2026 Public Health Showcase

Poster Presentation Abstracts

Poster #1

Abstract Title:	A Fellowship Application to Measure Student Engagement in a Pilot Study of Project FRESH
Student:	Shantin Aguilar
Degree level:	Undergraduate

Abstract: Project FRESH is an NIAAA-funded program to reduce alcohol and related sexual risk behaviors among college students during their first semester. It is an online program where students track their alcohol and related sexual risk behaviors for 12 weeks and receive weekly personalized feedback summarizing their behaviors, with comparisons to other participants. This abstract describes a fellowship application that I submitted to examine student engagement in a pilot study of Project FRESH to inform program adjustments prior to its launch in fall of 2026. Aim 1 is to conduct a quantitative analysis of clickstream data to summarize how students interacted with the program. Up to 50 students will be invited to complete a one-month pilot study consisting of 12 daily surveys on Friday-Monday of each week. Aim 2 is to conduct qualitative interviews to better understand reactions to the program, what worked or didn't work, and how it could be improved. At the end of the pilot study, 20 students will be invited to complete interviews with Dr. Ray, myself, and a second research assistant. I will work with the research team to review transcripts and identify themes to guide program refinement. Recruitment and enrollment for the pilot study is planned to begin in April of 2026. Data analysis will occur during the summer 2026 semester. Through completing this fellowship, I will gain experience in analyzing quantitative and qualitative data. Findings will be shared at a national conference, and I will contribute to a manuscript that summarizes results.

2026 Public Health Showcase

Poster Presentation Abstracts

Poster #2

Abstract Title: Air Pollution Exposure and Dementia Risk

Student: Jusby Batekila

Degree level: Undergraduate

Abstract: Background: Evolving research suggests that air pollution potentially contributes to chronic disease beyond respiratory and cardiovascular outcomes, with rising concern for cognitive health. This research synthesizes findings from original epidemiological research papers examining the relationship between long-term air pollution exposure and dementia risk. Methods: Peer-reviewed original research papers were identified using PubMed, ScienceDirect, and journal archives. Studies were included if they used cohort, longitudinal, or population-based designs, measured air pollution exposure (e.g., model estimates of air pollutants, proximity to majors), and identified dementia as the primary outcome using clinical diagnoses or medical records. Systematic reviews and meta-analyses were excluded. Findings from original research that reported measurable associations, such as hazard ratios or incidence rates were summarized. Results: Across multiple large cohort studies conducted in the United States, Canada, and Europe, long-term exposure to PM2.5, NO2, and traffic-related pollutants were consistently associated with increased dementia incidence. After accounting for demographic, socioeconomic, and health-related variables, the associations maintained. Several studies observed elevated risk even at relatively low pollution levels, including concentrations within current regulatory standards. Stronger associations were reported for traffic-related emissions, black carbon, and combustion-related particles, suggesting that both pollutant concentration and composition influence dementia risk. Conclusions: Evidence from original epidemiological research shows a consistent association between long-term air pollution exposure and increased dementia risk. These findings support air pollution as a potentially modifiable environmental risk factor and highlight important implications for environmental policy, health equity, and healthy aging.

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Poster Presentation Abstracts

Poster #3

Abstract Title:	Analyzing the Influence of Race and Education on Public Perceptions of Crime and Gun Laws
Student:	Haley Block
Degree level:	Undergraduate

Abstract: Analyzing the Influence of Race and Education on Public Perceptions of Crime and Gun Laws Background: Public opinion is a vital metric for developing effective health policy and community safety interventions. This study investigated how race and educational attainment influence perceptions of gun permit laws and national spending to halt rising crime rates. Methods: Using data from the 2002 and 2022 General Social Survey (n=3,544), researchers utilized SPSS to perform descriptive statistics and Chi-square tests. The analysis compared responses across two decades, specifically examining attitudes toward requiring police permits for gun purchases and the adequacy of national crime-prevention spending. Results: Between 2002 and 2022, support for gun permits decreased by 9.1%, falling from 80.5% to 71.4%. Support remained consistently higher among Black respondents compared to White respondents. During the same period, those believing the nation spends 'too little' on halting crime rose by 14.8%, reaching 72.2%. Educational attainment was a significant factor, as respondents with lower levels of education were more likely to believe crime-prevention spending was insufficient. Conclusions: The findings reveal a growing public concern regarding national crime alongside a decline in support for firearm permit regulations. These trends underscore the necessity for public health programs to advocate for greater investment in violence prevention and community safety. Additionally, the data suggests a critical need for culturally sensitive firearm safety education that addresses the specific concerns of diverse demographic groups.

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Poster Presentation Abstracts

Poster #4

Abstract Title:	Title: Addressing Adverse Childhood Experiences Through Community-Based Prevention and Intervention
Student:	Morgan Brooke
Degree level:	Undergraduate

Abstract: Background: Adverse Childhood Experiences (ACEs) include traumatic events such as abuse, neglect, and household dysfunction that occur before age 18. ACEs are highly prevalent in the United States and are strongly associated with negative health outcomes across the lifespan, including chronic disease, mental illness, and substance abuse. Addressing ACEs through early intervention and prevention is critical to improving long-term public health outcomes. Methods: This study proposes a community-based intervention aimed at reducing the impact of ACEs among adolescents and young adults. The program incorporates trauma-informed care principles, educational workshops, and peer support groups delivered over a 12-week period. Participants are recruited through schools and community organizations. The intervention focuses on building resilience, improving coping skills, and increasing awareness of ACEs and their health impacts. Evaluation methods include pre- and post-intervention surveys measuring knowledge, resilience, perceived stress, and mental health outcomes, along with attendance tracking and participant feedback. Results: It is expected that participants will demonstrate increased awareness of ACEs, improved coping strategies, and enhanced resilience. Anticipated outcomes also include reductions in perceived stress and improvements in overall mental well-being. Conclusions: Community-based, trauma-informed interventions have the potential to mitigate the long-term effects of ACEs. By focusing on resilience and early support, this program may contribute to improved mental and physical health outcomes and help break the cycle of trauma across generations.

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Poster Presentation Abstracts

Poster #5

Abstract Title:	Association of Neighborhood Deprivation and Brain Health in Later Life: Results from the UK Alzheimer's Disease Center Cohort
Student:	Shreya Chandrashekar
Degree level:	Undergraduate

Abstract: BACKGROUND: Relative neighborhood-level socioeconomic disadvantage, as measured by the Area Deprivation Index (ADI), has been linked to increased risk of mental health disorders, including major depressive disorder, independent of income or education. These associations remain understudied in older adults, despite the complex interaction of social, environmental, and health-based risk factors that shape brain health. Depressive symptoms also contribute to cognitive decline and impairment. Therefore, we investigated the relation between ADI, mental health, and cognitive outcomes in a cohort of older Kentuckians. METHODS: Data were drawn from the UK Alzheimer's Disease Research Center. Included participants were age ≥55, had at least one study assessment using the Uniform Data Set v4.0. Participant characteristics were summarized according tertile of the national ADI. RESULTS: Across ADI tertiles, participants (N=524) had similar age and smoking status, and similarly felt safe in their homes. Participants in the most deprived tertile were more likely to be female (p=0.01), had less education (p=0.007), worse global cognition (p=0.044), were more likely to feel unsafe in their community (p=0.008), and reported less alcohol consumption (p<0.0001). Major depression, anxiety, and PTSD were similar across tertiles, but depressive symptoms were higher (p=0.013) in the most deprived tertile. DISCUSSION: ADI associated with demographic, psychosocial, cognitive, and mental health in this cohort. Due to the descriptive cross-sectional study design, we could not determine temporal ordering. We will investigate the temporal ordering in future research. We hypothesize that neighborhood influences cognitive and mental health in later life, which has implications for public health policy.

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Poster Presentation Abstracts

Poster #6

Abstract Title:	Exploring Barriers and Facilitators to Launch of a Harm Reduction Intervention Using Qualitative Methods
Student:	Katherine Dietsch
Degree level:	Undergraduate

Abstract: BACKGROUND Syringe service programs (SSPs) mitigate the adverse effects of drug use - yet some rural SSPs are not reaching a large proportion of people who use drugs (PWUD). The ASSIST study aims to develop an intervention to reduce injection-related harms by partnering with individuals who assist others with injecting drugs or obtaining harm reduction (HR) supplies (hereafter 'helpers'). The first study aim is to elicit anticipated barriers and facilitators to intervention utilization. METHODOLOGY Six focus groups involving SSP staff, helpers, and recipients of HR supplies and injection-related assistance were conducted. Audio recordings were transcribed. Transcripts were coded by three people, using both deductive approaches following the Risk Environment Framework and the Consolidated Framework for Implementation Research, and inductive approaches guided by coders' observations. RESULTS Common barriers were community stigma, the Risk Environment (e.g., legal concerns), and work infrastructure (e.g., SSP capacity constraints, limited hours of operation). The most common facilitators were emphasis on anonymity and accessibility of supplies in the ASSIST intervention. Additionally, helpers' altruistic motivations (desire to help recipients inject or obtain HR supplies) and access to HR supplies were identified as facilitators to intervention utilization. DISCUSSION Findings highlight various barriers and facilitators, indicating adequate internal (SSP) capacity (e.g., supplies and staff relationships) and external (community) barriers (e.g., stigma and local political environment). While facilitators exist, the identified barriers tend to relate to deeper structural issues which require social and political change. Staff and community team members must account for these factors during design to improve eventual effectiveness of the ASSIST intervention.

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Poster #7

Abstract Title:	Barriers to Specialty Access in a Rural Primary Care Clinic and Associated Emergency Department Utilization
Student:	Zander Houchens
Degree level:	Undergraduate

Abstract: Background: Rural populations face persistent barriers to specialty care, contributing to fragmented care delivery and potentially avoidable emergency department (ED) utilization. Identifying structural and patient-reported access limitations within rural primary care settings is critical to informing system-level improvement. Methods: This quality improvement initiative assessed access and referral challenges within a rural primary care clinic in south central Kentucky through structured staff interviews (n=9) and patient experience surveys (n=35). Survey domains included appointment accessibility, specialty referral barriers, transportation limitations, and ED utilization related to outpatient access challenges. Clinic-level operational metrics, including same-day appointment availability, were obtained from the clinic manager to contextualize findings. Results: Four patients (11%) reported seeking ED care due to difficulty obtaining timely specialty appointments. Five patients (14%) reported barriers to attending appointments related to transportation, personal, or work obligations, with transportation cited in three cases. Seven staff interviews (78%) identified referral coordination delays and limited specialty availability as recurring systemic constraints. Same-day primary care access remained moderate (average 26% daily provider availability), yet specialty access emerged as a downstream bottleneck. Routine specialty referral wait times ranged from approximately 1 to 12 weeks (median ~4 weeks), with most specialties clustering between 3 and 6 weeks. Otolaryngology extended to 12 weeks, and pain management was not accepting new patients. Conclusions: Specialty referral delays and transportation barriers contribute to avoidable ED utilization despite moderate primary care capacity. Targeted improvements in referral coordination and specialty access pathways may reduce fragmentation and improve continuity of care.

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Poster #8

Abstract Title:	Grayson County Teen Pregnancy Prevention Program
Student:	Grace Lobbins
Degree level:	Undergraduate

Abstract: This was a simulation project done in CPH 440 that created a program proposal aiming to lower the teen pregnancy rate and address risk factors in Grayson County through community based intervention. The intervention is based on results from a community health assessment as well as Social Cognitive Theory.

