



12th Annual ATRN Summit November 14 - 15, 2022 UK Bill Gatton Student Center

Oral & Poster Abstract Presentations

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Pulgar, Camila	3-3	Assessing the Mental Health Needs of the Latinx Community in Forsyth County, NC
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Rhodus, Elizabeth	15	Rural Recruitment for Clinical Research Optimized through Academic and Community Partnership
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Oral Abstract Presentations

Monday, November 14, 2022

10:45 am – 11:45 am Breakout Session 1-1

Session 1-1 Senate Chamber	Impacting Functional Outcomes in Diverse Conditions Moderator: Joel Thompson, PhD
	Can Artificial Intelligence Decrease the Disparity in Age of Diagnosis of Infants with Movement Disorders in Rural Communities? Tuyen Quan The Research Institute at Nationwide Children's Hospital
	Improving Functional Outcomes of Youth with Disabilities in an Appalachian Community Kimberly I. Tumlin College of Public Health, University of Kentucky
	Proteomic Response in Appalachian Stroke Patients Undergoing Thrombectomy Differs from non-Appalachian Patients Keith Pennypacker, PhD Center of Advanced Translational Stroke Science and Departments of Neurology and Neuroscience, University of Kentucky
	Reaching Further: Empowering Rehabilitation of the Post-Stroke Upper Limb with Computer Vision Justin Huber, MD MSc Department of Physical Medicine and Rehabilitation, University of Kentucky



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Oral Abstracts

Oral Presentation

Abstract Title:	Can Artificial Intelligence Decrease the Disparity in Age of Diagnosis of Infants with Movement Disorders in Rural Communities
Author(s):	Tuyen Quan, Ohio State University, College of Medicine; Kathleen Adderley, Abigail Wexner Research Institute at Nationwide Children's Hospital, Columbus Ohio; Megan Iammarino, Abigail Wexner Research Institute at Nationwide Children's Hospital, Columbus Ohio; Natalie Reash, Abigail Wexner Research Institute at Nationwide Children's Hospital, Columbus Ohio; Lindsay Pietruszewski, Abigail Wexner Research Institute at Nationwide Children's Hospital, Columbus Ohio; Anna Long, Abigail Wexner Research Institute at Nationwide Children's Hospital, Columbus Ohio; Lindsay Alfano, Abigail Wexner Research Institute at Nationwide Children's Hospital, Columbus Ohio; Linda Lowes, Abigail Wexner Research Institute at Nationwide Children's Hospital, Columbus Ohio

Abstract: Introduction: Developmental and behavioral conditions are the top 5 chronic disabilities that affect 12-16% of children in the United States and reported prevalence is on the rise. One in 323 children will be diagnosed with cerebral palsy and 1 in 59 with autism, however, these diagnoses can be delayed due to limited access to specialized care in rural Appalachian communities. This is important as the optimal period for intervention is within 1000 days after birth, with high levels of brain plasticity from birth to 6 months. **Purpose Statement:** To develop a screening tool to identify infants under 6 months of age with signs of a neurodevelopmental disorder, thus allowing intervention much earlier in life. **Methods:** 6000 infants will be enrolled from primary and specialty care clinics within Nationwide Children's Hospital. Infants' spontaneous movements are video recorded while lying on their back. We have partnered with Microsoft Philanthropies AI for Good to use computer vision to develop artificial intelligence for the identification of infants with atypical movement patterns. Infants are assigned into aberrant or typical movement training groups using Prechtl's General Movements Assessment (GMA) or a known diagnosis. Long-term follow up will confirm the accuracy of the AI predictions. **Results:** Research in progress. Our pilot analysis ran our algorithm using 373 videos, of which 7 had a known diagnosis (1 muscular dystrophy, 1 cerebral palsy, and 5 spinal muscular atrophy). The algorithm was able to detect 6 out of 7 babies as having aberrant movement. **Conclusions:** Research in Progress. Preliminary results suggest ACTIVE-mini has the potential to detect infants with cerebral palsy as well as other movement disorders. ACTIVE-mini aims to be a low cost, portable, and simple method of screening infants and can be used within communities that have limited access to healthcare.

Primary Presenter / email: **Kathleen Adderley/kathleen.adderley@nationwidechildrens.org**



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Oral Abstracts

Oral Presentation

Abstract Title: **Improving functional outcomes of youth with disabilities in an Appalachian community**

Author(s): Kimberly I. Tumlin, PhD, MS, MPH Department of Epidemiology and Environmental Health, College of Public Health, University of Kentucky, Lexington, KY; Sarah Newman HALTER, Spartanburg, SC

Abstract: Introduction: Youth with disabilities (YWD) are 3.4 times more likely to experience maltreatment; loss of accessible education and services can increase risk. Equine-assisted services (EAS) improve health and potentially serves as a supplement in communities where service access is limited, including Appalachia. However, empirical evidence describing functional (non-horsemanship) outcomes for YWD is scarce. Purpose Statement: HALTER (Spartanburg, SC) and University of Kentucky collaborated to evaluate repeated engagement of youth in EAS. Through a community-engaged approach, we asked: Do variables such as multiple disabilities and length of stay in EAS affect child function? Methods: The Pediatric Evaluation of Disability Inventory Computer Adaptive Test (PEDI-CAT) was used to measure daily activities, mobility, social/cognitive skills, and responsibility. YWD (n = 75) were evaluated from September 2020-July 2022. A multiple linear regression (MLR) determined which variables were predictive of functionality. Results: The MLR was significant within each domain (PEDI-CAT: daily activities = 55.0, mobility = 66.4; social/cognitive = 65.1; and responsibility = 45.8; p < 0.0001). There was a positive relationship of daily activities for Asian youth ($\beta = 4.36$, p = 0.0028) and a strong negative relationship for mobility with use of walkers or wheelchairs ($\beta = -11.0$, p < 0.0001). For responsibility, African American race ($\beta = -3.28$ p = 0.0126), and males ($\beta = -3.14$ p = 0.0004) demonstrated a negative relationship. A positive relationship with age and longer time in service for daily activities ($\beta = 0.32$, p < 0.0001), mobility ($\beta = 0.23$, p < 0.0001) and responsibility ($\beta = 0.37$, p < 0.0001) were predicted. Conclusions: We demonstrated that functionality of YWD is positively impacted by repeated EAS interactions. Our predictive models highlight the importance of engaging services that are contextually appropriate for sex, race, and type of disability while facilitating attendance to improve functional outcomes.

Primary Presenter / email: **Kimberly I. Tumlin; kimberly.tumlin@uky.edu**



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Oral Abstracts

Oral Presentation

Abstract Title: **Proteomic Response in Appalachian Stroke Patients Undergoing Thrombectomy Differs from non-Appalachian Patients**

Author(s): Jacqueline A. Frank, Center of Advanced Translational Stroke Science and Department of Neurology, University of Kentucky; G. Benton Maglinger, Department of Neurology, Beth Israel Deaconess Medical Center; Ann M. Stowe, Center of Advanced Translational Stroke Science and Departments of Neurology and Neuroscience, University of Kentucky; Amanda L. Trout, Center of Advanced Translational Stroke Science and Department of Neurosurgery, University of Kentucky; Christopher J. McLouth, Department of Biostatistics, University of Kentucky; David L. Dornbos, III, Center of Advanced Translational Stroke Science and Departments of Neurosurgery, Radiology, University of Kentucky; Jadwiga Turchan-Cholewo, Center of Advanced Translational Stroke Science and Department of Neurology, University of Kentucky; Shivani Pahwa, Center of Advanced Translational Stroke Science and Departments of Neurosurgery, Radiology, Neurology, University of Kentucky; Justin F. Fraser, Center of Advanced Translational Stroke Science and Departments of Neurosurgery, Radiology, Neurology and Neuroscience, University of Kentucky; Keith R. Pennypacker, Center of Advanced Translational Stroke Science and Departments of Neurology and Neuroscience, University of Kentucky

Abstract: The Appalachian region of North America is a subpopulation of the country that has become an area of great interest regarding access to care, health disparities, and health outcomes. Appalachia has a high proportion of rural, Caucasian, socioeconomically and medically underprivileged individuals. As reported by the Appalachian Regional Commission in 2017, individuals from Appalachia are more likely to have stroke-related comorbidities including diabetes, obesity, and increased tobacco usage. Patients in rural areas are less likely to receive thrombectomy treatment and clinical outcomes are poorer among rural patients when compared to their urban counterparts. Our institution is optimally positioned for research in this field as it provides ischemic stroke interventions including mechanical thrombectomy (MT) to both Appalachian (63%) and non-Appalachian (37%) counties. Our institution has developed a human stroke biospecimen tissue bank and registry, the Blood And Clot Thrombectomy Registry And Collaboration (BACTRAC). For each thrombectomy subject, the BACTRAC registry obtains an intracranial (distal to thrombus) arterial blood sample, a systemic (carotid) arterial blood sample, and the thrombus for research purposes. The objective of this study is to utilize BACTRAC proteomic data to identify Appalachia-specific predictors of neurologic function, cognitive function, and radiographic outcome after MT. Interestingly, no differences in demographics or co-morbidities arose between Appalachia and non-Appalachia patients. As expected, time to treatment was significantly longer for Appalachian patients. Our analysis of 184 cardiometabolic and inflammatory proteins revealed expression values of 22 proteins were significantly different between Appalachian and non-Appalachian groups. The functions of these proteins are linked to signaling to extracellular stimuli and to responses to chemicals and organic substances. A few of these proteins were associated with time to treatment, functional and cognitive recovery, and radiographic outcomes. This study is suggestive that environmental factors are involved in differences in the proteomic response to stroke in patients from Appalachia compared to non-Appalachia.

Primary Presenter / email: **Keith Pennypacker, PhD; keith.pennypacker@uky.edu**



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Oral Abstracts

Oral Presentation

Abstract Title: **Reaching Further: Empowering Rehabilitation of the Post-Stroke Upper Limb with Computer Vision**

Author(s): Justin Huber, University of Kentucky Department of Physical Medicine and Rehabilitation; Jihye Bae, University of Kentucky Department of Electrical and Computer Engineering

Abstract: Introduction: Each year, a new stroke impacts nearly 800,000 people in the US, and stroke remains a leading cause of disability. Despite advances in stroke care, regions such as Appalachia with high rural populations and high poverty rates continue to have worse post-stroke outcomes with higher rates of disability. Disability secondary to upper limb impairment is a common and often chronic occurrence that affects nearly half of stroke survivors and reduces quality of life. A comprehensive understanding of this impairment is crucial to developing rehabilitation treatments. In recent consensus statements, stroke rehabilitation researchers have recommended using kinematic measures to provide more comprehensive assessment of the post-stroke upper limb. However, these measures typically rely on expensive motion capture labs with complexity that relegates them to urban centers. Purpose Statement: Representing a partnership between UK Physical Medicine & Rehabilitation and UK Electrical and Computer Engineering, we seek to improve access to these recommended kinematic measures in rural communities such as Appalachia. Methods: We employ a computer vision technique, which employs traditional video cameras and a well-established open-source algorithm that has been previously developed with machine learning for human pose-recognition. Results: (Research in Progress) Based on preliminary testing, we have shown feasibility of this technique to replicate kinematic measurements of a motion capture lab. We present these findings and describe our ongoing validation efforts of this technique. Conclusions: (Research in Progress) The potential impact of this research is wider access to kinematic measures for community-based research in Appalachia and translation of this technology into clinical standards of care for post-stroke rehabilitation.

Primary Presenter / email: **Justin Huber; justin.huber@uky.edu**



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Oral Abstract Presentations

Monday, November 14, 2022

10:45 am – 11:45 am Breakout Session 1-4

Session 1-4 Room 331	Supporting Health Promotion in Focused Appalachian Populations Moderator: Brianna Sheppard PhD, MA
	Strengthening Communities: Evaluation of Food Aid and Nutrition Resources For Families Experiencing Food Insecurity Alina Goodman College of Public Health, University of Kentucky
	Health issues identified by GBQMSM and transgender and non-binary persons in Appalachia: The development of the Appalachian Access Project Ana Sucaldito, PhD Department of Social Science and Health Policy, Wake Forest University
	The Relationship Between Secondhand Tobacco Smoke and Sleep Health in a Rural Appalachian Pediatric Cohort Ketrell McWhorter, PhD, MBA, ACE-CPT, ACE-FNS College of Public Health, University of Kentucky
	Pediatric Gender Care in Primary Care Settings in West Virginia: Provider Knowledge, Attitudes, Experiences, and Needs Kacie Kidd, MD, MS School of Medicine, West Virginia University



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Oral Abstracts

Oral Presentation

Abstract
Title:

Strengthening Communities: Evaluation of Food Aid and Nutrition Resources For Families Experiencing Food Insecurity

Author(s):

Alina Goodman, University of Kentucky, Department of Dietetics and Human Nutrition and College of Public Health; Courtney Luecking, University of Kentucky, Department of Dietetics and Human Nutrition; Kendra OoNorasack, University of Kentucky, Department of Dietetics and Human Nutrition; Ashly Frank, University of Kentucky, Department of Dietetics and Human Nutrition

Abstract: In the Appalachian region of Kentucky, 16 - 37% of children aged 18 years and younger experience food insecurity and do not have consistent access to fresh produce. The Mobile Food Market, a community-academic partnership, was formed to provide fresh produce, nutritious pantry staples, and nutrition resources to families with young children facing food insecurity in a 13-county region including 9 Appalachian communities. Through this partnership, Glean Kentucky provided recovered fresh produce to Community Action Council where, student volunteers from the Campus Kitchen at the University of Kentucky helped package recovered produce, purchased pantry staples, and nutrition resources from the Kentucky Nutrition Education Program. Food assistance bags were delivered weekly on a rotating 3-5-week cycle. Families were invited to complete a 38-item online survey about their use and acceptability with bags of food and nutrition resources. More than 400 families have been served during the 16-month partnership. Forty-two families completed the survey. Approximately half of those who received food assistance bags consumed all or almost all of the food, with 76% consuming at least half or more of fresh fruit and 64% consuming at least half or more of vegetables. Families reported discarding or composting foods because their child did not like it (33%), the food went bad before it could be eaten (17%), and because they did not like the food (12%). Approximately half of the respondents utilized nutrition resources, with most (79%) reporting the material encouraged them to help their child eat better. Additionally, families reported that food assistance bags helped provide “resources to new food [they] have never tried and healthier food options”. The Mobile Food Market partnership between community agencies and the university has provided a plethora of resources and food that families wouldn’t otherwise have. This model may be a novel approach for addressing food insecurity and food waste.

