate cancer treatment is associated with significant genitourinary side effects. There is a critical need for treatment with decreased morbidity. We report the development of a novel treatment paradigm combining irreversible electroporation and lower dose radiation to provide prostate cancer patients with a less morbid treatment. **METHODS/STUDY POPULATION:** Intermediate risk prostate cancer patients will undergo focal irreversible electroporation followed by low dose, whole gland radiation therapy. The primary endpoint is freedom from clinically significant cancer on biopsy at 12-month follow up. Secondary endpoints include safety profile, oncologic efficacy, effectiveness of RT and need for secondary treatment. This trial (NCT05345444) and currently actively recruiting patients after initial feasibility trial. Sample size is calculated to detect an increase in the proportion of patients who are cancer free at 1-year, from 0.80 to 0.95. An exact binomial test with a 10% one-sided significance level will have 94.3% power to detect the difference between the null and alternative hypothesis when the sample size is 42. **RESULTS/ANTICIPATED RESULTS:** This is a clinical trial in progress. **DISCUSSION/SIGNIFICANCE:** Combined irreversible electroporation (IRE) and

a lower dose radiotherapy (RTIRE) may provide prostate cancer patients a treatment with minimal side effects.

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### **An Evaluation of Altmetric Attention using Network Science and Natural Language Processing**

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**OBJECTIVES/GOALS:** Our project aims to assess the composition or characteristics of research papers that score high on alternative metrics. These alternative metrics including the number of newspaper mentions, social media mentions, and the attention score as catalogued on Altmetric, a tool used to document community attention for a given research paper. **METHODS/STUDY POPULATION:** Our study intends to 1) Utilize topic modeling to identify prevalent themes on Altmetric, and 2) Apply network analysis to elucidate the interconnectedness among universities, funding sources, journals, and publishers associated with high-attention papers. 3) Examine how these patterns vary when attention metrics shift, such as social media mentions, newspaper mentions, or the Altmetric score. We'll first perform this analysis on all types of papers and then limit the networks to Biomedical and Clinical Sciences, and Public and Allied Health Sciences to help inform what health topics garner attention. **RESULTS/ANTICIPATED RESULTS:** Our initial Altmetric topic models revealed sustained attention for COVID-19 and vaccination-related publications well beyond the pandemic (specifically, papers from January 2023). Health topics like cancer, dementia, and obesity also garnered high attention. Additionally, political papers (elections, democracy), climate change, and battery research had notable attention values. Further analysis needs to be done to explain why these topics gain attention and the type of attention they garner. We will construct networks to see the relationship between attention and entities like universities, funding sources, journals, and publishers. This will identify whether certain clusters of these entities produce papers with high attention or if attention is distributed evenly among them. **DISCUSSION/SIGNIFICANCE:** To gauge the broader impact of scholarly research alternative metrics beyond citations are needed. Altmetric is used widely by CTSA's to measure the community interest in research. Understanding the types of research that gain traction on Altmetric can help researchers understand how to garner interest from the community.

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### **Association of Asthma Specialty Care and Adverse Outcomes for Children Enrolled in the Arkansas Medicaid Program**

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**OBJECTIVES/GOALS:** Specialty care for asthmatic children should prevent adverse asthma outcomes. This study of children receiving care in the Arkansas Medicaid program used a comparative effectiveness research design to test whether allergy specialty care was associated with reduced adverse asthma outcomes. **METHODS/STUDY POPULATION:** Using the Arkansas All Payer Claims Database we studied Medicaid-enrolled children with asthma using a propensity