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Poster Presentation Abstracts

Poster #9

Abstract Title:	A comparison of college student health behaviors across campus sites and data sources to inform health behavior intervention content
Student:	Sarah Schatz
Degree level:	Undergraduate

Abstract: Project FRESH is a two-site NIAAA-funded program to reduce alcohol, cannabis and related sexual risk behaviors among college students during their first semester. It is an online program where students track their behaviors for 12 weeks and receive weekly personalized feedback summarizing their behaviors, with comparisons to other participants. To inform program content, a survey was administered to a sample of first-year students at participating study sites that assessed their alcohol, cannabis, and sexual activity behaviors. The goal of this abstract is to: (1) compare Project FRESH survey findings between each site and (2) compare Project FRESH survey results within each site to campus and national results on comparable measures in the National College Health Assessment (NCHA). The first step was to identify matching questions between the Project FRESH survey and the NCHA survey. Results were compiled into tables for comparison, organized by site and data source. We identified a total of 5 questions between surveys that were identical or similar. A preliminary review of the data indicates a higher prevalence of drinking among UK students as compared to students at UNT, with similar results to the NCHA. Results for cannabis use were near similar between UK, UNT, and the NCHA. Findings suggest the importance of tailoring intervention content for certain behaviors for each site. In addition, the review of data from project FRESH yielded similar results to data presented in the NCHA.

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Poster #10

Abstract Title:	Ambient Air Pollution and Childhood Brain Tumor Risk: A Systematic Review Claire Stanley1, Hannah Sanford1, Yisi Liu1, 3, Bin Huang2, 3, 4, W. J Christian1, 3, Eric B. Durbin2, 3, Abishek Gurappu2, 3, John Villano3, Tianjun Lu1, 3 1. Department of Epidemiology and Environmental Health, University of Kentucky, USA 2. Kentucky Cancer Registry, University of Kentucky, USA 3. Markey Cancer Center, University of Kentucky, USA 4. Division of Cancer Biostatistics, College of Medicine, University of Kentucky, USA 3. Cancer Research Informatics Shared Resource, Markey Cancer Center, University of Kentucky, USA
Student:	Claire Stanley
Degree level:	Undergraduate

Abstract: Background Childhood brain tumors are the leading cause of cancer-related deaths among children in the United States. The etiology of these tumors is still not well understood, and only 5% of cases have identified risk factors. Research on air pollution and brain tumors is ongoing, but remains limited in pediatric populations. While environmental exposures, including ambient air pollution, have been proposed as potential contributors to tumor development, existing evidence is inconsistent. Methods: The systematic review followed PRISMA 2020 guidelines. PubMed and Google Scholar were searched for relevant studies from Fall 2025 through February 16, 2026. Nineteen peer-reviewed epidemiological studies were identified and included. Studies were evaluated to assess associations between ambient air pollution and childhood brain tumors and to identify gaps in the literature. Results: Recent studies suggest a weak positive association between ambient air pollution and childhood brain tumors. Results were divided into three subtypes based on tumor type: gliomas, embryonal tumors, and Other or mixed CNS tumors. Gliomas showed the most consistent association across studies. Exposure to traffic-related air pollution, particularly nitrogen dioxide, was associated with a slightly elevated risk. Prenatal and early-life exposure periods appeared to be important windows of susceptibility. Conclusions: Current epidemiological studies suggest a possible association between ambient air pollution and childhood brain tumors. However, findings remain heterogeneous. Variability in study design and exposure assessment limits comparability across studies. Future research should incorporate improved exposure assessment, longitudinal designs, and standardized outcome classification to better clarify these relationships.

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Poster #11

Abstract Title:	Racial Differences in the Relationship Between Maternal Smoking, Cesarean Delivery, and NICU Admission
Student:	faith oluwadamilola oladoyin
Degree level:	Undergraduate

Abstract: Significant racial disparities in neonatal outcomes persist in the United States. Maternal smoking during pregnancy is a well-established and preventable risk factor associated with adverse neonatal outcomes. This study examines whether maternal smoking during pregnancy is associated with neonatal intensive care unit (NICU) admission and evaluates whether cesarean delivery mediates this relationship, with particular attention to differences between non-Hispanic Black and non-Hispanic White women. Data from 2024 U.S. national birth certificate records will be used to assess these associations. The analytic sample includes 2,016,135 live, singleton births to non-Hispanic Black and non-Hispanic White women; multifetal pregnancies, other racial/ethnic groups, and records missing key variables were excluded. Maternal smoking during pregnancy will serve as the primary exposure, cesarean delivery as the potential mediator, and NICU admission as the primary outcome. Covariates include maternal age, education, and pre-pregnancy BMI, among other relevant maternal characteristics. Understanding whether cesarean delivery mediates the relationship between maternal smoking and NICU admission may inform clinical decision-making and public health strategies aimed at reducing NICU admissions while addressing persistent racial disparities in perinatal care.

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Poster #12

Abstract Title:	Developing a Verified Affordable Housing Resource Guide to Support Housing Navigation
Student:	Madeleine Goshe
Degree level:	Undergraduate

Abstract: Housing resource guides can be an efficient tool for individuals to identify facilities that meet their needs. This project developed from a request from a community response pilot program for a comprehensive housing resource guide providing accurate information about affordable housing facilities, including unit size, cost and eligibility criteria, in east-central Kentucky for helping professionals to use. Existing resource guides often only list basic contact information and addresses, limiting their usefulness. The objective was to create a comprehensive housing resource guide to support individuals and professionals in navigating housing resources. Using a standardized call-script and call log, facilities were contacted up to four times to collect information on unit size, rent cost, eligibility, and waitlist lengths, and were emailed after the fourth call. Facilities that did not respond to calls and a follow-up email were removed from the final directory. Fifty-two facilities were initially included in the guide, and a total of 180 calls were made, with it taking about three calls before being able to reach a facility's contact if someone was reached. This process revealed challenges individuals may face when seeking housing and highlighted how limited operating hours and time constraints can be a barrier to access. The final housing resource guide is a verified, comprehensive guide that can support both housing seekers and helping professionals' access and referral to affordable housing facilities. It has been developed to support case workers and other professionals connect individuals to affordable housing options more efficiently.

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Poster #13

Abstract Title:	Strengthening Opioid Overdose Prevention Among College Students Through a Theory-Based Intervention in Fayette County
Student:	Bronia Irakoze
Degree level:	Undergraduate

Abstract: Opioid misuse and overdose remain pressing public health concerns in the United States, particularly among college students facing academic, social, and environmental stressors. This program proposal targets students aged 18-25 in Fayette County and aims to reduce opioid misuse and overdose risk through a comprehensive, theory-driven intervention. Grounded in Social Cognitive Theory, the program incorporates Screening, Brief Intervention, and Referral to Treatment (SBIRT), peer-led support groups, educational workshops, and storytelling sessions to reduce stigma and promote behavioral change. The primary objectives are to increase awareness of opioid-related risks, enhance self-efficacy in resisting substance use, and improve access to prevention and treatment resources. Implementation will involve partnerships with local universities, campus health services, and organizations such as the Kentucky Opioid Response Effort. Evaluation strategies include pre- and post-intervention surveys, participation tracking, and follow-up assessments to measure changes in knowledge, attitudes, and behaviors. By integrating early intervention, peer engagement, and community collaboration, this program aims to create a supportive campus environment that reduces substance use and promotes long-term health and well-being among college students.

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Poster #14

Abstract Title:	The Missing Piece: The Patient Perspective
Student:	Zoe Kohlhorst
Degree level:	Undergraduate

Abstract: By actively integrating patient perspectives, healthcare and public health can better identify and eliminate the systemic barriers facing marginalized communities. Incorporating the patient perspective is a critical step to inform future practice and achieve high-quality healthcare. This poster is a part of a broader project that aims to strengthen relationships between clinics and community-based organizations to improve healthcare quality for rural residents living with diabetes. Ongoing focus groups with patients living with diabetes are being conducted via Zoom to better understand their experiences with screening and referral processes to address unmet social needs. As end users of the system, patients are asked to share facilitators and barriers to accessing community resources and are compensated with a $75 electronic Visa gift card. By elevating the patient voice, a component frequently missing from research, practice, and policy development, we can transition to a more effective model of care.

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Poster #15

Abstract Title:	Co-designing County Specific Resource Guides to Support Families
Student:	Ariel Newton
Degree level:	Undergraduate

Abstract: Resource guides are essential tools for both helping professionals and help-seeking individuals in navigating support services. Through cross-sector workgroups, practitioners identified the need for accurate, clear, and usable county-specific resource directories. Existing resource directories often provide limited or outdated information, limiting their usefulness. This project aimed to co-design and develop a comprehensive, county specific resource guide for three Kentucky counties. Community resource guides are most effective when they reflect local service capacity and incorporate the expertise of those working directly within these systems. Using co-design methods, local cross-sector practitioners contributed to identifying and refining services to reflect local service capacity and practitioner needs. Resources were contacted using a standardized call script to verify key information (e.g., cost, eligibility, hours of operation) to develop county-specific directories. A total of 309 organizations were contacted, averaging 2.06 contact attempts per organization. Of these, 166 organizations were included in final directories, while 143 were excluded due to nonresponse. Guided by a systems approach, this work recognizes that meeting the complex needs of help-seeking individuals and families is a shared responsibility across sectors. The verification process revealed variability in organizational responsiveness and expedience, highlighting how resources may unintentionally create additional barriers and complicate service navigation. The final resource directories provide a verified and usable tool to support helpers and help seekers in navigating community resources. These observations underscore the public health importance of cross-sector collaboration to reduce inefficiencies, expand organizational capacity, and strengthen coordinated efforts that enhance community outreach, service navigation, and family stability.

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Poster #16

Abstract Title:	Clinical and Community Focus Groups Addressing Barriers in Kentucky
Student:	Mohini Patel
Degree level:	Undergraduate

Abstract: Mentor/e-mail: Rachel Hogg-Graham/rachel.hogg@uky.edu Community and clinical focus groups are widely used in public health research to give a voice to community members and clinic staff. The poster is part of a larger project that aims to understand the community - clinical linkages in rural Kentucky addressing unmet social needs for individuals living with diabetes. Unmet social needs, including housing, food, utilities, transportation, and safety can significantly affect diabetes management and health outcomes. Focus groups were conducted to learn about the current workflows, referral systems, and partnerships used to identify and respond to those who screen positive for unmet social needs. A structured recruitment approach was used to implement and engage both community-based organizations (CBOs) and clinical partners. Clinic and CBO profiles were built to collect information on organizations that participants represented. This information is collected before each focus group session to give a comprehensive overview of what the organization does, the services they provide, the populations they serve, and the staffing and funding capacity. After each focus group, transcripts are reviewed, cleaned, de- identified, and organized to ensure qualitative data is collected accurately. Focus group participants receive a $75 electronically issued Visa gift card as an incentive for their participation. Data from focus groups will be used to improve screening and referral processes for patients living with diabetes.

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Poster #17

Abstract Title:	Flushing Out Resistance: Leveraging Wastewater Surveillance to Inform Antimicrobial Stewardship in Kentucky
Student:	Ella Presley
Degree level:	Undergraduate

Abstract: Antimicrobial resistance (AMR) is an emerging global public health issue, with an expected 10 million annual deaths attributable to AMR by 2050 if current trends continue, surpassing deaths attributable to cancer at that time. AMR is linked to antimicrobial overprescribing, which is particularly prevalent in low-income communities in Kentucky. This problem is also a threat to livestock, the agriculture industry, and the environment, as drug resistant microorganisms can be disseminated into the surrounding soil and water. Wastewater surveillance (WWS) is an evolving tool for public health which can be utilized to combat this issue by mapping the distribution of antimicrobial resistance genes across the commonwealth. This surveillance can vary in granularity from individual rooms to city-level wastewater treatment plants and can target specific resistance genes as needed. The knowledge gained can inform antimicrobial stewardship and other public health intervention efforts at scale, improving efficiency and impact towards improving the health outcomes of Kentuckians. This review highlights various use cases for WWS of AMR in Kentucky, explores opportunities for improving wastewater surveillance infrastructure throughout the state, and proposes the assembling of key stakeholders in AMR across the state to further address this important public health issue.