Primary Presenter / email: **Alina Goodman; alina.goodman@uky.edu**



Oral Abstracts

Oral Presentation

Abstract Title:	Health issues identified by GBQMSM and transgender and non-binary persons in Appalachia: The development of the Appalachian Access Project
Author(s):	Amanda E. Tanner, University of North Carolina Greensboro, Greensboro NC; Lilli Mann-Jackson, Wake Forest University School of Medicine, Winston-Salem NC; Jorge Alonzo, Wake Forest University School of Medicine, Winston-Salem NC; Manuel Garcia, Wake Forest University School of Medicine, Winston-Salem NC; John Chaffin, Western NC AIDS Project, Asheville NC; Lucero Refugio Aviles, Wake Forest University School of Medicine, Winston-Salem NC; Rachel Faller, University of North Carolina Greensboro, Greensboro NC; David Kline, Wake Forest University School of Medicine, Winston-Salem NC; Jeannette M. Stafford, Wake Forest University School of Medicine, Winston-Salem NC; Laurie Russel, Wake Forest University School of Medicine, Winston-Salem NC; Ana Sucaldito, Wake Forest University School of Medicine, Winston-Salem NC; Hannah Erb, Wake Forest University School of Medicine, Winston-Salem NC; Mohammed Jibriel, University of North Carolina Greensboro, Greensboro NC; Tucker McGuire, University of North Carolina Greensboro, Greensboro NC; Peggy Weil, Western NC AIDS Project, Asheville NC; Antonio Del Toro, Western NC AIDS Project, Asheville NC; Aimee Wilkin, Wake Forest University School of Medicine, Winston-Salem NC; Scott D. Rhodes, Wake Forest University School of Medicine, Winston-Salem NC

Abstract: Introduction. HIV, STI, and HCV rates among racially and ethnically diverse gay, bisexual, queer, and other men who have sex with men (GBQMSM), transgender women, and non-binary persons in Appalachia are high. Furthermore, these communities are less likely to access needed services, including HIV, STI, and HCV testing; other prevention services (PrEP and syringe services); and care services (HIV care, STI and HCV treatment, and gender-affirming care). Innovative interventions are necessary to meet the unique individual and contextual needs of GBQMSM, transgender women, and non-binary persons in Appalachia to support health and wellbeing. **Purpose.** Our community-based participatory research partnership is developing the *Appalachian Access Project*, a bilingual intervention that incorporates mHealth (including social media) and peer navigation strategies to address these critical public health issues. **Methods.** As part of our formative intervention development, we conducted interviews with 16 GBQMSM, transgender women, and non-binary persons in Appalachia. Participants were recruited through our community network and interviews were conducted virtually (e.g., zoom or phone), per COVID-19 safety precautions. **Results.** Participants' mean age was 33 (range: 24-50); 9 self-identified as White, three as multiracial, 2 as Latino, 1 as Native American, and 1 as Black. Several important themes emerged critical to intervention development, including – community context (e.g., high stigma levels of individual identities within Appalachia and lack of social support), access to health care (e.g., distance to clinics/providers with training specific to community needs), sexual health (e.g., misinformation about HIV/STI/HCV risk and prevention methods), and substance use (e.g., use as coping mechanism and low knowledge and use of harm reduction programs, like syringe services). **Conclusions.** Results underscore important issues to consider in the development and subsequent implementation of the *Appalachian Access Project* intervention to ensure community and contextual relevance and support health equity for GBQMSM, transgender women, and non-binary persons living in Appalachia.

Primary Presenter / email: **Scott D. Rhodes; srhodes@wakehealth.edu**



Oral Abstracts

Oral Presentation

Abstract Title: **The Relationship Between Secondhand Tobacco Smoke and Sleep Health in a Rural Appalachian Pediatric Cohort**

Author(s): Ketrell McWhorter, PhD, University of Kentucky, Department of Epidemiology and Environmental Health, College of Public Health; Heidi Sucharew, PhD, Cincinnati Children's Hospital Medical Center, Division of Biostatistics and Epidemiology; Susan Redline, MD, Brigham and Women's Hospital, Division of Sleep and Circadian Disorders; Timothy Hilbert, University of Cincinnati, College of Medicine, Environmental and Public Health Sciences; Erin N. Haynes, PhD, University of Kentucky, Department of Epidemiology and Environmental Health, College of Public Health

Abstract: Introduction: Secondhand smoke (SHS) remains an urgent public health concern, particularly among Appalachian pediatric populations. Exposure to SHS has been linked to multiple adverse health outcomes in childhood, including sleep disruption. Purpose: This study sought to investigate the relationship between SHS exposure and sleep patterns among children in a rural Appalachian cohort. We hypothesized that children exposed to SHS will have a significantly higher prevalence of poor sleep behaviors, including short sleep duration during the (non-)school year (weekday and weekend), frequent snoring, and night awakenings, compared to children not exposed to SHS. Methods: Data was used from the Community Actively Researching Exposure Study, a cohort of 404 rural Appalachian 7-9-year-old children living in Marietta and Cambridge, Ohio. SHS exposure was determined by child serum cotinine levels (≥ 0.05 ng/mL defined as 'any' exposure and < 0.05 ng/mL defined as '<LOD'). All child sleep behaviors were parent/guardian-reported. Log-binomial regression was used to estimate prevalence ratios (PR) and 95% confidence intervals (CI) of sleep behaviors among children with any SHS exposure versus <LOD. Results: In fully adjusted models accounting for blood Pb and Mn levels, there was an increased prevalence of short sleep during the school year (weekday: PR=1.32, [95%CI:1.01-1.70]; weekend: PR=1.24, [95%CI:1.03-1.49]) and non-school year (weekday: PR=1.24, [95%CI:1.04-1.49]; weekend: PR=1.26, [95%CI:1.05-1.51]) with each unit increase of serum cotinine. In models adjusting for BMIz and breathing difficulty, a 45% increased prevalence of weekend short sleep during the school year was observed among children with any exposure compared with <LOD (PR=1.45, [95%CI:1.02-2.06]). Overweight/obese children with any SHS exposure were over twice as likely to snore frequently compared to under/normal weight children with <LOD (PR=2.07, [95%CI:1.06-4.06]). Conclusions: Exposure to SHS negatively impacts sleep duration during the (non-)school year and exacerbates snoring frequency among overweight/obese children in a rural Appalachian cohort. More parental education is needed in clinical settings to reduce SHS exposure in this population.

Primary Presenter / email: **Ketrell L McWhorter;** ketrell.mcwhorter@uky.edu

**Oral Abstracts****Oral Presentation**Abstract
Title:**Pediatric Gender Care in Primary Care Settings in West Virginia: Provider Knowledge, Attitudes, Experiences, and Needs**

Author(s):

Kacie Kidd, MD, MS, West Virginia University School of Medicine, Morgantown West Virginia; Alana Selekar, West Virginia University, Morgantown, West Virginia; Gina Sequeira, MD, MS, Seattle Children's Hospital, Seattle, Washington; Lisa Costello, MD, MPH, West Virginia University School of Medicine, Morgantown, West Virginia; Isabela Negrin, MD, West Virginia University School of Medicine, Morgantown, West Virginia; Snehalata Huzurbazar, PhD, West Virginia University, Morgantown, West Virginia; Janani Narumanchi, MD, West Virginia University School of Medicine, Morgantown, West Virginia

Abstract: Introduction: Gender diverse youth (GDY) often present to pediatric primary care providers (PPCPs). GDY face increased rates of health inequities compared to cisgender peers. Recent studies suggest that between 7-9% of youth in Appalachia have a gender diverse identity. **Purpose Statement:** This study aimed to understand the knowledge, attitudes, and experiences of PPCPs in West Virginia (WV) related to caring for GDY. **Methods:** A 76-item anonymous online survey was distributed to PPCPs across WV including questions measuring provider 1) knowledge about gender identity, sexual orientation, and gender-affirming interventions, 2) experiences and attitudes towards caring for GDY, 3) received or still needed support to best care for GDY, and 4) demographics. **Results:** 82% of providers (n=51) noted caring for GDY (mean 5.3 patients, standard deviation 8.1). Only 20% acknowledged familiarity with care guidelines and only one in ten got 70% or more knowledge questions correct. Being younger (<40 years) or in practice for <10 years was significantly associated with knowledge (p=0.04, p<0.01) and attitude (p=0.02, p<0.01). 78% of participants supported social affirmation and 69% of participants rejected conversion therapy; some (16%) felt that GDY should not be able to receive puberty blocking medications or gender-affirming hormone therapy (18%) prior to age 18 years. Most (82%) shared they would be more comfortable supporting GDY if they had access to consultative support from pediatric gender care specialists. **Conclusions:** PPCPs in WV endorsed caring for GDY while acknowledging knowledge gaps and, for some, displaying attitudes not in-line with current care guidelines. Age and time in practice were associated with knowledge and attitude scores suggesting a possible generational gap in training and experience needing further study. Given the high prevalence of gender diverse youth in this region, it is critical that PPCPs have access to education and consultant support to improve health outcomes for this population

Primary Presenter / email: **Kacie Kidd, MD, MS; Kacie.Kidd@hsc.wvu.edu**



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Oral Abstract Presentations

Monday, November 14, 2022

1:30 pm – 2:30 pm Breakout session 2-3

**Session 2-3
Room 330-D**

Reducing Disparities in Complex Disease

Moderator: Brittany L. Smalls, PhD, MHSA, MSHPsych

Inflammatory Bowel Disease Healthcare Utilization and Outcomes in Kentucky: An Assessment of Appalachian Disparity

Christian Rhudy, PharmD, MBA
College of Pharmacy, University of Kentucky

Access to Dermatology Services in Kentucky

Neely Patel, BA
College of Medicine, University of Kentucky

Transitioning from Hospital to Home: Negotiating Complex Care Needs Post-Hospitalization in Appalachian Kentucky

Michelle K. Roberts, MS
Department of Anthropology, University of Kentucky

Financial Status, Fatalism and Self-Care of Cardiovascular Disease Risk Factors Among Rural Adults Living in Socioeconomically Distressed Areas

Debra K. Moser, PhD, PhD, RN, FAHA, FAAN
College of Nursing & RICH Heart, University of Kentucky



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Oral Abstracts

Oral Presentation

Abstract Title: **Inflammatory Bowel Disease Healthcare Utilization and Outcomes in Kentucky: An Assessment of Appalachian Disparity**

Author(s): Christian Rhudy, PharmD, MBA. University of Kentucky, College of Pharmacy; Courtney Perry, DO, MS. University of Kentucky. Department of Medicine; Gregory Hawk, PhD. University of Kentucky; Dr. Bing Zhang Department of Statistics; Deborah Flomenhoft, MD. University of Kentucky, Department of Medicine; Jeffery Talbert, PhD. University of Kentucky, Institute for Biomedical Informatics; Terrence A. Barrett, MD. University of Kentucky, Department of Medicine

Abstract: Introduction: Inflammatory bowel disease (IBD), comprised of Crohn's disease (CD) and ulcerative colitis (UC), are chronic relapsing and remitting autoimmune illnesses associated with a high degree of morbidity. Purpose Statement: We aim to quantify the burden of IBD in Kentucky, and hypothesize patients with residence in Appalachian counties will have higher healthcare utilization and worse disease outcomes. Methods: We utilized the hospital inpatient discharge and outpatient services databases to assess outcomes in patients diagnosed with either CD or UC in Kentucky. Encounters were classified by patient residence in Appalachian or non-Appalachian designated counties. Data was reported as crude and age-adjusted rates of visits per 100,000 population per year, collected between the years 2016-2019. We also utilized national inpatient discharge data from 2019, stratified by rural and urban classification codes, to contextualize Kentucky against national trends. Results: Crude and age-adjusted rates of inpatient, ED, and outpatient encounters for IBD patients were significantly higher in the Appalachian cohort for all four years observed. This difference was driven largely by significantly higher rates for all encounter types for CD. Appalachian inpatient encounters were more frequently associated with a surgical procedure (Appalachian = 676, 24.7% vs. non-Appalachian = 1408, 22.2%; p-value=0.0091). This difference was driven by increased surgical interventions for UC (Appalachian= 22.5% vs. 16.2% non-Appalachian; p<0.0001). In year 2019, the Kentucky Appalachian cohort had significantly higher crude and age-adjusted rates of inpatient discharges for all IBD diagnoses as compared to national rural and non-rural populations (crude 55.2 discharges per 100,000 population, 95% CI 50.9 – 59.5; age-adjusted 56.7, 95% CI 52.1 – 61.3). Conclusions: There is disproportionately higher healthcare utilization in Appalachian Kentucky for IBD. There is a need for aggressive investigation into root causes of these disparate outcomes and identification of barriers to appropriate IBD care.

