

**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 selectional 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