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Poster #18

Abstract Title:	Aligning State Population Health Priorities with Preventable Hospitalization Trends: Demonstrating the Potential Impact of Upstream Interventions
Student:	Ella Presley
Degree level:	Undergraduate

Abstract: Accredited state health departments conduct a State Health Assessment (SHA) every 5 years to identify the most pressing health needs in their area. Upon identifying pressing health needs, the health department works collaboratively with multi-sector partners to develop a State Health Improvement Plan (SHIP), including actionable goals for impacting the identified health issues. Because the SHA/SHIP is ideally a collaborative process, the health needs identified and targeted are a key indicator of the current health environment in the state. Similarly, hospitals and healthcare systems utilize community-level indicators to measure the efficacy of their care in the community they serve. One of the most commonly utilized indicators are preventable hospitalizations, which are hospital admissions that could have otherwise been avoided through proper access to care and community services. The Agency for Healthcare Research and Quality (AHRQ) maintains a set of indicators to comprehensively assess preventable hospitalizations, ranging from asthma to diabetes complications. Notably, many of these indicators appear to be linked to public health issues identified through processes like the State Health Assessment. This study aims to examine the connection between identified public health needs and preventable hospitalization indicators as a potential approach for integration of collaborative upstream interventions to improve population health through preventable hospitalizations. The present approach will utilize the results from Kentucky's most recent State Health Assessment and preventable hospitalization indicators from AHRQ. In addition to demonstrating areas of alignment, this presentation will discuss the potential implications for the utilization of collaborative upstream efforts to impact preventable hospitalizations.

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Poster #19

Abstract Title:	Empowering Students, Strengthening Communities: Creating Pathways to Kentucky's Future Public Health Preparedness Workforce
Student:	Lauren Roehr
Degree level:	Undergraduate

Abstract: Since 2020, Kentucky has experienced 15 federally declared disasters, highlighting the state's increasing vulnerability and need for a competent public health preparedness workforce. Insights from student deployments, experiential learning opportunities, and established disaster preparedness teams demonstrate the value of hands-on, community-engaged learning for sustainable workforce development. In response, we aim to establish the Kentucky Preparedness

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Poster #20

Abstract Title:	From Classroom to Community: Internship Outcomes in Engaging Future Public Health Professionals
Student:	Bella Skibba
Degree level:	Undergraduate

Abstract: This poster presents outcomes from a public health internship experience focused on engaging and preparing the next generation of public health professionals in response to ongoing shortages in the public health workforce. The objective of this presentation is to describe how experiential learning, outreach, and professional development contributed to strengthening public health career pathways for high school and college students across Kentucky. The poster highlights key internship activities conducted through the Public Health Workforce Readiness Branch, including the development of educational materials, coordination of applied learning events, support of the Student Internship Program, and engagement with academic and community partners. It also describes contributions to recruitment efforts through career fairs and the creation of a Student Internship Program Ambassador position to enhance peer connection and program visibility. Professional development experiences, such as Federal Emergency Management Agency (FEMA) training and CliftonStrengths leadership coaching, are highlighted as integral components of the internship that supported professional growth. Through these experiences, the internship provided practical insight into public health workforce development while strengthening skills in communication, coordination, and critical thinking. Overall, this poster emphasizes the value of early exposure, hands-on learning, and cross-sector collaboration in building a sustainable and diverse public health workforce.

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Poster #21

Abstract Title:	An Investigation of Teen Driver Involved Crashes in Kentucky from 2020 - 2024
Student:	Madisyn Slone
Degree level:	Undergraduate

Abstract: Background: The fatal crash rate/mile driven is 3x higher for teen drivers aged 16-17 when compared to drivers aged 20 and older. Kentucky currently ranks first nationally for teen drivers involved in fatal crashes/100,000 licensed drivers. While teen drivers are overrepresented in fatal crashes, crash risk is highest during the first 6 months of licensure. This study aims to preliminarily investigate teen driver crashes in Kentucky from 2020-2024 to understand crash risk factors. Methods: Teen driver (aged16-19) crashes from 2020-2024 were identified from the Kentucky Collision Reporting and Analysis System for Highways dataset. Crash risk factor variables identified from the literature were included for further analysis. Descriptive statistics were conducted. Results: Crashes during daytime hours slightly increased after the COVID-19 pandemic. Teens were more likely to have a crash, of any severity, during daytime hours compared to nighttime hours and drivers aged 20 and older. Teens were more likely to be involved in incapacitating or fatal crashes during nighttime hours. Crashes involving impairment slightly increased with age. Distraction was a factor in approximately 50% of crashes across all ages. Males were more likely to have a crash that involved impairment. Discussion: Preliminary findings show similar crash risk patterns in Kentucky teen drivers compared to other states and time periods. Further examination of why Kentucky's crash rates differ from surrounding states, and the national average is greatly needed. Future studies will incorporate data elements from additional data sources to identify those in need of targeted education and training.

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Poster #22

Abstract Title:	From Food Deserts to Fresh Access: A Mobile Market Strategy
Student:	Jada Vice
Degree level:	Undergraduate

Abstract: This poster presentation examines limited access to affordable and nutritious food in the fictional community of Ashford Ridge. In this scenario, over 100,000 residents are served by only three full service grocery stores, creating significant barriers to accessing healthy food. Rising food prices, limited transportation options, and inconsistent acceptance of SNAP and WIC contribute to reliance on convenience stores and poor dietary outcomes. These challenges are reflected in elevated rates of obesity and type 2 diabetes, particularly among low income and transit limited populations . This project proposes a Mobile Market Program, 'The Ridge Market,' alongside a 12 month produce voucher intervention to improve food access and affordability. The mobile market would deliver fresh foods directly to underserved neighborhoods through consistent weekly routes, while accepting multiple payment methods including SNAP, EBT, and vouchers. Partnerships with local farmers and community organizations would support sustainability and reduce costs. The proposed intervention aims to increase fruit and vegetable consumption, reduce food insecurity, and improve long term health outcomes. Overall, this poster highlights a scalable and cost effective strategy to address structural barriers to healthy food access in a modeled community setting. This is based on a project in CPH410.

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Poster #23

Abstract Title:	Characteristics of Pulmonary vs. Extrapulmonary TB Cases in KY from 2020-2024
Student:	Mariam Alkhairat
Degree level:	Master's

Abstract: Objective: Tuberculosis (TB) remains an important public health concern in the United States, especially among people experiencing social and clinical vulnerabilities. Extrapulmonary TB, which occurs outside of the lungs, can be harder to detect and diagnose than pulmonary TB. This study aimed to describe the demographic and clinical characteristics of people with active TB in Kentucky and to identify factors associated with extrapulmonary TB. Methods: Secondary surveillance data were used from the Division of Tuberculosis Elimination (DTBE) National Tuberculosis Surveillance System (NTSS). The study sample included 301 confirmed active TB cases reported in Kentucky. Descriptive statistics were used to summarize the data and case characteristics; chi-square tests and Fisher's exact tests were used to compare pulmonary and extrapulmonary TB cases across demographic, behavioral, and clinical variables. A t-test was used to compare the mean treatment length. In addition, calculated prevalence ratios (PRs), 95% confidence intervals (CIs), and p-values to find factors associated with extrapulmonary TB status. Results: Out of the 301 active TB cases included in the analysis, 66 cases (21.9%) had extrapulmonary TB and 235 cases (78.1%) had pulmonary TB. Statistically significant differences were found in smoking history ($p = .0077$), country of birth ($p = .0066$), verification criteria ($p = .0020$), sputum smear status ($p < .0001$), and diabetes status ($p = .0256$). People who were born outside the United States were more than twice as likely to have extrapulmonary TB compared to those born in the United States (PR = 2.17, 95% CI: 1.19-3.94). Positive sputum smear results and having diabetes were associated with a lower prevalence of extrapulmonary TB. No statistically significant differences were seen based on sex, age, race, ethnicity, homelessness, alcohol use, treatment length, or treatment status. Conclusion: Extrapulmonary TB in Kentucky was linked with certain demographic and clinical characteristics, especially among people born outside the United States. These findings show the importance of continued TB surveillance and improved awareness when diagnosing extrapulmonary TB, especially for groups at higher risk for extrapulmonary disease.

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Strengthening early detection and focusing on public health strategies may help to improve TB control efforts in Kentucky.

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Poster #24

Abstract Title:	The Association Between Personal Particulate Matter (PM) Exposures and Cognitive Function Among Post-Thrombectomy Stroke Patients, Kentucky, USA.
Student:	Nana Dei
Degree level:	Master's

Abstract: Stroke, a major cause of long-term disability and cognitive problems in the U.S., significantly affects people's quality of life. Exposure to particulate matter (PM2.5) may result in systemic inflammation and oxidative stress, which can worsen the cognitive function of post-thrombectomy stroke patients. This project thus assessed the relationship between PM2.5 exposure and its effect on the cognitive function of post-thrombectomy stroke patients. Fifteen stroke patients (9 non-Appalachian and 6 Appalachian) undergone thrombectomy were recruited. Personal PM2.5 exposure was measured using wearable sensors for a week during the study period. Montreal Cognitive Assessment (MoCA) scores and covariates (demographics, clinical data) were collected for each patient. The average personal PM2.5 exposure ranged from 3.103 to 36.417□g/m3, with significant between-person differences. Participant were exposed to higher PM2.5 concentrations during nighttime than daytime. Median personal PM2.5 concentration were similar in Appalachian and Non-Appalachian residents. There were insignificantly negative correlations between PM2.5 levels/ concentrations and MoCA scores at discharge (r = -0.2201, p = 0.4700) and MoCA scores at 90 days post-thrombectomy (r = -0.3424, p = 0.2521). The results suggest that higher PM2.5 levels/ concentrations may be associated with worse cognitive function among post-thrombectomy stroke patients.

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Poster Presentation Abstracts

Poster #25

Abstract Title:	Evaluation of Early Age Onset (EAO) and Non-Early Age Onset (Non-EAO) Colorectal Cancer (CRC): Comparison of Histological Subtypes and Survival Differences in Kentucky (2000-2022)
Student:	Ghazal Jawed
Degree level:	Master's

Abstract: Background: Early age onset colorectal cancer (EAO CRC) incidence has increased in recent decades, and Kentucky has historically experienced a high burden of CRC compared to the U.S. overall. Methods: This study examined differences in histologic subtype distribution and survival between EAO CRC and non-EAO CRC cases diagnosed in Kentucky from 2000 to 2022. Kentucky Cancer Registry data were analyzed using descriptive statistics, chi-square tests, Kaplan-Meier methods, log-rank tests, and Cox proportional hazards regression. Covariates included sex, race, tobacco use, family history of CRC, rurality, Appalachian status, subsite, stage at diagnosis, and year of diagnosis. Results: Among 37,124 CRC cases, 3,811 (10.3%) were EAO and 33,313 (89.7%) were non-EAO. Preliminary analyses suggest that histologic subtype distributions differ by age-of-onset group ($p<0.0001$), with mucinous tumors being disproportionately represented in EAO cases. Differences were also observed in selected clinicodemographic and tumor characteristics. EAO CRC cases also differed from non-EAO CRC cases in overall survival (log-rank $p<0.0001$), with higher 5-year survival among EAO cases. Among EAO cases, preliminary survival analyses showed that mucinous histology (adjusted HR=1.93, 95% CI: 1.52-2.45), late stage at diagnosis (adjusted HR=3.48, 95% CI: 3.01-4.01), and Black race were associated with worse survival. Conclusions: These findings support continued investigation of age-specific colorectal cancer patterns in Kentucky and may help clarify differences in tumor presentation and outcomes.