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Oral Abstracts

Oral Presentation

Abstract Title: **Access to Dermatology Services in Kentucky**

Author(s): Neely Patel, BA, University of Kentucky, Lexington Kentucky; Sophia Daniel, BS, University of Kentucky, Lexington Kentucky; Jeffrey Talbert, PhD, University of Kentucky, Lexington Kentucky; Will Cranford, MS, University of Kentucky, Lexington Kentucky; Emily Slade, PhD, University of Kentucky, Lexington Kentucky; Chase Wilson, MD, University of Kentucky, Lexington Kentucky

Abstract: Introduction: The state of Kentucky is disproportionately affected by multiple health problems and comorbidities, contributed by poor access to healthcare. We performed a cross-sectional study to evaluate access to both generalized and specialized dermatologic care within the state. Purpose Statement: To examine the access to both generalized and specialized dermatologic care within the state of Kentucky, to further assess the degree of health disparities that are present within the state. Methods: A cross-sectional study using Medicare CPT/HCPCS billing codes from the Physician and Other Practitioners Public Use File from 2019 was performed. Data was evaluated in all zip codes in Kentucky counties. Counties were then assigned as “urban” (RUCC 1-3) or “rural” (RUCC 4-9) based on the USDA RUCC classification. The rate of utilization of both generalized dermatologic care and specialized procedures was assessed by the rate of beneficiaries billed for procedures per 100,000 FFS Medicare population. Rates were then compared between rural and urban counties to establish urban-rural ratios. Results: In 2019, the Medicare population in Kentucky was 550,718. Of this population, 273,379 (49.6%) lived in urban counties, and 277,339 (50.4%) lived in rural counties. In total, there were 60,837 dermatology services performed, with 55,334 (91.0%) of these performed in urban counties and 5,503 (9.0%) performed in rural counties. The urban-rural ratios for less complex procedures like excisions and repairs were 3.9 and 6.5, respectively. The urban-rural ratios for more specialized procedures were 22.0 for Mohs micrographic surgery and 13.0 for flaps and grafts. Conclusion: Significant disparities exist within Kentucky, particularly regarding access to specialized dermatologic procedures such as Mohs surgery and flaps and grafts. Our study highlights the need for practicing general dermatologists and Mohs surgeons in rural regions of the state.

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Oral Abstracts

Oral Presentation

Abstract Title: **Transitioning from Hospital to Home: Negotiating Complex Care Needs Post-Hospitalization in Appalachian Kentucky**

Author(s): Michelle K. Roberts, University of Kentucky, Department of Anthropology; Erin Koch, University of Kentucky, Department of Anthropology; Nancy E. Schoenberg, PhD, University of Kentucky, Department of Behavioral Science

Abstract: Introduction: While healthcare plays an invaluable role in chronic disease prevention and management, patients recovering from hospitalizations and their families are left to manage the long-term challenges of living with these serious health conditions and newly acquired disabilities. As patients transition to home after an acute event, family members often reconfigure their lives to meet new demands. Such demands are amplified in an environment where resources, including formal and rehabilitative services, are in short supply. Purpose statement: In this pilot study, I aimed to better understand the concerns, challenges, and support mechanisms related to post-hospitalization care in Appalachian Kentucky. The long-term objective is to support the complex chronic care of post-hospitalized patients as they transition back to rural community settings. Methods: I conducted semi-structured interviews with healthcare providers, researchers, community health workers, and other salient community members (N=11, additional interviews in progress) in Fayette, Perry, and Harlan Counties, Kentucky. Interviews were audio-recorded, transcribed, and coded using content analysis. Results: Participants shared several elements critical to meeting the post-hospitalization needs of individuals and their families after an acute medical event. Such elements include the role of social support, health insurance, the identification of appropriate community resources, including health and rehabilitation services, and understandings of health. Participants also described the impact of health literacy, co-morbid conditions, and transportation as challenges for post-hospitalization recovery and health management. Conclusions: Hospitalization for an acute injury or illness is often a seminal life event associated with ongoing serious health conditions and acquired disability that require persistent management of health needs by both the individual experiencing the health crisis and their family. A better understanding of the needs of individuals and families navigating post-hospitalization recovery and care in Appalachian Kentucky is necessary to overcome the challenges of transitioning from hospital to home.

Primary Presenter / email: **Michelle K. Roberts; michelle.roberts@uky.edu**



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Oral Abstracts

Oral Presentation

Abstract Title: **Financial Status, Fatalism and Self-Care of Cardiovascular Disease Risk Factors Among Rural Adults Living in Socioeconomically Distressed Areas**

Author(s): Debra K. Moser, University of Kentucky, Lexington KY; Misook L. Chung, University of Kentucky, Lexington KY; Martha J. Biddle, University of Kentucky, Lexington KY; Gia Mudd-Martin, University of Kentucky, Lexington KY

Abstract: Background: Financial status is associated with self-care. Those with fewer financial resources have poorer self-care. Fatalism is a belief that life events are predetermined by outside forces. Rural adults commonly have fewer financial resources than urban dwellers and are often stereotyped as fatalistic about their health. Our specific aim was to determine whether fatalism mediates the association of financial status with cardiovascular disease (CVD) self-care in rural adults who live in economically distressed areas. Hypothesis: We hypothesized that the association between financial status and CVD self-care would be mediated by fatalism; those with the fewest financial resources would have poorer self-care and fatalism would mediate this relationship. Methods: We enrolled 1118 adults (mean age 53 ± 15 years; 75.6% female) at risk for CVD. Financial status was reflected by individuals' perceptions of how well they made "ends meet" with their financial resources (i.e., more than enough, enough, or not enough to make ends meet), fatalism by the CVD-Fatalism Instrument, and self-care of CVD risk factors by the Medical Outcomes Study-Specific Adherence Scale. We used conditional process analysis to determine whether fatalism mediated the association of financial status and self-care. Results: Financial status was associated directly with self-care. Those with not enough to make ends meet [$C' = -3.51$, $p = .003$] and those with enough [$C' = -1.57$, $p = .016$] compared to those with more than enough had worse self-care. Fatalism was associated with self-care; those with more fatalism had worse self-care ($b = -1.78$, $p = .001$). Financial status was indirectly associated with self-care through fatalism. Conclusion: There is a direct association of financial status with self-care, but the indirect association with self-care through fatalism is the stronger effect. Poor financial status drives fatalism in rural dwellers, which in turn results in poor self-care.

Primary Presenter / email: **Debra K Moser; dmoser@uky.edu**



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Oral Abstract Presentations

Monday, November 14, 2022

1:30 pm – 2:30 pm Breakout session 2-4

Session 2-4 Room 331	Evidence-Based Practice: Improving Health in Appalachia Moderator: Brandi Gilley, MPH, RDN, LD
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	Review and Implementation of a School-Based Mobile Vision Clinic in Appalachian Ohio Counties
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	Erica Shelton, OD, MS College of Optometry, The Ohio State University
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	Local Health Departments' Approach to Community Health Needs Assessment and Improvement Plans in Kentucky
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	Bradley Firchow, BS College of Medicine, University of Kentucky
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	Putting the Land Grant Mission into Action: Community-Engaged Collaborations to Increase Opportunities and Access to Physical Activity
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	Emily Murphy, PhD College of Applied Human Sciences, West Virginia University
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Oral Abstracts

Oral Presentation

Abstract Title: **Review and Implementation of a School-Based Mobile Vision Clinic in Appalachian Ohio Counties**

Author(s): Erica Shelton, OD, MS, The Ohio State University College of Optometry; Shane Foster, OD, Ohio Optometric Association, Columbus, OH & Athens Eye Care, Athens, OH; Loni Maughan, Vision To Learn, Los Angeles, CA

Abstract: Introduction: The Affordable Care Act characterizes comprehensive vision care as an essential healthcare benefit. The Ohio Department of Health reports that 22.5% of children who failed their vision screening do not receive follow-up care. Vision health is an important component for learning and for a positive quality of life. The Foundation for Appalachian Ohio, Vision To Learn, and the Ohio Optometric Foundation created *In School Eye Exams (iSEE) with Vision To Learn* to reduce barriers to vision care among Appalachian Ohio youth. Purpose: The purpose of *iSEE with Vision To Learn* is to provide mobile vision care services, at no-cost to families and schools, to produce meaningful academic and/or quality of life improvements. Methods: The program provides vision screenings to all children within a school district and comprehensive vision examinations to children indicated by the vision screenings. Children in need select a glasses frame, which are ordered and delivered back to their school. The University of Cincinnati conducts a yearly independent review and survey to analyze the impact and the number of children served. Results: Results from 2021-2022 showed that 1841 students received a vision examination in 7 Appalachian Ohio counties and 1535 students were prescribed glasses. A follow-up survey of participating caretakers showed that 78% were highly satisfied with the program, and 97% reported they were likely or very likely to make an appointment with an optometrist for follow-up care. 39% of caretakers reported their child would not have, or were unsure if their child would have, received vision care without the program. Conclusions: *iSEE with Vision To Learn* has demonstrated acceptance and effectiveness in the Appalachian Ohio community. The integration of vision care at local schools, combined with efforts of healthcare agencies and Appalachian organizations, is a model for helping provide preventative healthcare to the Appalachian pediatric community.

Primary Presenter / email: **Erica Shelton; shelton.223@osu.edu**



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Oral Abstracts

Oral Presentation

Abstract Title: **Local Health Departments' Approach to Community Health Needs Assessment and Improvement Plans in Kentucky**

Author(s): Bradley Firchow, University of Kentucky College of Medicine, Lexington, Kentucky; Katie Boroughs, University of Kentucky College of Public Health, Lexington, Kentucky

Abstract: Introduction: Community Health Needs Assessments (CHNAs) and Improvement Plans (CHIPs) are publicly available population health reports compiled by local health departments (LHD). Questions remain about heterogeneity in quality of reporting, as the National Association of County and City Health Officials has not provided robust guidance to standardize the CHNA process. Purpose statement: Researchers verify whether accredited LHDs in Kentucky are fulfilling CHNA/CHIP requirements for accreditation and whether accreditation improves report quality. Researchers seek to determine whether study design, reporting, and quality of CHNA/CHIP data vary significantly among LHDs. Methods: A content analysis of existing LHD CHNA/CHIPs was performed using an evaluation framework developed by Pennel et al, 2014. LHDs were ranked across 17 criteria on a six-point scale to generate composite scores for report quality. An intraclass correlation coefficient was calculated to quantify agreement among raters. SPSS was used to generate descriptive statistics, Pearson correlations, and Spearman rank correlations to determine relationships between variables from the 17 criteria. Univariate regression and multiple regression were used to identify LHD, community, and report variables that contribute to variability in CHNA and CHIP quality. Results: (In progress) Interrater reliability was high, indicating internally consistent data collection. Higher quality reports were associated with Public Health Accreditation, but report quality varied even among accredited LHDs. CHNA/CHIP approaches among LHDs were varied in study design, reporting and quality. Conclusions: This research clarifies that in the absence of robust guidance, LHDs vary significantly in their ability to deliver consistently informative CHNA/CHIPs. The research identifies an opportunity to strengthen CHNA/CHIP reporting standards to better align with the purpose of local health assessment and planning, which is to identify community-level priorities, take action to address priorities, and create accountability to ensure measurable health improvement.

Primary Presenter / email: **Bradley Firchow; bradley.firchow@uky.edu**



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Oral Abstracts

Oral Presentation

Abstract Title: **Putting the Land Grant Mission into Action: Community-Engaged Collaborations to Increase Opportunities and Access to Physical Activity**

Author(s): Emily Murphy, West Virginia University, College of Applied Human Sciences; Kerry Gabbert, West Virginia University, Extension; Eloise Elliott, West Virginia University, College of Applied

Abstract: Introduction: The High Obesity Program (HOP) is a CDC-funded initiative to support improved access to healthy foods and physical activity (PA) in counties with >40% adult obesity rates. West Virginia University's (WVU) HOP project, Be Wild Be Wonderful Be Healthy (Be Healthy) serves Clay and McDowell counties. Fewer than 1 in 4 residents in either county have adequate access to PA opportunities, and almost half of adults report no leisure-time PA. **Purpose:** Through a community-engaged participatory model, Be Healthy supports increased access to safe, convenient PA opportunities. **Methods:** Community coalitions were formed with a focus on the two county seats. Non-profit organizations, existing health coalitions, and local government agencies met to discuss goals related to increased PA access/opportunities. WVU Faculty from various colleges provided technical assistance and resources for planning. **Results:** Be Healthy supported the development of comprehensive plans. Coalition-identified priorities included connecting existing PA opportunities and everyday places with trails/paths, creating opportunities for residents of all ages to be physically active, and traffic barriers to facilitate safe access. Asset mapping led to identification of trail systems that could be connected to the county seats, promoting community development, tourism, and increased access to PA for locals. Coalitions identified splashpads, walkways, bridge crossings, trailheads, adding PA opportunities to cultural landmarks, bike lanes, and access sites for water-based PA as priority projects. All priority projects are underway with funding from Be Healthy and community-leveraged funds. **Conclusions:** Creation of formal plans has resulted in substantial systems and built environment changes. A multi-level community approach for improving walkability and access to PA has resulted in the coalitions investing long-term in outdoor recreation and PA. Community-driven approaches have great potential to improve health and reduce health disparities. Increasing collaborations between Land-Grant Institutions and communities provides evidence-based resources and technical assistance to support community-led initiatives.

Primary Presenter / email: **Emily Murphy; emily.murphy@mail.wvu.edu**



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Oral Abstract Presentations

Monday, November 14, 2022

2:45 pm – 3:45 pm Breakout session 3-3

**Session 3-3
Room 330-D**

Addressing Mental Health Needs of Appalachians
Moderator: Traci Jarrett, PhD

Building Recovery Ecosystems as a Community-Level Strategy to Address Appalachian Diseases of Despair

Michael Meit, MPH
Center for Rural Health Research, East Tennessee State University

What does it mean to be "Appalachian"? WV Youth Voice to Understand Community Identity as it Relates to Mental Health

Jessica Coffman, MA
West Virginia Prevention Research Center, West Virginia University

Assessing the Mental Health Needs of the Latinx Community in Forsyth County, NC

Camila Pulgar, PhD, MS
Atrium Health, Wake Forest Baptist Health

ImPActing Mental Health Stigma through Interprofessional Psychiatric Simulation: A Rural PA Student Perspective

Cheryl Vanderford, MSPAS, PA-C
Department of Physician Studies, University of Kentucky



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Oral Abstracts

Oral Presentation

Abstract Title: **Building Recovery Ecosystems as a Community-Level Strategy to Address Appalachian Diseases of Despair**

Author(s): Michael Meit, East Tennessee State University, Center for Rural Health Research; Andrew Howard, Fletcher Group, Inc., London, Kentucky; Megan Heffernan, NORC at the University of Chicago, Bethesda, MD

Abstract: Introduction: Research highlights disparities in mortality between Appalachia and the non-Appalachian United States (US) for overdose and related “diseases of despair”. Building robust recovery ecosystems that enable individuals in recovery to access substance use treatment and recovery services is important in addressing those disparities in Appalachian communities. Purpose statement: NORC at the University of Chicago (NORC) and East Tennessee State University (ETSU) are updating a study to highlight diseases of despair mortality in Appalachia compared to the non-Appalachian US. Similarly, NORC, ETSU, and Fletcher Group, Inc., with an expert panel, developed the Recovery Ecosystem Index Mapping Tool to help stakeholders understand the strength of their recovery ecosystems and opportunities for enhancement. Methods: The descriptive study was initially conducted using 2015 data, with the update integrating data through 2020. It analyzes CDC Wonder mortality data using age-adjusted rates among individuals ages 15-64 for the diseases of despair: overdose, suicide, and alcoholic liver disease/cirrhosis. The development of the mapping tool was informed by a literature review to identify components of a strong recovery ecosystem. It includes an index that measures the strength of the recovery ecosystem in each county using 14 indicators. Results: In 2020, the diseases of despair mortality rate in Appalachia was 94.8 deaths per 100,000, which was 37% higher than the rate for the non-Appalachian US. The overdose mortality rate alone was 50% higher, with the 25-44 year age ranges particularly impacted in Appalachia. The interactive, publicly available mapping tool provides access to data to support community planning, programming, and technical assistance to strengthen recovery ecosystems and, ultimately, help reduce overdose mortality. Conclusions: Diseases of despair mortality declined between 2017 and 2018, but increased dramatically in 2020 in Appalachia. Stakeholders can leverage the mapping tool to identify and target communities where resources are needed to support individuals in recovery.