2026 Public Health Showcase

Poster Presentation Abstracts

Poster #26

Abstract Title:	Identifying and Addressing Fraudulent Data in a Community Scan Survey
Student:	Samantha Jones
Degree level:	Master's

Abstract:

Incentive-based online surveys are increasingly popular and progressively vulnerable to fraudulent activity, including automated bot responses, which threaten data validity and resource allocation. In May 2025, a global link to a REDCap survey distributed through partners listservs to clinical contacts statewide was administered. Suspicious response patterns were identified when, within 48 hours, 298 responses were recorded, the majority associated with non-organizational email domains and clustered overnight submissions. By survey closure, over 700 responses exhibited indicators of inauthentic participation, necessitating suspension of incentive distribution, and a comprehensive data integrity review. Corrective measures included the use of hidden validation fields, timestamp analyses, and response quality checks to differentiate valid entries from fraudulent ones. Subsequently, a corrective and preventive action (CAPA) plan was implemented to mitigate future risks. This plan introduces a two-stage enrollment process requiring organizational email verification, automated issuance of unique survey links, and alignment of screener and consent procedures within REDCap. These measures aim to authenticate organizational participation, deter bots, and ensure accurate data collection. This case underscores the methodological and ethical implications of bot and fraudulent data infiltration in public health survey research, particularly when incentives are offered. Proactive validation mechanisms and adaptive research protocols are suggested to preserve data integrity. Future online survey administration should consider risks and effectiveness of layered verification procedures, assess the trade-offs between accessibility and security, and disseminate best practices for safeguarding online community-based research.

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Poster Presentation Abstracts

Poster #27

Abstract Title:	Recurrent Urinary Tract Infections in Individuals with Diabetes: Prevalence and Associated Risk Factors
Student:	Annie Machowski
Degree level:	Master's

Abstract: Urinary tract infections (UTIs) are among the most common bacterial infections and occur more frequently among individuals with diabetes. Recurrent UTIs (rUTIs) contribute to increased healthcare utilization, reduced quality of life, and greater risk of complications, yet population-level estimates and risk factors among U.S. adults with diabetes remain incompletely characterized. A retrospective cross-sectional study was conducted using the Merative MarketScan® Commercial Claims and Encounters database (2020-2023), including 673,535 adults (≥18 years) with diabetes defined by ≥2 ICD-10 claims and ≥12 months of continuous enrollment. UTIs were identified using ICD-10 code N39.0, and rUTIs were defined as ≥2 UTIs within 6 months or ≥3 within 12 months. Multivariable logistic regression models estimated adjusted odds ratios (aORs) and 95% confidence intervals. Overall, 14.70% of individuals experienced at least one UTI and 6.76% experienced rUTIs. Female sex was strongly associated with both UTI (aOR ≈ 3.52) and rUTI (aOR ≈ 3.03), and older age was associated with increasing odds, particularly among those aged ≥65 years (UTI aOR ≈ 1.54; rUTI aOR ≈ 1.99). Clinical factors including diabetic autonomic neuropathy and chronic kidney disease were associated with increased risk, while urolithiasis demonstrated the strongest association with both UTI (aOR ≈ 3.72) and rUTI (aOR ≈ 4.51). UTIs and rUTIs represent a substantial burden among adults with diabetes, highlighting the importance of identifying high-risk subgroups to inform targeted prevention and management strategies aimed at reducing recurrence and associated morbidity.

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Poster Presentation Abstracts

Poster #28

Abstract Title: Evaluating the Association between PM2.5 and PBT in Kentucky

Student: Hannah Sanford

Degree level: Master's

Abstract: Background Pediatric brain tumors (PBT) are the most common solid tumors in children, with rising incidence and geographic variation in Kentucky. Ambient fine particulate matter (PM2.5) has been proposed as a potential environmental risk factor. This study evaluated the association between PM2.5 exposure and PBT incidence and examined spatial and temporal disease patterns. Methods A population-based ecological study was conducted using Kentucky Cancer Registry data for individuals aged 0-19 years diagnosed with PBT from 1995-2023. County-level PM2.5 exposure estimates were derived from high-resolution geospatial models. Associations were assessed using Poisson, zero-inflated Poisson, and logistic regression models, with and without adjustment for sociodemographic covariates. Correlation and spatial cluster analyses (SaTScan, QGIS) were performed. Results The overall observed association was inconsistent between PM2.5 and PBT incidence across all models (unadjusted IRR ≈ 0.97, 95% CI: 0.919-1.018; adjusted IRRs: 0.938-0.941, 95% CI: 0.838-1.050). Correlations were weak (Pearson r = -0.22; Spearman r = -0.18). Unadjusted logistic models showed significance (OR: 5.10-5.40), but this was not sustained after adjustment (OR: 2.52-3.72). Spatial analyses identified clusters of elevated incidences in north-central and central/eastern Kentucky. Conclusions PM2.5 exposure was not associated with PBT incidence and spatial patterns did not show a clear correspondence with PM2.5 levels. Limitations include the ecological design restricting individual-level inference, potential ecological fallacy, and county-level exposure that may not capture relevant exposure windows. Although these findings suggest no evidence of association, further studies with refined PBT subtypes, improved exposure assessment and individual-level data are needed.

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Poster Presentation Abstracts

Poster #29

Abstract Title:	Tips from Former Smokers: A Narrative Review on the Effectiveness of the National Anti-Smoking Campaign among U.S. Adults
Student:	Tristan Ntego
Degree level:	Master's

Abstract: This narrative review synthesizes evidence on the impact of the CDC's Tips from Former Smokers campaign on smoking behaviors, cessation outcomes, campaign reach, and public perception. A systematic search of eight databases identified 51 peer-reviewed articles published between January 2012 and January 2026. Findings indicate robust population-level effectiveness, with higher campaign gross rating points (GRPs) consistently associated with increased quit attempts, quitline engagement, intention to quit, relapse prevention, and reduced smoking susceptibility among never smokers. From 2012 to 2018, the campaign was associated with approximately 16.4 million quit attempts, 1,005,419 sustained quits, 129,100 premature deaths averted, and $7.3 billion in healthcare cost savings. Television was the primary driver of quitline referrals, with media channel shaping the demographic characteristics of those reached. Public perception was broadly positive, with fear-based, personally relevant narratives and graphic imagery rated most effective regardless of sex or smoking status. However, sustained abstinence remained contingent upon individual nicotine dependence and access to supplemental clinical counseling, suggesting mass media must operate in concert with accessible cessation support systems. Evidence on campaign effectiveness among marginalized populations including low-socioeconomic status groups, racial and ethnic minorities, sexual minorities, and rural residents, was limited. These findings provide a critical evidence base for designing future tobacco control campaigns and preserving effective cessation strategies.

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Poster Presentation Abstracts

Poster #30

Abstract Title:	Assessment of Community Resource Use and Gaps Among Kentucky Local Health Departments
Student:	Alyssa Williams
Degree level:	Master's

Abstract: This poster summarizes findings from a statewide, non-research survey of Local Health Department (LHD) staff in Kentucky designed to assess how community resources are identified, utilized, and perceived in supporting population health. Data were collected using an online questionnaire developed and distributed through REDCap. The survey was disseminated to LHD educators across Kentucky, with 47 respondents representing multiple districts. The instrument included both closed-ended and open-ended questions to capture quantitative trends and qualitative insights related to resource use, accessibility, and gaps. Results indicate that commonly used and referred resources include health services, food assistance, harm reduction programs, and naloxone distribution, reflecting the importance of addressing social determinants of health. Respondents identified food assistance (93.9%), housing (85.7%), and transportation (85.7%) as among the most impactful resources for strengthening communities, while housing (73.5%) and transportation (51.0%) were also reported as major gaps. Key themes emphasized the need for increased funding, improved transportation, enhanced collaboration, and expanded mental health services. The survey also evaluated awareness and use of the Find Help Now Kentucky (FHNKY) platform, revealing limited utilization but strong interest in training. Suggested improvements included enhanced search functionality, real-time updates, and broader inclusion of local resources. Overall, the findings highlight the need for more coordinated, accessible resource systems to reduce barriers and improve health equity, particularly in rural and underserved communities across Kentucky.

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Poster Presentation Abstracts

Poster #31

Abstract Title:	Assessing the Effect of Social Determinants of Health as Predictors of Medication Adherence in Patients with Heart Failure using SEM
Student:	William Burrows
Degree level:	Doctoral

Abstract: Background In the US ~6.7 million adults are diagnosed with heart failure (HF). Extant studies have shown that only ~50% of patients with HF demonstrate adherence to recommended medication, changes in lifestyle, and self-care activities. Social determinants of health (SDOH) are well-established drivers of health inequities in the incidence and management of heart failure. The estimated number of non-adherent HF patients creates the potential for an increased burden of sub-optimally managed disease. Methods We will use data from 452 participants in the ARIC Study who were hospitalized for an incident HF even between 2006 and 2022 to assess the association between SDOH and proportion of days covered (PDC), a measure of medication adherence. Patients' individual HF medication regimen will be determined using Medicare Part D data from the 30-days following incident HF hospitalization discharge. We will then calculate individuals' PDC as the proportion of days for which they had a sufficient supply of medications within their personal HF medication regimen during a 1-year follow-up period. We will use SEM to fit Poisson regression models based on our hypothesized associations of SDOH components with PDC. Anticipated Results We will use these data to describe medication adherence rates in patients with HF. Then, we will identify which SDOH variables influence medication adherence among patients with HF and estimate the strength of SDOH's association with PDC. Conclusion The goal of this study is to identify what factors are driving medication adherence to develop interventions to improve adherence and ultimately reduce morbidity and mortality among patients with HF.

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Poster Presentation Abstracts

Poster #32

Abstract Title:	Community Scan Survey to Examine Clinical-Community Partnerships Addressing Social Needs Among People Living with Diabetes in Kentucky
Student:	Emily Clear
Degree level:	Doctoral

Abstract: Title: Community Scan Survey to Examine Clinical-Community Partnerships Addressing Social Needs Among People Living with Diabetes in Kentucky Authorship: Emily R. Clear, MPH, Mary Lacy, PhD, Kory Heier, MS, Madelyne Culbterson, MPH, Rachel Hogg-Graham, DrPH Introduction: To examine how clinical and community organizations are addressing health-related social needs (HRSN) specific to patients with diabetes, we conducted a community scan survey administered to clinical settings and community organizations to learn about current practices, relationships, and tracking systems for screening and referral tracking for HRSN. Methods: A cross-sectional survey was administered via REDCap using purposeful sampling of partners to clinic partners and community-based organizations across Kentucky. Respondents (n=130) represented the clinical sector (67.5%), local government (22.3%), and community-based organizations (15.3%). Results: Clinical organizations were more likely to indicate health-oriented outcomes as their priority, while community organizations highlighted community capacity and education as priorities. Over half of the sample reported their efforts as successful, citing referral follow-up and effective communication as key facilitators, though progress remains hindered by a lack of resources (74.4%), resistance to change (39%), and inadequate coordination (29.3%). Conclusions: Findings suggest that while cross-sector partnerships are prevalent, there are constraints on the infrastructure that prioritizes initial HRSN screening over closed-loop, bidirectional tracking technology. To improve health outcomes, quality improvement efforts must transition from simple resource sharing toward a unified, integrated care model that aligns clinical objectives with community goals.

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Poster Presentation Abstracts

Poster #33

Abstract Title:	Fast Food, Slow Burn: Examining the Association Between Food Swamps and Dietary Inflammatory Index
Student:	Caitlyn Grunert
Degree level:	Doctoral

Abstract: Background: Food environments shape dietary behaviors and chronic disease risk. Many individuals in the United States live in food swamps, areas with an excess of fast-food restaurants and convenience stores relative to healthier options, which are associated with poor diet quality and chronic inflammation. The Dietary Inflammatory Index (DII) quantifies the inflammatory potential of diet. This study examined the association between food swamp exposure and DII and assessed whether neighborhood social vulnerability (SVI) modifies this relationship. Methods: Data from more than 30,000 participants in the REasons for Geographic and Racial Differences in Stroke (REGARDS) study were analyzed. Food swamp exposure was measured using the Retail Food Environment Index and categorized as low, moderate, or high. DII was modeled as both continuous and binary (high vs low). SVI was derived from the Centers for Disease Control and Prevention index. Generalized linear models estimated associations adjusting for sociodemographic and lifestyle factors, with analyses stratified by SVI. Results: In age-adjusted models, high food swamp exposure was associated with greater odds of high DII (OR = 1.12, 95% CI: 1.05-1.20), though this attenuated after full adjustment (aOR = 1.07, 95% CI: 0.99-1.15). Participants in high food swamp areas had higher mean DII scores (mean difference = 0.57, 95% CI: 0.19-0.94). In moderately vulnerable neighborhoods, high exposure remained associated with greater odds of high DII (aOR = 1.19, 95% CI: 1.03-1.37) and higher mean DII (0.82, 95% CI: 0.06-1.59). No associations were observed in highly vulnerable areas. Conclusion: Food swamp exposure was associated with higher dietary inflammation, particularly in moderately vulnerable neighborhoods, suggesting joint effects of food environments and structural disadvantage on diet-related inflammation.

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Poster #34

Abstract Title:	Examining the Impact of Pack-Years Smoked on the Time Course to Cardiovascular Disease Risk Attenuation Among Former Smokers
Student:	Rong Hu
Degree level:	Doctoral

Abstract: Background: Cardiovascular disease (CVD) risk attributable to smoking drops precipitously upon cessation versus continued smoking, but how long it takes for former smokers' risk to approximate that of never smokers - and whether this time course differs based on cumulative pack-year exposure - remains unclear. Methods: We analyzed data from 4,937 participants of the Framingham Heart Study Offspring cohort without CVD at their baseline exam (1971-1975). Smoking status was updated at each of 10 quadrennial examination cycles. Participants were followed through the minimum of: CVD incidence, death, or 12/31/2022. We used extended Cox proportional hazards regression to calculate hazard ratios (HR) comparing former smokers' CVD risk to never smokers, incorporating time-varying smoking status. Former smokers were grouped based on pack-years smoked and years since quitting to assess if and how these variables interact to impact CVD risk. Results: CVD incidence differed by smoking status and cumulative smoking exposure. Compared with never smokers, former smokers with <20 pack-years had similar risk (HR [95% CI]: 0.99 [0.82, 1.20]), whereas former smokers with 20 pack-years had higher CVD risk (HR [95% CI]: 1.46 [1.22, 1.75]). We observed a significant interaction between pack-years smoked and years since quitting smoking (p=0.04). In models stratified by pack-years, years since quitting smoking was associated with CVD risk among heavy former but not light former smokers. Among former heavy smokers, it took 25-35 years since quitting for CVD risk to approximate that of never smokers. Conclusions: Among former smokers, the time course to CVD risk reduction differed by pack-years smoked.

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Poster #35

Abstract Title:	When Guidance Is Unclear: Kentucky Newcomer Families and Access to Refugee Cash and Medical Assistance After the 2025 ORR Change
Student:	Arman Ahad Azaz Khan
Degree level:	Doctoral

Abstract: During early resettlement, refugees and other ORR-eligible newcomers rely on clear public information about Refugee Cash Assistance (RCA) and Refugee Medical Assistance (RMA) to plan for basic needs, health care, and family stability. In 2025, the Office of Refugee Resettlement (ORR) shortened RCA/RMA to four months for individuals whose ORR eligibility date is on or after May 5, 2025. This study examined how federal ORR and Kentucky public-facing documents communicated eligibility, benefit duration, and the effective date after this policy change. Using qualitative policy mapping and content analysis, I reviewed six official sources: three federal ORR documents/webpages and three Kentucky Office for Refugees public documents/webpages. A structured coding sheet was used to capture eligibility, duration, effective date/cutoff, and implementation details. Results indicated that important program details were often missing or inconsistently communicated across sources. Duration was explicitly stated in only two of six sources: the federal notice reflecting the current four-month rule and one Kentucky legacy benefits page still listing an older eight-month duration. The cutoff date appeared in only one source, the federal notice. Kentucky public pages more often emphasized implementation details than updated rule information and rarely presented eligibility, duration, and conditions in one clear user-facing summary. These findings suggest that fragmented or outdated public guidance may create confusion for newcomer families and providers, increase administrative burden, and weaken timely access planning during early resettlement. Updating Kentucky's public-facing RCA/RMA materials with current and plain-language information could support equitable access and strengthen early family stability.

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Poster Presentation Abstracts

Poster #36

Abstract Title:	Benefits of Movement Mentors on the Social Connectedness of College Students
Student:	Virginia Leidner
Degree level:	Doctoral

Abstract: Background: Social connection is associated with several positive mental and physical health outcomes, but social disconnection and loneliness are prevalent among college students. Movement Mentors (MM), a youth physical activity promotion program, may help students foster social connection through community engagement. This pre-post study evaluated changes in social connectedness (SC) among college students serving as mentors from baseline to follow-up. Methods: SC was assessed using the 7-item Well-Being Assessment, which is measured on an 11-point Likert scale (higher scores indicate greater SC). A mean SC score was calculated for each participant by averaging across items. Changes from baseline to follow-up were analyzed using paired-samples t-tests and effect sizes. Participants who completed at least two assessments (baseline and one follow-up) were included in the analysis (n = 23). Results: Mean overall SC at baseline was 7.41 (SD = 1.45). Connection to the broader community increased significantly with a moderate effect size (mean change = 1.0, p = 0.033, d = 0.47). Small, non-significant increases were observed in overall SC (d = 0.24), perceived trust and respect in the broader community (d = 0.30), and relationship satisfaction (d = 0.27). Conclusions: Volunteering as a mentor in a physical activity promotion organization was associated with small to moderate improvements in social connectedness among college students, suggesting that this may be a promising approach to address social disconnection.

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Poster Presentation Abstracts

Poster #37

Abstract Title:	Improving interdisciplinary collaboration in integrated health care: Findings from behavioral health practitioners' perspective
Student:	Xinbo Li
Degree level:	Doctoral

Abstract: Background: Behavioral health conditions, including mental illness and substance use disorders, affect nearly one-third of the U.S. population and continue to strain the health care system. Primary care providers often serve as the first point of contact for behavioral health concerns, but face limitations in training, knowledge, and referral resources. Integrated health care has emerged as a promising model to address these gaps by combining physical, behavioral, and social health services. However, persistent workforce shortages present barriers to effective implementation. The Behavioral Health Workforce Education and Training (BHWET) Program was established to expand and strengthen the behavioral health workforce, particularly within integrated care settings. Methods: From 2022 to 2025, we conducted one-hour focus groups with 90 BHWET trainees in behavioral health professionals across four cohorts who completed internships in integrated health settings located in Health Professional Shortage Areas in a city in Upstate New York. Thematic analysis was used to examine their experiences with interdisciplinary collaboration. Results: Trainees reported that interdisciplinary teamwork enhanced treatment effectiveness, broadened professional knowledge, and enriched clinical learning. However, they identified organizational, professional, and systemic barriers, including fragmented structures, limited formal integration processes, scheduling conflicts, gaps in medical jargon, and insufficient recognition of behavioral health roles. Some agencies facilitated collaboration through team-based supervision and digital communication tools to overcome these barriers. Conclusions: While integrated care offers significant benefits, structural and cultural challenges hinder effective collaboration. Strengthening organizational systems and enhancing interdisciplinary training are essential to support a competent behavioral health workforce and improve integrated care outcomes.

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Poster Presentation Abstracts

Poster #38

Abstract Title:	Spatial Analysis of Residential Radon Exposure and Cancer Incidence in Kentucky
Student:	Ning Li
Degree level:	Doctoral

Abstract: Background Radon is the second leading cause of lung cancer in the United States. Kentucky counties face moderate to high radon potential, and the state carries one of the highest cancer burdens nationally. Thyroid cancer incidence has risen rapidly, and cancers among adolescents and young adults (AYA) are an increasing concern. Evaluating whether geographic radon exposure is associated with these cancer sites can help prioritize prevention and earlier detection strategies. Objective To characterize radon exposure patterns in Kentucky and identify associations with cancer incidence at the census tract level, supporting targeted mitigation and cancer prevention efforts. Methods Thyroid cancer and AYA cancer cases (2010-2022) were obtained from the Kentucky Cancer Registry. Radon measurements from 217,499 households, collected by the Kentucky Geological Survey, were aggregated to the census tract level using third quartile estimates. Hot and cold radon clusters were identified using the Getis-Ord Gi* approach. Multivariate negative binomial models estimated associations between radon exposure and cancer incidence, controlling for age, race, gender, rurality, Area Deprivation Index, and smoking rate. Results The analysis included 8,752 adults with thyroid cancer and 14,452 AYA with any cancer. Hot spot analysis identified 208 hot spot and 323 cold spot tracts. In adjusted models, residing in a radon hot spot was associated with significantly higher incidence of thyroid cancer (IRR: 1.12, 95% CI: 1.02-1.23, p=0.014) and AYA cancer (IRR: 1.11, 95% CI: 1.03-1.23, p=0.011). Conclusion Higher radon exposure is associated with increased incidence of thyroid and AYA cancers, suggesting radon may contribute to cancer risk beyond lung cancer. Future longitudinal studies using individual-level data are needed to confirm these findings and inform evidence-based interventions.

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Poster Presentation Abstracts

Poster #39

Abstract Title:	Medicare Attributed Costs of Lung Cancer in Kentucky: Examining Disparities Between Appalachian and Non-Appalachian Regions.
Student:	Ning Li
Degree level:	Doctoral

Abstract: Background: The Appalachian Kentucky is one of the most underserved regions and has one of the highest cancer burdens in US. There is limited research done to examine the disparities of cost in cancer care. This study estimated lung cancer attributed costs and examined disparity between Appalachian and non-Appalachian regions. Methods: Lung cancer case and billing cost are extracted from the linked Kentucky Cancer Registry (KCR) and Medicare data. The direct cancer-attributed cost is defined in three phases: the initial phase (first 12 months after the cancer diagnosis), continuing phase and the end-of-life phase (EOD). They are estimated by identifying the differences between cancer patients' medical cost and matched non-cancer control's medical cost. More specifically, cancer attributed costs were defined as the monthly cost difference between cancer cases and matched noncancer controls across the initial, continuing, and EOD phases of care. Annualized average costs were estimated by multiplying the mean monthly cost within each phase by 12. All costs were adjusted to 2020 U.S. dollars. Cancerattributed costs were stratified by Appalachian versus non-Appalachian residence to assess disparities. Results: In Kentucky, annualized average care costs were highest in the cancer-related end-of-life phase, followed by the initial and continuing phases ($68,375, $49,218, and $11,430, respectively). Appalachian Kentucky had higher medical care costs than non-Appalachian in the end-of-life phase ($71,104 vs. $66,588). Conclusion: Lung cancer care costs were highest during the initial and end-of-life phases, and Appalachian patients bore a heavier cost burden during the end-of-life phase of care. These findings provide empirical evidence to improve understanding of the overall cancer burden in Appalachian Kentucky and may help inform state-level policy and resource allocation decisions.