Primary Presenter / email: **Michael Meit; MEITMB@mail.etsu.edu**



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Oral Abstracts

Oral Presentation

Abstract Title: **What does it mean to be "Appalachian"? WV Youth Voice to Understand Community Identity as it Relates to Mental Health**

Author(s): Ms. Jessica Coffman, West Virginia University, WV Prevention Research Center, Morgantown, WV; Dr. Traci Jarrett, West Virginia University, WV Prevention Research Center, Morgantown, WV; Miss Hannah Layman, West Virginia University, WV Prevention Research Center, Morgantown, WV

Abstract: In 2016, West Virginia (WV) communities suffered significant trauma due to historic flooding. This, compounded by the COVID-19 pandemic, highlighted Appalachia's tenuous safety net for youth. The WV Prevention Research Center (WVPRC) collaborated with Save the Children and the University of Kentucky to better understand the risk and protective factors for youth resilience in Central Appalachia. In addition to participating with the University of Kentucky in this community engaged and inspired work, this project was part of an Appalachian Translational Research Network Pilot Grant funded through April 2022. Using a community-engaged research approach, the WVPRC convened a Community Advisory Board in two rural counties of WV and conducted six focus groups with youth (n=40) throughout the state. The purpose of the study was to understand youths' perceptions of their community identity in relation to the meaning of "Appalachia" in conjunction with social and physical environments. Groups were conducted both in-person and via Zoom, transcribed and coded for themes. Primary themes of identity were binary, with positive and negative aspects. Consistent themes across groups consisted of continued generational cycles of thought that reinforced structural oppression and a lack of safe spaces to express themselves and their identity. However, the dichotomy between the sense of small-town security and gritty resilience typically identified as "Appalachian" were restricting for others that feel a sense of curiosity and a desire to experience living in a place with more long-term job security and broader, more progressive perspectives and opportunities. These themes capture the strengths and challenges of growing up in WV, its culture, and the current state of emotional, mental, social, and physical health among youth that can contribute to program planning for youth mental health services.

Primary Presenter / email: **Jessica Coffman; jecoffman@hsc.wvu.edu**



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Oral Abstracts

Oral Presentation

Abstract Title: **Assessing the Mental Health Needs of the Latinx Community in Forsyth County, NC**

Author(s): Emilie Dellit, Wake Forest School of Medicine, Winston-Salem, North Carolina; Camila Pulgar, Atrium Wake Forest Baptist Health, Winston-Salem, North Carolina; Nathaniel Ivers, Atrium Wake Forest Baptist Health, Winston-Salem, North Carolina

Abstract: Introduction: Despite being the fastest growing minority group in Forsyth County, the Latinx population utilizes mental health services at lower rates than African American, Native American, and White communities. Nationwide, existing literature documents a lack of access to culturally competent care including limited information and misconceptions about mental health, privacy concerns, language barriers, and lack of insurance. Purpose statement: The purpose is to gain a more contextualized understanding of the mental health needs of the Latinx community in Forsyth County. Specific aims were to examine the needs and understand the experiences of Latinx individuals who seek mental health care, to identify perceived barriers, and to assess the relationship between demographic variables and use of services. Methods: Phase 1 (140 participants) involved collecting quantitative data using a demographic questionnaire, a Mental Health Needs Assessment Survey, and a Meaning in Life Questionnaire. Phase 2 (this project) involved collecting qualitative data through in-depth interviews with 6 participants. Results: Regarding reputation of local services, participants identified a lack of knowledge of and an insufficient number of services. They reported grief, depression, acculturation stress, family issues, addiction, and pandemic-related isolation as prevalent issues. Desired qualities in a counselor were empathetic, non-judgmental, honest, culturally competent, and bilingual. Barriers to accessing care included language difficulties, transportation, legal issues, cost, lack of insurance, privacy concerns, stigma, and lack of education about mental health. In response to how organizations can improve access to care, most participants suggested: investing in mental health services, hiring bilingual providers, partnerships between counseling and social services, improved training and career education, and community outreach at Latinx events, schools, and churches. Conclusions: Results suggest that reducing disparities in barriers and access to care is key to providing culturally competent care. Reputation of services and mental health challenges affect utilization of services. Publications are in progress.

Primary Presenter / email: **Camila Pulgar; capulgar@wakehealth.edu**



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Oral Abstracts

Oral Presentation

Abstract Title: **ImPActing Mental Health Stigma through Interprofessional Psychiatric Simulation: A Rural Student Perspective**

Author(s): Cheryl Vanderford, MSPAS, PA-C, University of Kentucky, Lexington, KY; Greg Carlisle, MFA, Morehead State University, Morehead, KY; Shelley Irving, MSPAS, PA-C, University of Kentucky; Leslie Woltenberg, Ph.D., University of Kentucky, Lexington, KY

Abstract: INTRODUCTION: Through a pedagogical lens, simulation assesses student capability to apply knowledge gained and engages students in a higher-level mastery of skill. Through a student lens, simulation activities provide hands-on opportunities to practice “real-life” skills in a safe environment. PURPOSE: To describe the experiences of Physician Assistant students who identify as rural in an interprofessional psychiatric patient-provider simulation assessment model. METHODS: Theater students from Morehead State University (MSU) volunteered to serve as simulated patients for University of Kentucky Physician Assistant (UKPA) students. PA students received in-class lecture on how to conduct thorough psychiatric interviews; in addition, theatre students were provided symptoms of each diagnosis and were encouraged to improvise their role. All student participants were invited to participate in a voluntary, anonymous online survey upon completion of the simulation. The 25-question survey included 3 demographic items, 5-point likert-type items, and three qualitative items to obtain reflection/commentary. RESULTS: Cronbach’s alpha reliability exhibited exceptional levels of internal consistency for scaled items for knowledge/confidence levels and agreement levels ($\alpha = 0.981$ and 0.999 , respectively). A paired samples t-test revealed statistically significant results in pre- vs. post levels of knowledge gained and confidence in the components of a psychiatric interview, conducting a psychiatric interview, and for theatre students, portraying characters diagnosed with a mental health disorder. Furthermore, students who identify as rural indicate they are nearly twice as likely to agree that this activity fostered changes in his/her attitude and/or beliefs related to mental health. Qualitative themes emerging from rural students’ participation included empathy, confidence, and positive associations with mental health treatment. CONCLUSIONS: Our study validates the intentional use of interprofessional students in simulation activities to foster meaningful learning experiences for all. Moreover, incorporation of psychiatric interview simulations into PA curricula show promise to create an inclusive culture for all related to mental health.

Primary Presenter / email: **Cheryl Vanderford; cheryl.vanderford@uky.edu**



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Oral Abstract Presentations

Tuesday, November 15, 2022

10:30 am – 11:30 am

Breakout session 4-1

Session 4-1 Senate Chamber	Understanding and Treating Substance Use Disorders Moderator: Pamela Salsberry, PhD, RN
	Associations of Hepatitis C Virus (HCV) Infection with Opioid, Stimulant, and Polysubstance Injection among People Who Inject Drugs (PWID) in Rural US Communities Angela T Estadt, MPH College of Public Health, Ohio State University
	Lessons Learned on Clinical Research Recruitment and Retention among People who use Drugs in Rural Appalachia Ohio Renee McDowell College of Public Health, Ohio State University
	"We're all in the Same Boat, You Know": A Qualitative Study Measuring Resilience to Intersectional Stigma among People who Inject Drugs (PWID) in Ohio Appalachia counties Ana D. Sucaldito, PhD School of Medicine, Wake Forest University, & College of Public Health, The Ohio State University
	The Impact on Recovery Capital Following High-Intensity Exercise Adjuvant Therapy in Opioid Addiction Treatment Aaron M. MacDonald, MPH Eastern Kentucky University, College of Health Sciences



Oral Abstracts

Oral Presentation

Abstract Title: **Associations of Hepatitis C Virus (HCV) Infection with Opioid, Stimulant, and Polysubstance Injection among People Who Inject Drugs (PWID) in Rural US Communities**

Author(s): Angela T Estadt, Ohio State University (OSU), College of Public Health, Division of Epidemiology ; William C Miller, OSU, College of Public Health; David Kline, Wake Forest School of Medicine, Division of Public Health Sciences; April M Young, University of Kentucky, Department of Epidemiology; P Todd Korthuis, Oregon Health & Science University (OHSU), Department of Medicine; Thomas J Stopka, Department of Public Health and Community Medicine, Tufts University School of Medicine; Judith Feinberg, West Virginia University School of Medicine, Department of Behavioral Medicine and Psychiatry; William A Zule, RTI International, Research Triangle Park, North Carolina; Mai T Pho, University of Chicago, Department of Medicine; Peter D Friedmann, University of Massachusetts Medical School, Baystate and Baystate Health; Ryan P Westergaard, University of Wisconsin (UW) School of Medicine and Public Health, Department of Medicine; Kellene Eagen, UW School of Medicine and Public Health, Department of Family Medicine and Community Health; Andrew Seaman, OHSU, School of Medicine; Bridget M Whitney, University of Washington, Department of Medicine; Jimmy Ma, University of Washington, Division of Allergy and Infectious Diseases Vivian F Go, UNC at Chapel Hill, Gillings School of Global Public Health, Department of Health Behavior; Kathryn E Lancaster, OSU, College of Public Health, Division of Epidemiology

Abstract: Introduction: Stimulants such as methamphetamine and cocaine are increasingly injected with opioids in rural areas, and in some rural settings injecting stimulants alone predominates. **Purpose Statement:** Our objective was to examine the associations of HCV infection with injecting opioids alone, stimulants alone, and opioids and stimulants together among rural people who inject drugs (PWID). **Methods:** Using respondent-driven sampling we conducted a cross-sectional analysis among PWID enrolled in the Rural Opioid Initiative (ROI) from 2018-2020. We included adult participants who resided in a study area and injected any drug in the past 30 days, and study sites that completed HCV antibody testing. The main exposure of interest was injection drug use classified as opioids alone, stimulants alone, concurrent injection (different syringes) of opioids and stimulants, or simultaneous injection (mixed in the same syringe) of both within the past 30 days. The primary outcome was the participant's HCV antibody status. We used multivariable log-binomial regression with generalized linear mixed models to generate prevalence ratios (PR) adjusted for covariates. **Results:** Of 3,084 participants enrolled in the ROI, 2,351 met our analysis criteria. Most participants injected opioids and stimulants simultaneously or concurrently (60%), followed by injecting stimulants alone (23%), and injecting opioids alone (17%). Most participants were HCV antibody positive (51%). HCV prevalence was significantly greater for opioid injection alone (PR=1.62, 95% CI: 1.29-2.03), concurrent injection (PR=1.61, 95% CI: 1.32-1.95), and simultaneous injection (PR=1.54, 95% CI: 1.28-1.85) when compared to stimulant injection alone. **Conclusion:** In our study, HCV infection defined by positive antibody was highest among those who had recently injected opioids (alone or in combination with stimulants). More research is needed to understand differences in HCV prevalence among PWID who use opioids and stimulants. Rural substance use treatment and harm reduction services should tailor HCV prevention services for PWID who inject stimulants.

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Oral Abstracts

Oral Presentation

Abstract Title: **Lessons Learned on Clinical Research Recruitment and Retention among People who use Drugs in Rural Appalachia Ohio**

Author(s): Renee McDowell, The Ohio State University, College of Public Health; Hannah M. Piscalko, The Ohio State University, College of Public Health; Ana D. Sualdito, Wake Forest University School of Medicine & The Ohio State University, College of Public Health; Angela T. Estradt, The Ohio State University, College of Public Health, Division of Epidemiology; Stacy M. Endres-Dighe, The Ohio State University, College of Public Health & RTI International, Division of Biostatistics and Epidemiology; Cathy Neal, The Ohio State University, College of Public Health; Vivian F. Go, University of North Carolina at Chapel Hill, Gillings School of Global Public Health; William C. Miller, The Ohio State University, College of Public Health; Kathryn E. Lancaster, The Ohio State University, College of Public Health

Abstract: Introduction: People who use drugs (PWUD) in rural communities are often underserved and hard to reach for clinical research. For the last five years, we have leveraged community-academic partnerships to recruit and retain PWUD across six Southern Ohio counties to address overlapping substance use and HIV/HCV epidemics. Purpose statement: We share lessons learned from implementing four NIH-funded studies among PWUD in rural Appalachia Ohio. Methods: Across our studies, we have employed community-based recruitment and respondent driven sampling (RDS) to conduct quantitative interviews with over 450 PWUD and completed over 100 qualitative interviews. Topics covered in these interviews have involved sensitive and stigmatizing information, including current drug use, overdose history, sexual history, and treatment engagement. Several PWUD have also completed rapid HIV, HCV, and syphilis testing. Here, we describe the successes and challenges encountered by our research team during recruitment and retainment and provide recommendations for future clinical research among PWUD. Results: Engaging with community organizations, especially local syringe service programs (SSPs), has been successful in recruiting PWUD. Research staff would regularly attend SSPs and speak with those accessing SSP services about ongoing research projects. Once consented and enrolled, PWUD would receive RDS coupons to refer peers, which had the highest return for recruitment. We also attempted many other recruiting strategies, such as attending local events, hanging flyers on bulletin boards, speaking to treatment agencies, posting flyers on social media, and playing radio advertisements. We attempted to maintain contact with participants via phone, email, mailing letters and social media. Participants who lost phone access were difficult to retain and remain in contact. Conclusions: Establishing rapport and trust are critical for recruiting and retaining PWUD in clinical research. Once trust is gained, participants are more likely present to follow-up appointments, refer peers, and participate in further studies.

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Oral Abstracts

Oral Presentation

Abstract Title: **"We're all in the Same Boat, You Know": A Qualitative Study Measuring Resilience to Intersectional Stigma among People who Inject Drugs (PWID) in Ohio Appalachia counties**

Author(s): Ana D. Sucaldito, Wake Forest University, School of Medicine & The Ohio State University, College of Public Health; Stacy M. Endres-Dighe, The Ohio State University, College of Public Health & RTI International, Division of Biostatistics and Epidemiology; Renee McDowell, The Ohio State University, College of Public Health; Hannah M. Piscalko, The Ohio State University, College of Public Health; Cathy Neal, The Ohio State University, College of Public Health; Angela T. Estradt, The Ohio State University, College of Public Health, Division of Epidemiology; Vivian F. Go, University of North Carolina at Chapel Hill, Gillings School of Global Public Health; William C. Miller, The Ohio State University, College of Public Health; Kathryn E. Lancaster, The Ohio State University, College of Public Health

Abstract: Introduction: Intersectional drug use and HIV stigma threatens engagement in the HIV prevention continuum for people who inject drugs (PWID). Resilience is an essential process to combat stigma and improve healthcare utilization, however little is known about the mechanisms of resilience to drug use and HIV stigma among PWID in rural Ohio. **Purpose statement:** The purpose of this study was to explore mechanisms of intersectional drug use and HIV stigma resilience among PWID in Ohio Appalachia counties. **Methods:** Semi-structured in-depth interviews were used to understand how resilience is displayed, shared, and enacted to counter intersectional stigma among PWID in five Ohio Appalachia counties. Interviews also explored key domains from Harper et al.'s four core resilience processes. Participants were asked about their experiences with drug use and HIV stigma, and strategies used to cope with these situations. Codes were created using thematic analytic techniques. Continual comparison was used to drive analysis and reflexive conversations were held with the research team. **Results:** Thirty-five interviews were completed among 20 women and 15 men. Six categories of stigma resilience emerged: (1) cognitive strategies, (2) healthy behavioral practices, (3) exchanging social support, (4) empowering other PWID, (5) anticipation strategies, and (6) maladaptive coping mechanisms. The first four categories align with Harper et al.'s four core domains of resilience processes. Anticipation strategies and maladaptive coping mechanisms were novel classifications of stigma resilience for PWID. Empowering other PWID by connecting or providing resources for safer injection practices was the most utilized stigma resilience strategy. Exchanging social support was the least used stigma resilience mechanism. **Conclusions:** These findings emphasize the diversity of ways PWID in Appalachia resist intersectional stigma for drug use and HIV. Results are currently being used to develop and validate a PWID Resilience Scale to measure resilience intersectional stigma for enhancing the HIV prevention continuum.

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Oral Abstracts

Oral Presentation

Abstract Title: **The Impact on Recovery Capital Following High-Intensity Exercise Adjuvant Therapy in Opioid Addiction Treatment**

Author(s): Aaron M. MacDonald, Eastern Kentucky University, College of Health Sciences

Abstract: **OBJECTIVE:** The Counseling Center (TCC), a substance abuse disorder (SUD) recovery facility located in Portsmouth, Ohio, began investigating alternative treatment methods that may improve long-term recovery rates through increased recovery capital (RC). RC takes into account numerous social and physical variables during the recovery phase of SUD and evidence shows a higher RC can lead to better recovery outcomes. TCC partnered with Portsmouth Spartan Kettlebell Club (PSKC), a nearby CrossFit (CF) affiliated gym, and created a partnership that allowed clients at TCC to participate in a guided CF program. The purpose of this study was to examine how this program, which focuses on short, high-intensity workouts affected the recovery capital of those that are enrolled or went through the program versus those clients at TCC who did not participate. **METHODS:** Primary data was collected using an electronic survey. Survey was sent to eligible participants, individuals receiving substance use disorder treatment at TCC, to observe statistical frequencies and averages between those who went through the TCC/PSKC program and those that did not. **RESULTS:** Participation in the CF program appears to be highest in those with a substantial history of SUD as 92% of those participating in the program have reported at least 1 previous recovery attempt. Those in the program also reported lower levels of anxiety and greater perceived overall health. There also does appear to be a positive correlation between those in the CF program and higher aspects RC, specifically levels of energy needed to complete tasks. **CONCLUSIONS:** High-intensity exercise does appear to be associated with greater recovery capital. Further studies are warranted to examine the role of high-intensity exercise. Specifically, the long-term outcomes of those who go through the program and the impact on the community RC of those in the program.

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Oral Abstract Presentations

Tuesday, November 15, 2022	
10:30 am – 11:30 am Breakout session 4-2	
Session 4-2 Room 330 A/B	Reducing the Impact of COVID-19 Across Populations Moderator: Kaitlin Voigts Key, PhD, RN
	COVID-19 Risk Perceptions & Experiences of West Virginians Living with Diabetes During the Pandemic-to-Endemic Transition Phase: A Qualitative Study Brenna Kirk, MPH School of Public Health, West Virginia University
	"We just need the facts": Wastewater Treatment Plant Operators' Perceptions of COVID-19 Messaging Savannah G. Tucker, MPH University of Kentucky
	Stories to Prevent (StoP) COVID-19 Among WIC Mothers Erika J. D. Christiansen, MPH Department of Public Health Sciences, Pennsylvania State University
	Age, Race, Rurality, and Income Predict Vaccine Hesitancy Michaela S. Tapia Eberly College of Arts and Sciences, West Virginia University

**Oral Abstracts****Oral Presentation**

Abstract Title: **COVID-19 Risk Perceptions & Experiences of West Virginians Living with Diabetes During the Pandemic-to-Endemic Transition Phase: A Qualitative Study**

Author(s): Brenna Kirk, MPH, West Virginia University School of Public Health, Department of Social and Behavioral Sciences; Ranjita Misra, PhD, CHES, FESG, FASHA, West Virginia University School of Public Health, Department of Social and Behavioral Sciences; Mohini Chatterji, MPH, West Virginia University School of Public Health, Department of Epidemiology & Biostatistics; Sarah Lipinski, MS, West Virginia University School of Public Health, Department of Social and Behavioral Sciences

Abstract: Introduction: The COVID-19 pandemic has disproportionately impacted rural adults in West Virginia (WV) which has a high burden of diabetes (ranks 1st) and many other chronic conditions that are known risk factors for severe COVID-19 infection. Understanding COVID-19-related risk perceptions is important for addressing COVID-19-related disparities. Purpose statement: As part of a larger community-based intervention, this qualitative study explored perceptions of COVID-19-related risks, prevention measures, and information-seeking among rural West Virginian adults living with diabetes and other comorbid chronic conditions. Methods: Semi-structured interviews (n=25) were conducted (via telephone, ~30 minutes) in May 2022. Audio-recorded data were analyzed by two independent coders using MAXQDA. Results: Participants' mean age and diabetes duration was 55.9 and 14.9 years, respectively; 68% identified as female, and 96.2% had 3+ chronic conditions. Five primary themes emerged: 1) "Pandemic Impacts on Life", 2) "Long-COVID Dissonance", 3) "Fear vs. Concern", 4) "Information Overload", and 5) "Concerns about Vaccines and Mandates". Participants discussed the impacts of the pandemic on their health, finances, and relationships. Interestingly, some who had previously been infected described their experience as "not that bad," but also mentioned suffering from long-COVID symptoms (for up to 15 months) post-infection. Several distinguished "fear" vs "concern" and many described relying on their faith/religion as an alternative to living with pandemic fear. However, pandemic-related concerns were expressed for contracting COVID-19, spreading it to others, potential effects of vaccines, and loss of liberty via mandates. Lastly, "information overload" and misinformation emerged as barriers to effective COVID-19 prevention. Conclusions: This study highlights key considerations for tailoring educational interventions and COVID-19 risk messaging among high-risk WV adults during the transition stage of the COVID-19 pandemic. Specifically, succinct, and clear messaging regarding potential long-term risks and consequences of COVID-19, vaccine safety, and booster efficacy are key areas of focus for future communication and education.

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Oral Abstracts

Oral Presentation

Abstract Title: **"We just need the facts": Wastewater Treatment Plant Operators' Perceptions of COVID-19 Messaging**

Author(s): Savannah G. Tucker MPH, University of Kentucky, Lexington Kentucky; Anna Goodman Hoover MA PhD, University of Kentucky, Lexington Kentucky; Beverly May RN MSN DrPH, University of Kentucky, Lexington Kentucky; Matthew Liversedge, James Keck MD MPH, University of Kentucky, Lexington Kentucky

Abstract: INTRODUCTION: Two years into the COVID-19 pandemic, we have a wealth of evidence-based mitigation measures that can help slow the spread of SARS-CoV-2; however, communicating the rationale and effectiveness of these measures has challenged public health officials. Rural officials in particular face context-specific challenges for sharing timely information about COVID-19 mitigation strategies. **PURPOSE STATEMENT:** We studied the perceived trustworthiness of COVID-19 communication strategies and information sources. **METHODS:** We conducted semi-structured interviews with wastewater treatment plant operators at Eastern Kentucky facilities involved in SARS-CoV-2 wastewater surveillance. Respondents were asked about their perceptions of traditional media and social media as information sources for COVID-19 in their community, as well as factors that influenced the trustworthiness of the information source. Three investigators conducted an iterative, thematic coding of the interview transcripts. We mapped thematic data to constructs from the Center for Disease Control and Prevention's Crisis and Emergency Risk Communication (CERC) framework and described perceptions of specific COVID-19 information sources. **RESULTS:** We interviewed eight individuals working in seven facilities. In reference to COVID-19 risk communication, we found that respondents most often made statements consistent with the "Be Credible", "Be Right", and "Promote Action" CERC constructs. References to these three constructs accounted for 88% of the references that mapped to the six CERC constructs. The "Show Respect" construct had no mapped thematic data. Respondents noted several factors - including the large volume of information, multiple information sources, and misinformation - that undermined their trust in COVID-19 information. **CONCLUSIONS:** The most salient COVID-19 risk communication constructs for our interviewees were "Be Credible", "Be Right", and "Promote Action". Emphasizing these constructs in future messaging may be beneficial as we seek to improve COVID-19 risk communication.

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Oral Abstracts

Oral Presentation

Abstract Title: **Stories to Prevent (StoP) COVID-19 Among WIC Mothers**

Author(s): Erika J. D. Christiansen, MPH, Pennsylvania State University, Department of Public Health Sciences; Josheili Llavona-Ortiz, MS, Pennsylvania State University, Public Health Sciences; Jessica G. Myrick, Pennsylvania State University, The Donald P. Bellisario College of Communications; Chelsea M. Keller, MPH, CHES, Pennsylvania State University, Department of Public Health Sciences; Darilyn M. Rivera-Collazo, MS, Pennsylvania State University, Department of Public Health Sciences; Jennifer L. Kraschnewski, MD, MPH, Pennsylvania State University, Department of Medicine & Public Health Sciences; William A. Calo, PhD, JD, Pennsylvania State University, Department of Public Health Sciences

Abstract: Introduction: Pregnant and postpartum women are at an increased risk of severe COVID-19 illness compared to the general population. However, national data shows that 60% of women who are pregnant or planning to become pregnant report that they are unsure if or do not believe that pregnant women should get the COVID-19 vaccine. **Purpose statement:** This pilot study aimed to assess the feasibility of a brief video intervention for pregnant and postpartum mothers to serve as trusted messengers and educate their peers about COVID-19 vaccination. **Methods:** We developed a video intervention using real stories of both English- and Spanish-speaking women. We recruited 96 pregnant and postpartum women from two WIC centers in Central Pennsylvania who were not up to date on COVID-19 vaccination (have not received a full primary vaccine series and/or boosters as recommended by the CDC). Using a one-group design, participants completed a survey that asked questions before and after the video intervention. We assessed changes in vaccine attitudes and intent to become up to date with the COVID-19 vaccine. **Results:** Compared to baseline, after receiving the video intervention, more women believed that the COVID-19 vaccine reduces the severity of a potential COVID-19 infection (52% vs. 61%, $p=0.0389$), could stop the spread of COVID-19 (31% vs. 42%, $p=0.0184$), and is effective (35% vs. 47%, $p=0.0023$). Participants also reported a reduced concern about the safety of the COVID-19 vaccine (59% vs. 42%, $p=0.0025$). We observed no statistically significant change in vaccine intentions in the pre/post-intervention evaluation. Ninety percent of participants found the story easy to follow, and 79% considered the story to be relevant to pregnant and postpartum mothers. **Conclusions:** Our pilot study suggests that pregnant and postpartum mothers are trusted messengers to deliver accurate COVID-19 vaccine information to their peers.