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Poster Presentation Abstracts

Poster #40

Abstract Title:	Unplanned Hospitalizations During Chemotherapy for Nonmetastatic Lung Cancer: Appalachian Disparities in Kentucky
Student:	Ning Li
Degree level:	Doctoral

Abstract: Objective: Unplanned hospitalizations for cancer patients are associated with high healthcare costs and significantly impact patients' quality of life. Very limited research has been done for Kentucky population. It remains unknown whether regional disparities, particularly Appalachian Kentucky, contribute to a higher risk of unplanned hospitalization. The aim of this project is to fill the research gap by examining the unplanned hospitalization among lung cancer patients in Kentucky. Methods: Using the linked Kentucky Cancer Registry (KCR) and SEER-Medicare data, we selected nonmetastatic invasive lung cancer patients diagnosed between 2000 and 2019 with continuous Medicare Part A and Part B enrollment and received at least one outpatient chemotherapy. Unplanned hospitalizations during chemotherapy were identified using the CMS OP-35 measure criteria. Chemotherapy was defined as the first course treatment period based on the outpatient chemotherapy claims . Fine-Gray subdistribution hazard model was used to examine associated between Appalachian region and the time to the first unplanned hospitalization during chemotherapy, with death treated as a competing risk. Covariates included age, sex, race, marital status, rural-urban status, cancer stage, pre-comorbidity Index, treatment type, distance to the diagnostic facility, education and poverty. Results: The association between Appalachian region and unplanned hospitalization risk was found to be effect modified, among older patients in Appalachian regions who lived 25-50 miles from the diagnosing hospital, the risk of unplanned hospitalization was significantly higher compared to their counterparts in non-Appalachian regions (HR: 1.35, 95% CI: 1.04-1.75). Conclusions: This finding suggests the elevated burden of unplanned hospitalization for patients from Appalachian Kentucky. Barriers such as transportation, financial constraints, and inadequate access to oncology care resources may compound challenges in receiving timely and consistent cancer care. Further research is warranted to better understand these barriers and to inform interventions aimed at improving cancer care delivery for Appalachian populations.

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Poster #41

Abstract Title:	Air Pollution and Cognitive Health in Older Adults: Current Evidence, Research Gaps, and Future Directions
Student:	Xiaotong Ning
Degree level:	Doctoral

Abstract: Background: Dementia represents a substantial and growing public health burden. Air pollution has been increasingly linked to cognitive decline in older adults. To characterize the current evidence base and identify key gaps, we systematically reviewed the literature on ambient air pollution and cognitive outcomes. Current evidence: We conducted a PubMed search, following PRISMA guidelines, to identify English-language studies evaluating air pollution and cognitive outcomes among adults aged 50 years and older. Most prior studies examined air pollutants in relation to clinical diagnoses and cognitive assessments. Some studies explored potential effect modification by genetic and social factors. Overall, the literature suggests-using different exposure windows, pollutant combinations, and outcome measures-that air pollution exposure may adversely affect cognition across studies. Research Gaps: Although the existing literature is broad, many areas remain insufficiently explored in depth. Key gaps include the relative lack of neuropathologic, imaging, and biomarker-based studies, which may provide clues to the mechanisms linking air pollution to adverse cognitive changes. Evidence on effect modification also remains limited and inconsistent, particularly for APOE, the main genetic risk factor for Alzheimer's disease. Uncertainty also remains regarding which exposure metrics are most relevant for cognition, including whether cumulative burden, average exposure, exposure patterns over time, or threshold effects better capture the causal pathway(s). Next steps: Guided by these gaps, our next phase will integrate air pollution exposure estimates with University of Kentucky Alzheimer's Disease Research Center (UK-ADRC) data to evaluate neuropathologic outcomes and examine whether air pollution influences the clinical expression of underlying neuropathology, including clinical-pathologic discordance (i.e., cognitive reserve) as a potential framework for cognitive resilience.

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Poster Presentation Abstracts

Poster #42

Abstract Title:	Recreational Cannabis Legalization: The Impact on Neonatal Abstinence Syndrome
Student:	Tolulope Oladele
Degree level:	Doctoral

Abstract: Purpose: As cannabis laws become more liberal in the United States, questions have emerged about their potential spillover effects on maternal and newborn health. Neonatal abstinence syndrome (NAS), caused by in utero opioid exposure, has also increased in recent decades; however, the influence of the legalization of recreational cannabis (RCL) on NAS remains uncertain. Methods: We analyzed state-by-year neonatal hospitalization data from the Healthcare Cost and Utilization Project (HCUP) FastStats program (2008-2022) to assess the impact of RCLs on NAS hospitalization rates and whether effects varied by maternal age. We used a staggered difference-in-differences event-study approach, adjusting for concurrent opioid-related policies, Medicaid expansion, and state-level demographic factors. Our sample included 705 state-year observations from 47 states and Washington, D.C. Results: In unadjusted models, RCL adoption was associated with an increase of about one additional NAS hospitalization per 1,000 births ($p<0.05$). This association faded after adjusting for demographics and other opioid policies. Event study analyses demonstrated a possible delayed increase in NAS after RCL, though these estimates were imprecise. Secondary analyses revealed age-based heterogeneity: RCL was associated with a reduction of 2.24 NAS cases per 1,000 newborn hospitalizations among younger mothers (<28 years, $p=0.056$). This protective association was absent among older mothers (≥28 years), for whom the net policy effect was statistically indistinguishable from zero (0.26 per 1,000, $p=0.735$). The difference between age groups was statistically significant ($p=0.010$). Conclusion: Maternal age appears to determine the impact of RCL on NAS rates. As cannabis policies change, monitoring the effect of these shifts on maternal and infant health, while continuing research on maternal substance use, is important.

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Poster #43

Abstract Title:	Disparities in Oropharyngeal Squamous Cell Carcinoma Incidence and Mortality Trends by Sex and Appalachian Status
Student:	Maisha Maliha Rahman
Degree level:	Doctoral

Abstract: Incidence and mortality for oropharyngeal squamous cell carcinoma (OPSCC) are rising across the U.S; however, a detailed analysis of incidence and mortality trends by Appalachian status has not been conducted. We performed a population-based analysis of OPSCC incidence and incidence-based mortality (IBM) from 2005-2022 using Surveillance, Epidemiology, and End Results data. Median ages at diagnosis and IBM were compared using Wilcoxon rank-sum tests. Disparities by Appalachian status were assessed using rate ratios (RR) and Joinpoint regression. Median age at diagnosis and death were younger for Appalachians versus non-Appalachians (males: diagnosis 60 vs. 61, IBM 62 vs. 63; females: diagnosis 62 vs. 63, IBM 63.5 vs. 66; all $p<0.05$). Compared to non-Appalachians, Appalachian males had significantly higher incidence (9.42 [95%CI: 9.16% to 9.69%] vs. 7.70 [95%CI: 7.66% to 7.75%]; RR:1.22, $P<0.001$) and IBM (2.69 [95%CI: 2.56% to 2.83%] vs. 2.27 [95%CI: 2.25% to 2.30%]; RR:1.18, $P<0.001$) regardless of age, stage, and rural-urban status. Among Appalachian males, trends increased significantly for incidence and IBM with regional stage disease (incidence AAPC 4.22%, IBM AAPC 6.78%, $p<0.001$). Among Appalachian females, only incidence was significantly higher. Given the benefits of early detection, these findings emphasize the need for accessible diagnostic services in medically underserved regions.

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Poster Presentation Abstracts

Poster #44

Abstract Title:	Hemp-derived cannabinoid use among young adults in Lexington, Kentucky in 2024
Student:	Sydney Shafer
Degree level:	Doctoral

Abstract: The availability and use of hemp-derived cannabinoids (HDC), such as delta-8-THC and CBD, have increased rapidly due to changes in U.S. cannabis policy and their federally legal status. Limited data exists on patterns and motivations for HDC use and resulting health effects remain largely unknown. This study examined prevalence, modes, and motivations for use of these products among young adults in Lexington, Kentucky. A convenience sample of adults aged 18-30 living in or near Lexington completed an online survey between February and March 2024 that assessed demographic characteristics, marijuana use, and HDC use, including type, frequency, modes, and motivations for use. Data were analyzed using descriptive statistics, Chi-squared and Fisher's exact tests, and logistic regression via SAS 9.4. The final analytic sample included 99 participants. Most were ages 21-30 years old (77.8%), female (66.3%), white (81.3%), and had used marijuana at least once (81.8%). Lifetime use of HDC was common (67.7%), with 24.2% of participants reporting past 30-day (current) use. The most common modes were edibles (89.6%) followed by smoking (70.1%) and the most common motivations were 'for the high' (77.4%) followed by anxiety (63.3%). Previous marijuana use was a strong predictor of lifetime HDC use, even after adjusting for income and sex (aPR: 4.34, 1.54-12.28), and for current HDC use (PR: 10.35, 2.12-inf.). This study is among the first to examine HDC use among young adults. Future studies with larger sample sizes are needed to further investigate patterns of use and examine disparities.

2026 Public Health Showcase

Poster Presentation Abstracts

Poster #45

Abstract Title:	Characterizing exposure to SVOCs using silicone wristbands following the train derailment in East Palestine, Ohio
Student:	Sydney Shafer
Degree level:	Doctoral

Abstract: On February 3rd, 2023, a train derailment occurred in East Palestine, Ohio, resulting in a chemical release and significant fire. This was followed by a controlled burn of five train cars containing vinyl chloride. As part of the East Palestine Health Tracking Study, 80 participants wore silicone wristbands during all daily activities for one week in July 2023. These wristbands are effective personal sampling devices that can non-invasively capture several chemicals in the ambient environment at a low cost. Upon returning their wristbands, participants completed a survey about their behaviors and activities during that week. Researchers quantified 135 semi-volatile organic chemicals (SVOCs) belonging to 9 different classes, including: dioxins, furans, polycyclic aromatic hydrocarbons (PAHs), brominated flame retardants (BFRs), and phthalates. Notably, none of the 17 dioxins or furans, along with 16 chemicals from other classes, were detected on any wristbands. PAHs, which are produced when organic materials are burned, were found at higher levels in participants who reported smoking or working with heavy machinery. Two additional factors that may have influenced PAH levels during the study period are smoke from wildfires in Canada that caused poor air quality in and around East Palestine, and heavy truck traffic removing derailment debris. Geospatial analyses based on participants' home addresses did not find any significant patterns of exposure to certain chemicals or classes. Silicone wristbands have proven to be valuable tools for personal chemical exposure assessment and could be particularly useful in the aftermath of disaster events like the East Palestine train derailment.

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Poster Presentation Abstracts

Poster #46

Abstract Title:	A Structural Equation Model Examining the Relationships Among Spiritual/Religious Strength, Other Strength-Based Mediators, and Anxiety in Youth
Student:	Hyeeun Shin
Degree level:	Doctoral

Abstract: Background/Objectives: Anxiety levels among youth are rising, especially for those in foster care, who experience significantly higher rates due to their higher prevalence of adverse childhood experiences (ACEs). Some young people may turn to their spiritual/religious strength (SRS), which can be a complex combination of both internal and external assets. In previous work, we have demonstrated the relationship between ACEs and the positive effects of SRS with young people. In this study, we extend this work to examine how youth's other strengths mediate the relationship between SRS and anxiety, by either enhancing or interfering with it, while considering the level of ACE. Methods: Our sample included youth (ages 6-17 years) foster care from 2019 to 2022 (N=11,470) in one midwestern state, assessed using the Child and Adolescent Needs and Strengths (CANS), and analyzed using a structural equation model with a cross-lagged panel design. Results: The study population was well-balanced, with 51.5% males and 48.5% females. Among participants, 54.1% experienced fewer than 4 ACEs, while 45.9% experienced 4 or more. In the group with ACEs < 4, a full mediation effect was observed; SRS appeared to indirectly protect against anxiety in both sexes, mediated by family-related mediators. In contrast, in the group with ACEs ≥ 4, the mediation effect of SRS on anxiety, and vice versa, was mostly reduced. Notably, there was a sex difference: for males, a direct pathway from SRS to anxiety was observed, whereas for females, the pathway between anxiety and SRS was nonsignificant. Conclusions: Once again, we found that for youth with fewer ACEs, SRS has a uniformly positive association with reduced anxiety. This effect changes once the threshold of four ACEs is crossed. Further, females appear to have a more complicated association between SRS and Anxiety than their male counterparts.