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Oral Abstracts

Oral Presentation

Abstract Title: **Age, Race, Rurality, and Income Predict Vaccine Hesitancy**

Author(s): Michaela S. Tapia, West Virginia University, Eberly College of Arts and Sciences, AGE-ADAR; Laura E. Bernstein, West Virginia University, Eberly College of Arts and Sciences, AGE-ADAR; Julie Hicks Patrick, West Virginia University, Department of Psychology

Abstract: Vaccines prevent diseases and premature death. Current vaccines prevent as many as five million deaths per year, including deaths from influenza and pneumonia. Although receiving both vaccines can be vital to health, rural and lower-income areas, along with minoritized adults have lower vaccine uptake. Using the 2020 Behavioral Risk Factor Surveillance System (BRFSS) from the Centers for Disease Control and Prevention (CDC), data from 299,751 Americans and 276,384 Americans were analyzed for influenza and pneumococcal vaccine uptake. Logistic regression was utilized to analyze if age, race, urbanization, and income were factors in pneumococcal and influenza vaccinations. Post-hoc analyses further examined uptake within rural Appalachian areas. The logistic regression equations were significant for both influenza vaccine, χ^2 (DF=7, N=299751) = 22851.91, $p < 0.01$ and for the pneumococcal vaccine χ^2 (DF=7, N=276384) = 58062.31, $p < 0.01$. For the influenza vaccine, younger age, lower income, race, and rurality corresponded to hesitancy. Individuals with higher incomes and younger adults were more likely to be pneumococcal vaccine-hesitant. Relative to White, non-Hispanic adults, vaccine hesitancy was higher among minoritized adults, with influenza vaccine hesitancy ranging from 1.28 times among Hispanic adults to 1.42 times among Black Americans. Similarly, pneumococcal hesitancy ranged from 1.37 times among Black adults to 1.47 among Hispanic adults. Across both types of vaccines, rural-dwelling adults were about 1.2 times more hesitant than their urban counterparts. Across several social determinants of health, our analyses show that younger age, rural-dwelling, and non-White racial identification are associated with vaccine hesitancy. These are often the same groups who are most susceptible to negative health consequences. Additional investigation into specific and intersecting barriers to health services should be enacted.

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Oral Abstract Presentations

Tuesday, November 15, 2022

10:30 am – 11:30 am

Breakout session 4-3

Session 4-3 Room 331	Cancer in Focus Moderator: Ty Borders PhD, FACE
	Treatment at an Academic Cancer Center Eliminates Survival Disparities for Kentucky Appalachian Pancreatic Ductal Adenocarcinoma Patients Emily Cassim Division of Surgical Oncology, University of Kentucky
	Understanding rural primary care professionals needs and preferences in managing care for cancer survivors: a mixed methods study Nicole L. Stout DPT, CLT-LANA, FAPTA School of Medicine, Cancer Prevention and Control, School of Public Health, West Virginia University
	Lung Cancer Prevention among Appalachian KY Women: A Community-Engaged Mixed Method Study Jessica R. Thompson, PhD Community Impact Office, Markey Cancer Center, University of Kentucky
	2021 Kentucky Cancer Needs Assessment: Informing Strategies in Appalachian Kentucky Pamela Hull, PhD Markey Cancer Center, University of Kentucky

**Oral Abstracts****Oral Presentation**

Abstract Title:	Treatment at an Academic Cancer Center Eliminates Survival Disparities for Kentucky Appalachian Pancreatic Ductal Adenocarcinoma Patients
Author(s):	Emily Cassim, Division of Surgical Oncology, University of Kentucky; Hannah McDonald, Division of Surgical Oncology, University of Kentucky; Megan Harper, Division of Surgical Oncology, University of Kentucky; Quan Chen, Markey Cancer Center, University of Kentucky; Miranda Lin, Division of Surgical Oncology, University of Kentucky; Reema Patel, Division of Hematology and Oncology, University of Kentucky; Michael Cavnar, Division of Surgical Oncology, University of Kentucky; Prakash Pandalai, Division of Surgical Oncology, University of Kentucky; Bin Huang, Markey Cancer Center, University of Kentucky; Joseph Kim, Division of Surgical Oncology, University of Kentucky; Erin Burke, Division of Surgical Oncology, University of Kentucky

Abstract: Introduction: Cancer-related mortality in Appalachian Kentucky is among the highest in the nation. Pancreatic ductal adenocarcinoma (PDAC) is one of the deadliest cancers in Kentucky, Appalachia, and worldwide. It is unknown whether treatment at an academic medical center influences survival in Appalachian Kentuckians. **Purpose Statement:** Compare outcomes in Kentuckians with PDAC who received treatment at an academic medical center (AMC) vs community facility (CF). **Methods:** Using the Kentucky Cancer Registry (KCR), we identified patients diagnosed with PDAC between 2013-2018. Patients were divided into two cohorts: treatment at the University of Kentucky (UK) and treatment at CF. Kaplan-Meier survival curves were constructed to assess survival and multivariate Cox regression analyses were performed to identify factors associated with survival. **Results:** During this period, 4,402 Kentuckians were diagnosed with PDAC; 87.3% were treated at CF, 12.7% at UK. The 5-year survival rate was 6% for all Kentuckians. The 1- and 5-year survival rates were 36.9% and 5.9% for Appalachians, 39.4% and 6.1% for non-Appalachians. When comparing UK and CF patients, 1- and 5-year survival rates were higher for UK patients (50% vs 37% and 12% vs 5%, respectively). Improved survival was associated with black race and treatment at UK. Worse survival was associated with smoking, Medicaid/Medicare utilization, age >75 at diagnosis, Appalachian status, and higher disease stage. **Conclusions:** We observed significantly improved survival for patients treated at AMC vs CF, showing that level of treatment impacts survival in Kentucky PDAC patients. This is promising, as it demonstrates treatment at an AMC may improve outcomes in patient populations impacted by healthcare disparities such as low socioeconomic status or geographic barriers to care. Importantly, these findings show that AMCs are associated with improved survival in Appalachian Kentuckians. Additional resources should be provided to Kentucky patients through outreach efforts, such as our affiliate network at UK.

Primary Presenter / email: **Emily Cassim; emily.cassim@uky.edu**

**Oral Abstracts****Oral Presentation**

Abstract Title: **Understanding rural primary care professionals needs and preferences in managing care for cancer survivors: a mixed methods study**

Author(s): Nicole L. Stout DPT, CLT-LANA, FAPTA, West Virginia University School of Medicine, Cancer Prevention and Control, School of Public Health, Department of Health Policy, Management, and Leadership, Morgantown, WV; Sabina Nduaguba, PhD, BSPHarm, West Virginia University, Pharmaceutical Outcomes and Policy, Morgantown, WV; Dannell Boatman MS, EdD, West Virginia University, Cancer Prevention and Control, Morgantown, WV.

Abstract: Introduction: Individuals are living longer after cancer treatment but do so with complex long-term needs. While oncologists look to primary care professionals (PCPs) to provide follow-up care, PCPs feel ill-prepared to manage the complex, multi-dimensional needs of cancer survivors. **Purpose:** To understand PCPs attitudes, knowledge, and preferences in managing cancer survivorship care in West Virginia. **Methods:** The *Survey of Physician Attitudes Regarding the Care of Cancer Survivors (SPARCCS)* was deployed across WV medical professional societies and research partner networks using snowball methodology. The electronic survey was open for 6 months. Respondents were also asked to participate in a 1:1 qualitative interview. Interviews were conducted via Zoom, recorded, and transcribed. Emergent themes were coded across interviews. **Results:** 66 surveys were received, 8 were incomplete and 58 analyzed. 41.4% were physicians, 48.3% nurse professionals and 10.4% others (LSW, MA). 38% work in community health centers, 25.9% hospital-based, and 32.7% private practice. 27% felt *Very confident* managing follow-up surveillance for cancer recurrence, 12.1% were *very confident* managing cancer physical effects and 18.9% managing psychosocial effects. Agreement was high (>70%) that PCPs have the skills to monitor for disease recurrence, however respondents did not believe PCPs should have primary responsibility for survivorship care (61%). 11 qualitative interviews were conducted. Common barriers to survivorship care; lack of understanding of cancer care plan, low awareness of survivorship guidelines, lack of time to address all need domains. *"While I think we can handle the medical follow up...other things like nutrition, counselling, falls, cognitive issues...that needs to be someone else."* **Conclusions:** This seminal assessment of rural WV PCPs perspectives on survivorship care provides insight on care delivery gaps. Considering the growing population of cancer survivors and their multi-dimensional needs, future work should explore interprofessional care delivery models using a specialty workforce with knowledge in cancer late effects.

Primary Presenter / email: **Nicole L. Stout; nicole.stout@hsc.wvu.edu**



12th Annual ATRN Summit

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Oral Abstracts

Oral Presentation

Abstract Title: **Lung Cancer Prevention among Appalachian KY Women: A Community-Engaged Mixed Method Study**

Author(s): Jessica R. Thompson, PhD, Community Impact Office, Markey Cancer Center, University of Kentucky; Nancy E. Schoenberg, PhD, Department of Behavioral Science, College of Medicine, University of Kentucky; Pamela C. Hull, PhD, Community Impact Office, Markey Cancer Center, University of Kentucky

Abstract: Introduction: Central Appalachian Kentucky (KY) experiences the highest lung cancer rates in the US. Although lung cancer has declined steadily among men, such decreases have not been seen among women. Central Appalachian smoking rates are also among the highest in the country; however, 20% of women with lung cancer are lifelong non-smokers and may experience unique risk factors. Thus, more insight is needed to increase primary and secondary lung cancer prevention efforts for women in the Central Appalachian KY region. **Purpose Statement:** This study utilizes concept mapping, a community-engaged mixed method, to: 1) uncover a range of perceived barriers and facilitators to lung cancer prevention and 2) identify community-driven intervention ideas among Appalachian KY women. **Methods:** We are recruiting participants who identify as women in Appalachian KY (N=70) to participate in online concept mapping activities. We are using multidimensional scaling to create a point map representing perceived similarities and hierarchical cluster analysis to create a cluster map illustrating thematic categories. Through qualitative group discussions, we are utilizing the generated maps to explore potential lung cancer prevention interventions. **Results:** As research in progress, the quantitative concept mapping elements will identify a wide range of perceived barriers and facilitators across individual, interpersonal, community, and environmental levels as well as relationships between items by importance and feasibility. The qualitative discussion groups will provide local insights on potential interventions to increase lung cancer prevention among Appalachian KY women. **Conclusions:** This research in progress will develop novel understanding of local barriers, gender-specific risk factors, and community-driven intervention ideas. A community-engaged study, this work will inform potential strategies to improve lung cancer prevention among women in the Appalachian KY counties. Overall, these findings will provide a platform for future studies to understand gender-related lung cancer prevention needs throughout the Appalachian region.

Primary Presenter / email: **Jessica Thompson; jessica.r.thompson@uky.edu**



Oral Abstracts

Oral Presentation

Abstract Title:	2021 Kentucky Cancer Needs Assessment: Informing Strategies in Appalachian Kentucky
Author(s):	Pamela Hull, PhD, University of Kentucky Markey Cancer Center; Caree McAfee, MA CHES, University of Kentucky Markey Cancer Center; Mindy Rogers, MA, University of Kentucky Markey Cancer Center; Jessica Thompson, PhD, University of Kentucky Markey Cancer Center; Natalie Wilhite, MA, University of Kentucky Markey Cancer Center,; Todd Burus, MAS, University of Kentucky Markey Cancer Center

Abstract: Introduction: In 2021, the Markey Cancer Center (MCC) Community Impact Office formed a steering committee of collaborating organizations to conduct a statewide comprehensive cancer needs assessment (CNA) to inform the state's new Cancer Action Plan, individual organizations' planning activities (including MCC), and collaborative efforts. **Purpose:** The CNA's purpose was to tell the current story of cancer in Kentucky and to highlight opportunities to rewrite this story. Specific attention was given to disparities in the cancer risks and experiences of Kentucky's Appalachian residents. **Methods:** We developed a conceptual framework for how multiple levels of determinants of health translate into cancer-related outcomes, with a focus on health equity. Existing data sources included the Kentucky Cancer Registry, Behavioral Risk Factor Surveillance System, American Community Survey, and others. We gathered data from lay community members (N=51) through focus groups representing diverse statewide populations. We combined the quantitative and qualitative findings to facilitate a concept mapping process with organizational stakeholders (N=111) and community members (N=52). **Results:** Overall cancer incidence was 22% and mortality was 45% higher in Appalachian Kentucky than the U.S. Cancer sites with elevated incidence and/or mortality in Appalachian versus non-Appalachian Kentucky included lung, colorectal, cervical, melanoma and uterine cancers. Elevated risk factors included tobacco use, obesity and lack of physical activity. Colorectal, breast and cervical cancer screening rates were lower in the region. Low education and high poverty contributed to regional disparities. Through the concept mapping process, community-driven priorities included Appalachian disparities, persistent poverty, smoking, obesity, human papillomavirus (HPV), environmental exposures, lung cancer screening. **Conclusions:** The CNA identified both objective and perceived cancer needs and opportunities for action to decrease cancer burden in Appalachian Kentucky. We disseminated the CNA broadly to community stakeholders and cancer center researchers through a website, reports, and interactive mapping tools to inform targeting research and community actions.

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ATRN Summit 2022
November 14th and 15th, 2022
Community-Academic Engagement: Building Resilience Together



Poster Session
Harris Ballroom, 3rd Floor
Monday, November 14, 2022 5-6:30pm

**Poster Abstracts****Poster #1**

Abstract Title: **Addressing the Mental Health Disparities of Families of Cancer Patients from Rural Kentucky: Investigating the Efficacy to Reduce Mental Trauma using FamCare+ (A Mobile Health Service that Connects Families at Home with Point of Care)**

Author(s): Anthony Faiola, PhD (PI) Professor, College of Health Sciences, Professor Affiliate, Dept. of Biomedical Engineering (College of Engineering) University of Kentucky Lexington, KY

Abstract: Introduction: Research demonstrates that family members of patients in a critical-care inpatient facilities (ICU, cancer-related therapies, etc.), are at a high risk for developing PTSD, anxiety, and depression. During the COVID-19 pandemic hospital visitation privileges were limited/suspended, resulting in a severity of mental health conditions, even three months after patient discharge. Isolation due to the pandemic has especially exacerbated the mental health of families/next-of-kin to cancer patients (NOK-CP) as visiting restrictions continued. Although rural families use smartphones, socioeconomic disparities still exist due (in greater part) to geographic location. Added to other socioeconomic inequalities, NOK-CP must travel long distances to stay connected to the bedside. To support access for NOK-CP, we developed FamCare+, a mobile health platform that enhances coordination between (remote) families and healthcare staff at point-of-care. Intended to reduce mental trauma, FamCare+ provides communication (text/video/real-time patient vitals) with the bedside and with mental-health/social services. Our recent FamCare+ user-experience study provided extremely positive findings for all quantitative/qualitative data. **Purpose:** To form a committee of community stakeholders, referred to as MERCCI (mHealth Equity Research for Community Connected-Health Impact), who will identify a long-term strategy to study the efficacy of FamCare+ on rural Kentucky NOK-CP mental health. **Methods:** MERCCI's (in-progress) planning will be followed by a clinical pilot study using FamCare+ at two Markey Cancer Center Research Network (MCCRN) locations, with 10 families. MCCRN physicians/nurses will be recruited to co-manage the study. Pilot findings will be followed by co-design studios/focus-groups with multi-stakeholder family/community participation. **Results:** (1) Findings from the study/groups will inform next stages for expansion of FamCare+ at other MCCRN locations. (2) New partnerships with community collaborators, to further leverage mobile health to improve NOK-CP mental health throughout Kentucky. **Conclusion:** MERCCI's long-term goals are to develop sustainable partnerships that lead to future collaborations/studies that benefit Kentucky NOK-CP mental health in measurable ways.

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Poster Abstracts

Poster #2

Abstract Title: **Urban and Rural Cancer Survivors' Medical Care Experiences**

Author(s): Tyrone F. Borders, University of Kentucky College of Nursing; Lindsey Hammerslag, University of Kentucky Institute for Biomedical Informatics

Abstract: Background: Cancer survivors residing in rural areas, many of whom travel to urban areas for treatment, may face particular challenges receiving adequate follow-up services for the surveillance of cancer recurrence, detection of new cancers, continued care management, and monitoring of late or long-term treatment side effects. **Purpose:** To determine how rural/urban residence and other demographic, socioeconomic, and health care factors are associated with adult cancer survivors' follow-up care experiences. **Methods:** We analyzed data from the nationally representative Medical Expenditure Panel Survey (MEPS). **Results:** Approximately 64% of urban and 62% of rural survivors reported that they had discussed follow-up care needs in detail with a health care professional. Lower percentages discussed in detail with a health care professional lifestyle and health recommendations (38% urban, 33% rural), emotional/social needs (29% urban, 22% rural), long-term side effects (44% urban, 40% rural), and treatments received (46% urban, 38% rural). When adjusting for other factors, urban/rural residence remained insignificantly associated with each outcome variable. **Conclusions:** We found no evidence of rural/urban disparities in several aspects of discussions about follow-up care and other survivorship needs in a nationally representative sample. Regardless of rural or urban residence, survivors had low rates of engaging in discussions about their cancer treatments and needs.

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Poster Abstracts

Poster #3

Abstract Title: **An Impact of a Research Intervention for Caregivers' Heart Health on Diet Quality among Appalachian Caregivers of People with Chronic Illnesses**

Author(s): JungHee Kang, University of Kentucky, Lexington, KY; Misook L. Chung, University of Kentucky, Lexington, KY; Yuriko Katsumata, University of Kentucky, Lexington, KY; Debra K. Moser, University of Kentucky, Lexington, KY

Abstract: Introduction. Caregivers of people with chronic illnesses in rural area have markedly increased cardiovascular disease (CVD) risk. Diet is an important factor that contributes to CVD risk. We conducted a self-care intervention to reduce cardiovascular disease risk among informal rural caregivers (RICHH). The RICHH intervention included healthy eating module to promote heart health. Purpose: To examine the long-term impact of RICHH intervention on diet quality in informal rural caregivers. Methods: A total of 311 rural caregivers (55 ± 14 years old, 76% female) of people with chronic illnesses participated. The Healthy Eating Index-2015 (HEI-2015) was used to measure diet quality. The HEI-2015 was computed based on food frequency questionnaires at baseline, 4-month, and 12-month. Nurse interventionists delivered intervention once a week for 12 weeks followed by bi-weekly and monthly booster sessions using videoconference technology. A piecewise linear mixed-effect model, which allows different linear functions of time corresponding to the pre- and post-critical time point trends, was used to evaluate the long-term impact of the intervention on diet quality, controlling for covariates. Results: There was a significant improvement in the HEI-2015 total scores at 4 months in the intervention group (beta estimate=1.02, SE=0.22, P<.001) but not in the control group (beta estimate=0.40, SE=0.21, P=0.051). The improvement in HEI-2015 between the control and intervention was significantly different (beta estimate=0.62, SE=0.30, P=0.038). The difference in diet quality improvement between the control and intervention groups was sustained at 12-months (beta estimate=3.33, SE=1.33, P=0.012). Conclusions: The findings of our study indicate that a self-care intervention designed to include healthy eating module to promote heart health among informal rural caregivers is effective in producing a long-term improvement of diet quality, which can lead to the CVD risk reduction.

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Poster Abstracts

Poster #4

Abstract Title: **Examining the Relationship between Built Environment, Social Vulnerability, Rurality, and Rate of Diabetes in the State of West Virginia**

Author(s): West Virginia University Office of Health Affairs

Abstract: Introduction: Between 2000 and 2018, age-adjusted percentages of diagnosed diabetes in West Virginia among adults increased from 7% to 13.4%. Existing research suggests there are multiple determinants of chronic diseases. However, some elements influencing health outcomes are not related to an individual's behavior but exist at ecological levels outside individuals' control. Purpose Statement: Examining relationships/associations using regression analysis of public health data helps with understanding the distribution and patterns of chronic disease. We used regression analysis to examine the relationship of the built environment, social vulnerability, and rurality on the relative risk for diabetes throughout West Virginia at county level. Methods: Health outcome data from the United States Diabetes Surveillance System were used in a multivariate, optimally specified negative binomial model. Covariate data for food outlets, social vulnerability and rurality were obtained from the National Industry Classification System database, the Agency for Toxic Substances and Disease Registry and the United States Department of Agriculture. Estimated county-level population data for 2018 from the American Community Survey served as model offset. Results: Results were summarized by rurality groups and social vulnerability quartiles. The highest mean number of adults with diabetes were living in metro areas with populations ranging from <250,000 to <1 million residents, concentrated in the southern part of the state. Modeling revealed the effect of social vulnerability on the rate of diabetes was modified by convenience stores; this was tested with one out of five models with interaction terms between social vulnerability and three types of food outlets selected as best fit for the data. Conclusions: Absent spatial dependence, a negative binomial model with interaction terms enabled researchers to examine risk at county level and present results geographically. Model coefficients indicated that the number of convenience stores, the number of limited service restaurants and metro areas with population less than 250,000 were associated with a higher rate of county-level diabetes.

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Poster Abstracts

Poster #5

Abstract Title: **Identifying a relationship between Oxidative Stress and Immune Infiltration in Human Prostate Cancer Patients with Health Disparities Using Prostate Tumor Microarrays**

Author(s): Nolan Marcum; James Campbell; Luksana Chaiswin, Department of Toxicology and Cancer Biology, University of Kentucky, Lexington, KY

Abstract: Reactive oxygen species (ROS) are known to cause damage to biomacromolecules such as lipids, DNA, proteins, etc. Studies by our lab indicate a high level of oxidative stress biomarkers (ROS production footprints) correspond with PCa progression (from low to high Gleason scores) and PCa recurrence. However, the sources of high ROS levels in PCa are still unclear. It is well established that immune cells such as macrophages, neutrophils, etc., can produce ROS. Infiltrating immune cells have been identified in PCa and contributed to PCa pathophysiology. Relationships between immune cell infiltration with ROS in PCa progression/aggression and how ROS contributes to cancer health disparities have not been established. We hypothesize that immune cell infiltration in PCa tissues causes ROS buildup and induces oxidative stress, which leads to PCa progression. The project utilized pathology slide viewing software, Aperio Image Scope, to identify the presence of infiltration immune cells and to quantify ROS-induced oxidative stress markers in PCa-tumor microarray slides that were constructed from 152 cases of PCa patients and 32 cases of non-PCa patients. Remarkably, expression levels of two oxidative stress biomarkers, 4-hydroxy-2-nonenal adducted proteins (4HNE) and peroxiredoxin sulfenylation (PrxSO₃), are significantly increased in PCa patients who have immune cell infiltration, comparing to PCa patients without immune cell infiltration. Interestingly, PCa patients who live in Appalachia area showed a significantly higher level of 4HNE, compared to non-Appalachia area. Overall, our results suggest that: 1) the presence of immune cells in PCa tissues could be a cause of high oxidative stress in PCa patients and 2) H₂O₂ could be the mediator that promoted PCa progression in Appalachian population since H₂O₂ is the mediator of 4HNE and PrxSO₃ formations.

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Poster Abstracts

Poster #6

Abstract Title: **"PA-C Representation on Kentucky Hospital Boards and PA-S Interest in Leadership Roles"**

Author(s): Allie Clevenger, PA-S, University of Kentucky, Department of Physician Assistant Studies; Tara Hefner, PA-S, University of Kentucky, Department of Physician Assistant Studies; Victor Huynh, PA-S, University of Kentucky, Department of Physician Assistant Studies; Courtney Marshall, PA-S, University of Kentucky, Department of Physician Assistant Studies; Grace Moses, PA-S, University of Kentucky, Department of Physician Assistant Studies; Dillon Warning, PA-S, University of Kentucky, Department of Physician Assistant Studies; Wes Wattenberger, PA-S, University of Kentucky, Department of Physician Assistant Studies; Joshua Burkhart, MSPAS, PA-C, University of Kentucky, Department of Physician Assistant Studies

Abstract: Background: Clinical leadership is essential to ensure safe overall effectiveness of the healthcare system (Daly et. al 2014, Hobbs 2013, Casey 2011). Who fills that role is not always so well defined. With physicians facing administrative burnout, and expansion of healthcare systems presenting new challenges, where do Physician Assistants serve best? A study at Emory Healthcare Network in Georgia found that when they utilized advanced practice providers, such as PAs, in leadership positions and provided them clinical leadership training, there were improvements in patient encounters, employee engagement and even revenue (Proulx et. al 202). Purpose: The purpose of this study was twofold. First, to gather quantitative data about the presence of PAs on hospital administrative boards in Kentucky. Secondly, gather data to explore current Kentucky PA student's interest in holding a leadership role on a hospital board. Methods: Researchers analyzed the number of Physician Assistants on the hospital board of each of the 106 Kentucky hospitals by accessing the American Hospital Directory. An anonymous IRB approved Qualtrics survey was created by the researchers and distributed to students from the three PA programs in Kentucky. Researchers compiled the data and conducted a series of statistical analyses looking for trends in the data. Survey analyses consisted of frequencies, descriptive statistics, and a series of non-parametric tests utilizing SPSS software. Results: The overall responses appeared to display a predominantly positive view of interest, preparedness, and plan to pursue leadership. Results showed a statistically significant positive correlation between students who feel prepared to take on a leadership role and students who have interest in holding a leadership role during their career as a PA. However, few practicing PAs currently hold these positions. Further research needs to be done to explore why PAs are not being employed in this way.

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Poster Abstracts

Poster #7

Abstract Title: **"Patient Perception of Their Role in Team Based Care"**

Author(s): Elizabeth Ison, PA-S, University of Kentucky, Department of Physician Assistant Studies; Elizabeth Moss, University of Kentucky, Department of Physician Assistant Studies; Nicholas Noble, PA-S, University of Kentucky, Department of Physician Assistant Studies; Cory Ramsey, PA-S, University of Kentucky, Department of Physician Assistant Studies; Onieta Stewart, PA-S, University of Kentucky, Department of Physician Assistant Studies; Joshua Burkhart, MSPAS, PA-C, University of Kentucky, Department of Physician Assistant Studies

Abstract: Introduction: Research is discovering that healthcare is becoming more patient centered.⁴ Approaching healthcare in this way allows patients to play a more active role and help control the course of their care.⁶ Little research has been performed investigating a patient's perspective of their role within team based care. The way a patient views their role within the team could have an impact on their healthcare adherence and overall experience. Healthcare is improved when a patient is directly involved in the decision-making process and when a team-based model is used for healthcare.^{1, 2, 3, 4, 5} Many of the benefits of patient involvement in their care have been explored, but it is less understood the extent to which it is practiced in rural Kentucky or how these rural patients perceive their own role in modern medicine. Purpose: The objective of this study is to better understand how adult patients in rural Kentucky who have at least one chronic medical condition perceive their role in team-based care. Methods: Researchers obtained IRB approval to distribute the Patient's Perceptions of Team Based Care 18 question Likert scale survey to a convenience sample of patients across rural Eastern Kentucky. Additionally, the survey was released as a clickable link on a social media platform such as facebook to allow for a broader range of participants. After raw data was cleaned and exclusions were removed a total of 469 surveys were analyzed. Results: Data, analyzed for 469 surveys, revealed a significant difference between respondents level of education and self-reported information seeking regarding their healthcare. Few statistically significant differences were noted between the urban and rural populations. The majority of participants indicated a desire to have an active role in their healthcare and shared decision making.

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Poster Abstracts

Poster #8

Abstract Title: **"Barriers to Utilization of Telemedicine for Patient Encounters: A Provider Perspective"**

Author(s): Jacob Bingham, PA-S, University of Kentucky, Department of Physician Assistant Studies; Lauren Davis, PA-S, University of Kentucky, Department of Physician Assistant Studies; Abby Mason, PA-S, University of Kentucky, Department of Physician Assistant Studies; Alex Morse, PA-S, University of Kentucky, Department of Physician Assistant Studies; Austin Roberts, PA-S, University of Kentucky, Department of Physician Assistant Studies; Rehan Tariq, PA-S, University of Kentucky, Department of Physician Assistant Studies; Shelley Irving, MSPAS, PA-C, University of Kentucky, Department of Physician Assistant Studies

Abstract: Introduction: Telemedicine and synchronous video conferencing (SVC) have been utilized by our healthcare system since the 1960's (Augestad KM, Lindsetmo RO, 2009) to improve access to care to rural communities. An abundant amount of research has been conducted studying the patient barriers to the utilization of telemedicine services. There is limited research studying the barriers that healthcare providers experience when using telemedicine services. Research on the barriers to efficient utilization of telemedicine among providers will be an essential component in the improvement and effectiveness of SVC. Purpose: The purpose of this study is to determine barriers to use of SVC by primary care providers. Methods: Researchers of this IRB approved study developed an anonymous electronic survey for distribution to primary care providers who have recently used SVC to provide patient care. Providers selected from and ranked a list of 12 barriers to utilization of SVC that were modeled after an existing survey published by the American Academy of Physician Assistants (AAPA). Descriptive analyses were performed on the selected and ranked data. Results: A relatively small number of participants (33) met the inclusion criteria of being a primary care provider who has recently used SVC to provide care to rural patients. The top three barriers did correlate with patient identified barriers from previous studies: patient connectivity issues, patient comfortability, and access to equipment.