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Poster Presentation Abstracts

Poster #47

Abstract Title:	Modeling Cognitive and Hearing State Transitions in Later Life: Multi-state Markov Chain Analyses of NACC Data
Student:	Hannah Speaks
Degree level:	Doctoral

Abstract: Background: Hearing loss is increasingly recognized as a risk factor for later-life cognitive decline and dementia, yet limited evidence exists on how hearing states evolve over time in relation to cognitive changes. We applied multi-state Markov chain models to examine 1-year transitions between hearing states as a function of cognitive state, and cognitive state transitions as a function of hearing ability and hearing aid use. Methods: Using data from the National Alzheimer's Coordinating Center (NACC) Uniform Data Set, we developed two discrete-time first-order Markov models. The first modeled transitions among five annually assessed, participant-reported hearing states. The second modeled transitions among five clinician-diagnosed cognitive states. Transition odds were estimated using multinomial logistic regression in SAS PROC NLMIXED, adjusting for demographic and health-related covariates. Results: Participants (n=2,661) averaged 69.5 years. Normal cognition was associated with lower odds of transitioning from non-hearing with aid to aided hearing (OR=0.30, 95% CI [0.10, 0.89]); from hearing with aid to hearing without aid (OR=0.41, [0.26, 0.65]); and from hearing with aid to non-hearing (OR=0.40, [0.19, 0.82]). Hearing ability was associated with reduced odds of transitioning from normal cognition to dementia (OR=0.27, [0.14, 0.52]). Hearing aid use was associated with higher odds of transitioning from normal cognition to dementia (OR=2.05, [1.04, 4.05]) and increased odds of transitioning from MCI to normal cognition. Conclusion: These findings indicate a bidirectional relationship between hearing and cognitive health, warranting cautious interpretation given measurement limitations and observational design.

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Poster Presentation Abstracts

Poster #48

Abstract Title:	Timeframe Analysis of Impact of COVID-19 Policy on Maternal Morbidity
Student:	Meghan Steel
Degree level:	Doctoral

Abstract: Background Substance use disorders, mental health crises, and interpersonal violence account for 22.2% of preventable pregnancy-associated deaths in the U.S. In 2020, COVID-19 non-pharmaceutical interventions altered social and behavioral conditions contributing to the prevalence of these 'Big 3' conditions, but few studies have examined the impact among pregnant and postpartum populations using surveillance data or geographic stratification. This study addresses two critical gaps: (1) measuring differences in Big 3 hospital encounter rates between rural and metropolitan maternal populations following COVID policy implementation, and (2) evaluating timing of changes across the rural-metro continuum at policy onset (March 2020), reopening (May 2020), and extended impact (September 2020). Methods Using 2016-2024 Kentucky hospital discharge data for females aged 12-54, we propose a Poisson generalized estimating equation (GEE) model with county clustering and Fourier seasonality terms. We conducted power analysis simulations to test detectability of changes using: (1) quasi-binomial Pearson chi-square tests for stratum-level probability changes, and (2) Welch t-test difference-in-differences comparing standardized deviations between rural and metro strata. Results Power analysis across 1,000 replications (α=0.05, power=0.80) shows sufficient power to detect small marginal probability changes among rural counties. For metro counties, detection requires four months of data post-policy. Conclusions This methodologically rigorous design fills a gap in maternal health surveillance by incorporating rural-urban stratification and rigorous quasi-experimental methods.

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Poster Presentation Abstracts

Poster #49

Abstract Title:	Policy, Pandemic, or Pandemonium? The Challenges of Evaluating Policy Impact Amid the Chaos of Covid-A Case for a Scoping Review
Student:	Meghan Steel
Degree level:	Doctoral

Abstract: Research has documented changes in a variety of health-related socio-behavioral outcomes during the Covid-19 pandemic. But were these changes caused by government policies or by widespread fear and voluntary adaptation? This fundamental attribution problem has left public health leaders and researchers unable to confidently ascertain the costs and benefits of the non-pharmaceutical interventions designed to mitigate infection spread. Before we can assess the balance of the effects of these policies, we must evaluate the methods currently utilized in the policy analysis literature and discuss their abilities to disentangle the effects of government mandates versus voluntary behavioral change. This proposed scoping review will systematically examine quasi-experimental methods applied to COVID-19 policy evaluation for non-infectious health outcomes (mental health, substance use, interpersonal violence, maternal/perinatal health). Using PRISMA-ScR guidance, we will assess how studies addressed behavioral confounding and measurement bias, and evaluate the overall quality of the evidence on the unintended consequences of infection mitigation policies. Before a defensible cost-benefit analysis of COVID-19 policies can be conducted, we must understand what evidence can reliably tell us about their unintended harms. This review provides practitioners and researchers with a framework for assessing which claims about policy-caused increases in mental health crises, substance use, violence, and maternal morbidity are evidence-based versus speculative. By identifying limitations in current evaluation methods, this work clarifies what we can and cannot confidently conclude about whether observed harms were caused by policies themselves or by the pandemic's broader disruptions.

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Poster Presentation Abstracts

Poster #50

Abstract Title:	The Impact of Digital Mental Health Interventions on US Graduate Students: A Scoping Review
Student:	Abraham Teye
Degree level:	Doctoral

Abstract: Background: Graduate students in the United States are an important part of the academic and research community. However, 41% of graduate students report anxiety symptoms, and 39% experience depression, underscoring ongoing psychological distress (Evans et al., 2018). Although Digital Mental Health Interventions (DMHIs) are increasingly promoted as scalable tools for support, their clinical and psychosocial impact on this population remains insufficiently examined. Objective: This scoping review aims to examine the clinical and psychosocial effects of DMHIs on U.S. graduate students and identify the barriers that limit their implementation. Methods: A systematic search across PubMed, PsycINFO, Web of Science, and Google Scholar identified studies evaluating telehealth platforms, web-based cognitive behavioral therapy, and mobile mental health applications designed for master's and doctoral students. Results: Preliminary evidence shows small-to-moderate clinical improvements in anxiety, while findings for overall psychological well-being remain mixed across the literature. Psychosocial outcomes including academic and social progress indicate robust improvements, suggesting that DMHIs may be effective in helping students navigate academic and interpersonal demands. Findings also indicate that students consistently prefer interventions that incorporate human support, yet most available tools are self-guided. Implementation is further constrained by fragmented university infrastructures, demanding course workloads, and concerns about data privacy. Conclusions: While DMHIs offer a promising and scalable approach to strengthening student resilience, their impact depends on stronger integration with university counseling services and coordinated, human-supported care models. Findings will inform translational policies at university, national, and community levels, promoting integrated systems, culturally responsive digital mental health ecosystems for graduate students.

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Poster Presentation Abstracts

Poster #51

Abstract Title:	Strengthening Cross-Sector Collaboration Through a Professional Learning Community: A Mixed Methods Implementation Study
Student:	Kristen Theile
Degree level:	Doctoral

Abstract: Professionals who support individuals with complex health and social needs often work in siloed sectors, limiting communication and coordinated service delivery across healthcare, behavioral health, education, social services, and criminal-legal systems. Navigators of the Commonwealth, an initiative of the University of Kentucky College of Public Health supported by Vital Strategies, is an innovative professional learning community designed to strengthen intersectoral collaboration through relationship-building, shared problem-solving, and skill development. By connecting professionals across clinical and community settings, the model aims to improve coordination for individuals experiencing housing instability, system involvement, and other drivers of health inequity. This poster describes a planned two-year mixed-methods evaluation to examine implementation and outcomes of the model and inform future scale-up across Kentucky and beyond. Aim 1 is a scoping review of learning community models that support cross-system coordination in clinical and community settings to situate Navigators within the broader training landscape. Aim 2 uses qualitative methods to assess perceived changes in professional roles, communication, and collaboration. Data will be collected through Ripple Effects Mapping and focus groups with participants and partners, and analyzed using template analysis with iterative refinement and participant input. Aim 3 involves designing and piloting a survey to measure changes in collaborative practice and network functioning over time using repeated measures and descriptive analyses. Findings will clarify how an interprofessional, intersectoral learning model can be implemented in real-world settings to strengthen coordination and improve service delivery for individuals with complex needs.

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Poster Presentation Abstracts

Poster #52

Abstract Title:	Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) in Soil near a Hazardous Waste Incinerator in Appalachia, OH
Student:	Alexandria Thomas
Degree level:	Doctoral

Abstract: Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS), used in industrial and consumer products, do not fully break down into the environment, and exposure to these chemicals is a known risk factor for several health conditions and cancer. Incineration is commonly used to dispose of PFAS, but few community-level studies have been conducted to determine environmental releases. We conducted a study in East Liverpool, Ohio, to determine if there was a change in PFAS soil concentrations before and after a fire at the Arcwood Environmental incinerator, previously operated by Heritage/WTI. This study addressed 17 PFAS chemical compounds-emphasizing PFOS, PFOA, HFPO-DA (GenX), PFNA, and Total PFAS-for a direct comparison to a previous study by Martin et al. (2023). Thirty-six samples were collected within a 5 km (approximately three miles) radius of the incinerator. Among all sites, PFOS showed the most significant concentration. We observed increases in Total PFAS concentration at two sites, but these were not statistically significant. This study contributes to understanding the characteristics of PFAS concentration in soil and its effect on human exposure.

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Poster Presentation Abstracts

Poster #53

Abstract Title:	Patterns of hemp-derived cannabis use among individuals who use drugs in rural Appalachian Kentucky
Student:	Preston Tolbert
Degree level:	Doctoral

Abstract: Background The widespread availability and heterogeneity of hemp-derived cannabinoids (HDCs) pose substantial public health concerns. The purpose of this exploratory analysis is to understand associations between recent HDC use and demographics and use of other drugs among people who use drugs (PWUD) in rural Appalachian Kentucky. Methods Peer-referral and outreach were used to recruit 731 adults who used drugs to get high in the past 6 months. Interviewer-administered questionnaires elicited data on participant characteristics and behaviors. Unadjusted generalized estimating equations (GEE) were used to estimate odds ratios, 95% confidence intervals, and p-values for associations with recent HDC use. Demographic variables significantly associated with HDC use in unadjusted analyses were entered into a multivariable model to examine associations between use of HDC and other drugs. Results Nearly half (n=327, 44.7%) reported recent (past 6 month) use of HDC. Age ($p<0.001$) and housing instability ($p=0.036$) were associated with HDC use in unadjusted analyses. Adjusted analyses showed individuals who reported using marijuana ($p<0.001$), gabapentin ($p=0.016$), and hallucinogens ($p=0.007$) recently to get high were more likely to have reported using HDCs recently when compared to those who did not use those substances. Conclusion These findings show that HDC is commonly used among PWUD in rural Appalachian Kentucky and that recent HDC use is strongly associated with recent use of certain drugs in this sample. These results, along with the current lack of federal and state regulations of HDC warrant further investigation into the long-term health implications of HDC use and co-use, particularly among PWUD.

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Poster Presentation Abstracts

Poster #54

Abstract Title:	Gaps and Barriers in Digital and AI-Enabled Health Interventions for Older Adults in the U.S.: A Scoping Review
Student:	Lirisha Tuladhar
Degree level:	Doctoral

Abstract: Digital health interventions are increasingly being used to support health behavior change among older adults in the United States. Although research on these technologies has grown substantially, there is limited clarity regarding the barriers, gaps, and implementation challenges that affect their use and sustainability in older populations. The purpose of this scoping review is to map the existing peer-reviewed literature on digital health interventions targeting health behavior change among U.S. adults aged 60 years and older, with particular attention to reported barriers, facilitators, and evidence gaps. Using established scoping review methods, we conducted a systematic database search of quantitative, qualitative, mixed-methods, and review studies examining digital health interventions, including mobile apps, wearables, web-based platforms, and telehealth. Data were extracted to summarize intervention characteristics, targeted behaviors, study designs, and reported barriers and gaps. The literature largely focuses on interventions aimed at physical activity, chronic disease self-management, and weight-related behaviors. Commonly identified barriers include usability challenges, limited digital literacy, unequal access to technology and internet connectivity, insufficient personalization, and challenges integrating digital tools into healthcare systems. Notable gaps include limited long-term follow-up, underrepresentation of rural and underserved older adults, inconsistent reporting of implementation processes, and limited attention to equity-related outcomes. This scoping review highlights important gaps and barriers in the current evidence base and underscores the need for user-centered, equity-focused, and implementation-oriented research to guide the future development and dissemination of digital health interventions for older adults.

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Poster Presentation Abstracts

Poster #55

Abstract Title:	Gait Impairment as a Predictor of Cognitive Transition in Alzheimer's Disease: A Random Forest Analysis
Student:	Rena Wang
Degree level:	Doctoral

Abstract: Background: Gait impairment is a potential early indicator of neurodegeneration in Alzheimer's disease (AD). However, its independent contribution to prognosis across different stages of cognitive decline remains unclear. Methods: We analyzed longitudinal data from the National Alzheimer's Coordinating Center. We included initially cognitively normal participants aged ≥65 years who were followed for up to five years and classified them into cognitive transition groups: stable normal cognition (NC), transition from normal to amnestic MCI (aMCI), transition from normal to dementia (including transition to dementia via MCI), stable MCI, and transition from MCI to dementia. Baseline gait performance was derived from clinician-rated gait variables (Form B9) and Unified Parkinsons Disease Rating System (UPDRS)-based gait items (Form B3). Missing UPDRS variables were imputed using multiple imputation. A composite gait score was constructed. Three binary random forest models were developed. Model performance was evaluated using 5-fold cross-validation, and variable importance was assessed using SHAP values. Results: Among baseline NC (N=3606), 76.6% remained stable, 18.0% developed aMCI, and 7.7% progressed to dementia; among baseline MCI (N=1094), 78.4% progressed to dementia. Gait ranked among the top predictors (5th) for transitions from NC but was less influential for transition from MCI (8th). Greater gait impairment at baseline was associated with higher predicted probability of cognitive transitions from NC. Conclusions: Gait impairment was associated with cognitive transitions across the AD continuum, with a more prominent contribution in earlier stages suggesting gait provides useful, noninvasive information for identifying at-risk individuals.

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Poster Presentation Abstracts

Poster #56

Abstract Title:	Genetic Fine-Mapping of Braak Neurofibrillary Tangle Staging Identifies YBEY and PIK3R5 as High-Confidence Risk Genes
Student:	Xizhi Xu
Degree level:	Doctoral

Abstract: Background Neuropathological endophenotypes (NPEs) provide biologically proximal measures of brain disorders and are useful for studying disease genetics. Braak staging of neurofibrillary tangle (NFT) pathology is a well-established indicator of tau-related disease progression and was used here to illustrate our fine-mapping approach. Methods We applied a causal transcriptome-wide association study (cTWAS) framework to investigate the genetic architecture of Braak NFT staging. GWAS summary statistics from a large NPE study of 7,804 autopsied participants from the National Alzheimer's Coordinating Center, Religious Orders Study and Rush Memory and Aging Project, and Adult Changes in Thought study were integrated with gene expression and splicing prediction models derived from GTEx v8 eQTL and sQTL data for all the available brain regions. SNP and linkage disequilibrium reference data supported Bayesian fine-mapping, allowing cTWAS to jointly model multiple molecular traits and estimate posterior inclusion probabilities (PIPs) for putatively causal genes. Results cTWAS prioritized two genes, YBEY and PIK3R5, as putatively causal for Braak NFT stage variability, with high combined PIPs across brain regions (YBEY: 1.00; PIK3R5: 0.96). These results suggest a sparse genetic architecture with a small number of high-confidence genes underlying tau-related neuropathology. Conclusion Using Braak staging as a neuropathological endophenotype, this study identified YBEY and PIK3R5 as high-confidence risk genes influencing tau pathology progression and highlights cTWAS as a powerful approach for elucidating molecular mechanisms of Alzheimer's disease neuropathology.

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Poster Presentation Abstracts

Poster #57

Abstract Title:	Softmax-Based LogitBoost for Direct Multiclass Classification of Periodontal Disease Severity
Student:	Qi Yan
Degree level:	Doctoral

Abstract: Background: LogitBoost is an effective boosting method for binary classification, but its extension to multiclass problems typically relies on one-vs-all (OVA) decomposition. OVA treats each class independently, discarding inter-class relationships and potentially degrading performance when classes share overlapping feature distributions. We propose a direct multiclass extension of regularized LogitBoost using a softmax link function to simultaneously estimate class probabilities within a unified boosting framework. Methods: We evaluated softmax LogitBoost against default OVA LogitBoost, XGBoost, LightGBM, and ordinal logistic regression on a salivary biomarker dataset for three-class periodontal disease classification (healthy, gingivitis, periodontitis). All models were trained using repeated stratified cross-validation with consistent preprocessing, including log-transformation, z-score standardization, and hyperparameter tuning via grid search. Results: Softmax LogitBoost achieved the highest accuracy (0.670), outperforming default OVA LogitBoost (0.636), XGBoost (0.633), ordinal logistic regression (0.421), and LightGBM (0.414). The softmax formulation improved accuracy by approximately 2.3 percentage points over the OVA approach and marginally exceeded XGBoost, while LightGBM and ordinal regression performed substantially worse. Conclusions: Directly modeling joint class probabilities via softmax coupling improved LogitBoost's multiclass discriminative performance over conventional OVA decomposition in a small-sample, high-dimensional biomarker setting. These findings suggest that softmax-based LogitBoost offers a principled and competitive alternative for multi-category clinical classification, particularly in contexts where sample sizes are limited and the regularization benefits of LogitBoost are advantageous.

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Poster Presentation Abstracts

Poster #58

Abstract Title:	Impact of internal strengths and social strengths against depression among bullied adolescents
Student:	Su Su Zin
Degree level:	Doctoral

Abstract: Background: Adolescent bullying is a significant public health issue in the United States, with 19% of high school students being bullied in 2023. Bullying victims face substantially higher depression than non-bullied peers (28.5% vs 12.1%). Despite proven effectiveness of individual social and internal strengths, no study has examined the cumulative effects of multiple strengths under the same category. This study examined the association of cumulative internal strengths and social strengths against depression among bullied adolescents. Method: This cross-sectional study analyzed initial assessment data from Idaho's Youth Empowerment Services (YES) program (2018-2023). 3,397 bullied and 16,352 non-bullied adolescents aged 13-18 were assessed using the Child and Adolescent Needs and Strengths (CANS). Adjusted multivariable logistic regressions examined associations between depression and cumulative internal strengths, cumulative social strengths and individual strengths, controlling for gender, race, and age. Results: Cumulative internal strengths- ranging 1-4- showed significant protective associations (adjusted odds ratios (AORs)= 0.604 [0.488-0.749], 0.428 [0.343-0.534], 0.308 [0.241-0.393], and 0.169 [0.129-0.221] respectively for bullied and 0.759 [0.677-0.851], 0.538 [0.482-0.602], 0.34 [0.305-0.38] and 0.148 [0.132-0.165] respectively for non-bullied adolescents, while 6-7 social strengths demonstrated significant protective associations (AORs= 0.405 [0.215-0.762] and 0.335 [0.175-0.638] respectively for bullied and 0.635 [0.51-0.791] and 0.358 [0.287-0.447] for non-bullied adolescents). Standardized cumulative internal strengths showed stronger protective association with depression than social ones among bullied (AOR= 0.588 [0.54-0.639]) and non-bullied adolescents (AOR= 0.529 [0.508-0.55]). Conclusion: Regardless of bullying victimization, internal strengths demonstrated stronger compensatory associations against depression and internal strength-building interventions may be more effective in protecting adolescents against depression.

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Poster Presentation Abstracts

Poster #59

Abstract Title:	Physical Activity and Financial Burden Among U.S. Women with Breast Cancer: An IPTW Analysis Using MEPS Data
Student:	nastaran nemati
Degree level:	Doctoral

Abstract: Background: Out-of-pocket payments (OOPs) represent direct health care costs borne by patients and may impose substantial financial burden on breast cancer survivors. While regular physical activity (PA) is recommended for cancer survivorship due to its clinical and quality-of-life benefits, evidence on its association with patient-level financial outcomes remains limited. This study examined the association between adherence to PA guidelines and OOP health care expenditures among U.S. women with breast cancer. Methods: A cross-sectional analysis was conducted using pooled data from the 2017 and 2023 Medical Expenditure Panel Survey (MEPS). The study sample included women aged 18 years and older who self-reported a diagnosis of breast cancer, identified from the Full-Year Consolidated Data File. PA adherence was defined as engaging in moderate or vigorous physical activity at least five times per week. Inverse probability of treatment weighting (IPTW) was applied to estimate the average treatment effect (ATE) of PA adherence on log-transformed annual OOP health care expenditures, adjusting for demographic, socioeconomic, insurance, regional, and chronic condition characteristics. All analyses incorporated MEPS sampling weights. Results: Among 2,815 women with breast cancer, 43.4% reported adherence to PA guidelines. After IPTW adjustment, PA adherence was significantly associated with lower log-transformed OOP expenditures. Adherent women experienced a reduction of approximately 0.15 log units in annual OOP spending compared with non-adherent women ($p < 0.05$). Conclusion: Adherence to recommended physical activity guidelines was associated with significantly lower out-of-pocket health care expenditures among U.S. women with breast cancer. These findings suggest that promoting physical activity may offer not only clinical benefits but also financial relief for breast cancer survivors. Keywords: Breast cancer; Physical activity; Out-of-pocket expenditures; Financial burden; MEPS

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Poster Presentation Abstracts

Poster #89

Abstract Title:	Healthy Futures: A School-Based Nutrition Intervention for Clay County High School
Student:	Alicia Kates
Degree level:	Undergraduate

Abstract: Diabetes is a major public health issue in the United States, and it continues to increase due to factors like poor diet, obesity, and limited access to healthy foods. This program proposal introduces Healthy Futures: Eat Smart Clay County, a school-based nutrition intervention designed to reduce diabetes risk among high school students in Clay County, Georgia. Clay County faces serious health challenges, including high poverty rates, limited healthcare access, and higher-than-average diabetes rates, which makes it an important population to focus on. This program is guided by Social Cognitive Theory and focuses on helping students build confidence, knowledge, and healthier habits through nutrition education, cooking workshops, cafeteria changes, and family involvement. It also uses proven strategies from programs like the CDC's National Diabetes Prevention Program and the USDA's "Rethink Your Drink" campaign. To see if the program is effective, both surveys and real behavior changes (like food choices) will be measured. Overall, this program is about helping students make better choices now so they can live healthier lives long-term and lower their risk of diabetes.