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Poster #9

Abstract Title: **The Impact of WVCTSI Project ECHO on Rural Communities in WV and Beyond**

Author(s): Jay Mason, WV Clinical and Translational Science Institute, Morgantown WV; Mithra Salmassi, WV Clinical and Translational Science Institute, Morgantown WV; Elisabeth Minnick, WV Clinical and Translational Science Institute, Morgantown WV

Abstract: Introduction: Limited specialty care access is a major contributor to rural health disparities. Extensions for Community Healthcare Outcomes (ECHO) is an innovative training and education strategy to address the need for trained specialty care in rural areas, such as West Virginia (WV). Purpose: The WV Clinical and Translational Science Institute (WVCTSI) Project ECHO Program aims to provide education and training in specialty areas using technology and partnerships. Methods: A case-based session coupled with a brief relevant didactic presentation is used to amplify rural provider specialty expertise through education and mentoring in specific clinical areas. Results: Since its launch in 2016, the WVCTSI ECHO program has grown to include nine different clinical areas including Hepatitis C/HIV, Substance Use Disorder (SUD), and Campus Mental Health. The WVCTSI ECHO program has trained and mentored over 8,500 providers serving rural populations across WV and 20 additional states. To date, over 500 de-identified cases have been presented. These numbers demonstrate the value of the program to rural providers by establishing learning collaboratives between academic medical experts and community clinicians to ensure evidence-based practices are implemented. Additionally, the WVCTSI ECHO program became a training site for the ECHO model (called a "Superhub") in January 2021. As one of 30 superhubs globally, the ECHO program now provides training, mentoring, and technical assistance to new ECHO hubs. Conclusions: Key lessons learned include leveraging existing partnerships and implementing projects based on provider needs. A unique result of the ECHO Program is WV Medicaid's decision to accept the case presentations made during the Hepatitis C ECHO sessions as the specialty consultation requirement for Medicaid coverage, thus increasing the number of patients receiving Hepatitis C treatment. The successful implementation of ECHO projects in diverse subject areas facilitated by unique and effective partnerships has increased the capacity of rural providers in WV.

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Poster Abstracts

Poster #10

Abstract Title: **Rural hospitals in Kentucky have lower minimum negotiated prices for common services**

Author(s): Lindsey Hammerslag, Ph.D.; Jeffery Talbert, Ph.D., University of Kentucky, Lexington Kentucky

Abstract: Introduction: Until recently, hospitals were not required to provide third party negotiated pricing information and so it was challenging to determine if negotiated pricing differed in rural hospitals compared to urban hospitals. Given that rural hospitals are typically smaller and offer fewer services compared to urban hospitals, we hypothesize that they will negotiate different prices with insurance companies. Purpose statement: To examine insurance-negotiated pricing for common services and procedures in rural and urban hospitals. Methods: Using the UNC 2020 US Hospital List, we sampled hospitals using probability proportional to size sampling, with 5 hospitals sampled per level of urbanization in Kentucky. For each hospital, we located the third party negotiated pricing information machine readable file on the hospital's website and mined it for deidentified minimum and maximum negotiated pricing data. We focused on mean pricing for the following procedures and services: caesarean section, vaginal delivery, CT of the abdomen, MRI of the lumbar spine, adult office visit, chest x-ray, level 1 ER visit and level 3 ER visit. Results: For the procedures examined in this study, urban hospitals have negotiated higher minimum prices for every item except for vaginal delivery. Disparities in pricing were largest for relatively cheap procedures, such as office visits (urban mean = \$157.41, rural mean = \$50.39), level 1 ER visits (urban mean = \$76.50, rural mean = \$35.45), and level 3 ER visits (urban mean = \$418.60, rural mean = \$130.22). Maximum negotiated pricing differences were less consistent, with higher prices in urban areas for ER visits and Caesarean sections but not for other services. Conclusions: The current research provides preliminary evidence of urban-rural differences in hospital pricing, particularly for the minimum negotiated price paid by insurers for common procedures. Additional work is currently ongoing, examining pricing in 11 more states and across additional procedures.

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Poster Abstracts

Poster #11

Abstract Title: **Developing and Sustaining a Community Advisory Committee to support, inform, and translate biomedical research**

Author(s): Joseph A. Skelton, Wake Forest University School of Medicine, Winston-Salem, NC; Stephanie S. Daniel, Wake Forest University School of Medicine, Winston-Salem, NC; Hazel Tapp, Atrium Health, Charlotte, NC; Keena R. Moore, Wake Forest University School of Medicine, Winston-Salem, NC; Lilli Mann-Jackson, Wake Forest University School of Medicine, Winston-Salem, NC; Jorge Alonzo, Wake Forest University School of Medicine, Winston-Salem, NC; Isaiah Randall, Wake Forest University School of Medicine, Winston-Salem, NC; Victor Isler, Office of County Manager, Guilford County, Greensboro, NC; Claudia Barrett, Imprints Cares, Winston-Salem, NC; Diamond Badger, Wake Forest University School of Medicine, Winston-Salem, NC; Elizabeth Lee, Forsyth Futures, Winston-Salem, NC; Scott D. Rhodes, Wake Forest University School of Medicine, Winston-Salem, NC

Abstract: Introduction: Dedicated teams of diverse community collaborators and academic investigators are a fundamental component of community-engaged research. One way to build and support community-engaged research within a Learning Health System is through a community advisory committee (CAC). Such a group provides a place for community voices to be heard and facilitates discussions between diverse community members and researchers. Purpose statement: Provide guidance on developing and maintaining a CAC for effective research engagement and dissemination, and provide examples of successes and challenges in developing and maintaining community and academic partnerships to foster community-engaged research. Methods: Wake Forest School of Medicine, using principles of community-engaged research, developed a CAC to inform, advise, and participate as partners in health care research. Results: Examples are provided to assist others working within a learning health system and community. This includes information on: developing and maintaining a CAC, networking and partnership establishment and expansion, structure and organizational framework, fostering an engaged CAC, and facilitating research through a CAC. Lessons learned for success are provided, including: keeping engagement going; waiting for the right time to build collaborations; periodically re-engaging community members, faculty, and staff; and continually ensuring the CAC is a known resource for outreach and dissemination for community members and researchers. Details are also provided on CAC activities and administrative processes, and modifications during the COVID-19 Pandemic. Conclusions: An effective community advisory committee can contribute to better, more relevant science and can support Learning Health Systems as they apply evidence to improve care within hospitals and health within communities. Learning objective: Outline steps to be build a community advisory committee focused on health-related research, and discuss tips for a successful advisory committee.

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Poster Abstracts

Poster #12

Abstract Title: **Wild, Wonderful and Healthy Community Health Improvement**

Author(s): Mary Emmett, Center for Health Services and Outcomes Research, Charleston WV

Abstract: Title: Communities, in distressed geographic areas of West Virginia, are engaged in changing the culture of health that exists in those communities. They are engaging individuals, the business community, and government to support actions that will enhance the health and wellbeing of those who live and work in those communities. Introduction: Wild, Wonderful and Health West Virginia (WWHWV), is a vital activity of the West Virginia Center for Rural Health Development. The over all mission is changing the culture of health by focusing on community health improvement. The Center collaborated with distressed communities (defined by the Appalachian Regional Commission) and facilitated a process of community health planning, which translates into specific actions defined by the communities themselves. Purpose Statement: The primary purpose is to describe the process of engaging communities and secondly to share specific examples of how communities are changing health. Methods: the method includes a planning process (cross-sector partnerships, needs assessment, health improvement plan, annual action plans). Mentoring and technical assistance are provided by staff of WWHWV. Results: Each invested community has its own unique set of actions. Only one will be described to illustrate the work associated with changing health. Wild, Wonderful Healthy Logan County is working to encourage school age student to replace sugary drinks with water. The Board of Education is working to install water bottle filling station in all Logan County Schools. An educational program has been initiated. They are now working on food disparities by opening a greenhouse at a county resource center. The goal is to grow and harvest fresh vegetable year-around. Conclusion: Improving community health is best done at the level of the community. It involves a planning process, resources (including financial), leadership, engagement of business and community organizations. Improvement takes time but is rewarding!

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Poster Abstracts

Poster #13

Abstract Title: **Operation Tooth Fairy: Understanding Community Tooth-Saving Habits**

Author(s): Courtney J. Walker, Dept. of Behavioral Science, College of Medicine, University of Kentucky; Nancy Schoenberg, Dept. of Behavioral Science, College of Medicine, University of Kentucky; Wayne Sanderson, Dept. of Biosystems Engineering, College of Engineering, University of Kentucky

Abstract: The Appalachian region of Kentucky, which consists of 54 counties (45% of the 120 Kentucky counties), has the one of the highest disease burdens, in the state, and the US. For many pediatric disorders and diseases, such as pediatric brain tumors, ADHD, and Autism, few risk factors have been well established. This may be partly due the challenges in assessing fetal and early childhood exposures, even with a shortened lag between exposure and disease manifestation, as there are limited options to assess intensity and timing of crucial environmental exposures. Current research demonstrates that during development there are critical windows of development that may alter or enhance the effects of exposure on development. Current exposure assessment methods can be dangerous to the developing fetus (amniocentesis), may not reflect fetal exposures (maternal urine, blood, or cord blood), or provide only narrow windows of exposure – which could result in exposure misclassification and bias. The additive effects of co-occurring exposures have also had limited exploration in studies of environmental exposures. To address this limitation, we seek to employ a study to collect deciduous shed teeth of children, however, prior to collecting these biological samples we wanted to better understand the communities concerns with donating samples and assess the feasibility of using shed teeth in health research in the community by asking what community members do with shed teeth. This survey, distributed to parenting groups on social media, will focus on assessing geographic patterns in retaining shed teeth, as well as concerns with donating biological samples in research.

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Poster Abstracts

Poster #14

Abstract Title: **Flipping the script: Examining the potential and limitations of utilizing community-based interventions to improve maternal and infant health in Appalachia**

Author(s): Katelyn A. Spencer, MSc, University of Kentucky College of Medicine, Lexington, KY

ABSTRACT: Introduction: Appalachia has historically experienced social isolation and economic disadvantages, resulting in a high poverty rate and maternal and infant health outcomes that are worse than the national average. Events during pregnancy have reverberating effects on health throughout the life course making intervention during the maternal and infant period imperative. Previous work to address maternal and infant health in the US has focused on facility-based interventions. However, community-based strategies, which have shown dramatic benefits for outcomes in rural, low and middle income countries (LMIC), could offer a possible model to address the ecosocial context of the region and improve maternal and infant health. Purpose: To examine the feasibility of “reverse translating” community-based strategies from LMICs to Appalachia in an effort to improve maternal and infant health and subsequent downstream benefits throughout the life course. Methods: A literature review was conducted in Web of Science and PubMed. Articles were screened for thematic content, and a final review of 19 studies was performed. Results: Unique challenges to improving maternal and infant health in Appalachia include low levels of empowerment, high rates of depression, low utilization of antenatal care, inequitable distribution of health facilities, suboptimal continuity of care, and lack of specialty care. Some community-based initiatives have shown potential in addressing ecosocial challenges. They succeeded in increasing knowledge levels, enacting specific behavior change, empowering women, and leveraging community relationships. Conclusions: While community-based interventions cannot fix upstream problems, they do provide an alternative way to address the challenges that face Appalachian women and communities. Given the unique context of the region, future research into the feasibility of a community-based initiative should be performed in order to empower the community, improve maternal and infant health, and subsequently benefit the health of the entire community over the life course.

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Poster Abstracts

Poster #15

Abstract Title: Rural Recruitment for Clinical Research Optimized through Academic and Community Partnership

Author(s): Elizabeth Rhodus, PhD, MS, OTR/L, Sanders-Brown Center on Aging, Department of Behavioral Science, University of Kentucky; David Gross, MPA, St. Claire HealthCare and Northeast Kentucky Area Health Education Center, Morehead, Kentucky; Vickie Fairchild, RN, BSN, St. Claire Healthcare, Morehead, Kentucky; Laura Henley, MS, OTR/L, CDP, Sanders-Brown Center on Aging, University of Kentucky; Celeste Roberts, MS, OTR/L, Sanders-Brown Center on Aging, University of Kentucky; Kimberly Hope, MSc, Sanders-Brown Center on Aging, University of Kentucky; Gregory Jicha, MD, PhD, Sanders-Brown Center on Aging, Department of Neurology, University of Kentucky; Richard Kryscio, PhD, Sanders-Brown Center on Aging, Department of Statistics, University of Kentucky; Allison Gibson, PhD, MSW, Sanders-Brown Center on Aging, College of Social Work, University of Kentucky

Abstract: Introduction: The United States is undergoing a demographic shift with increasing proportions of older adults. Currently, one in three older adults pass away with a form of Alzheimer’s disease or related dementias (ADRD). This figure is higher in underrepresented and underserved groups including older adults in rural Appalachian communities. Programs that promote inclusion in clinical services and research are needed in rural, medically underserved regions. Purpose statement: To establish and evaluate mechanisms for outreach and recruitment in clinical research for caregivers of persons with ADRD living in rural Kentucky counties. Methods: The University of Kentucky (UK) Sanders-Brown Center on Aging partnered with St. Claire Healthcare and the Area Health Education Center to promote rural-tailored clinical trial recruitment of caregivers of older adults with ADRD. Results: A model for rural recruitment and outreach for older adult engagement emerged. Over the course of seven months, 106 rural Kentucky caregivers of persons with ADRD were screened for clinical trial enrollment. This model identified successful outlets for recruitment dissemination through multiple strategies, including community agencies, healthcare providers, social media, emailing, word of mouth, and in-person promotion of the study (health fairs, self-initiated conversation at community events, etc.). Flexible engagement efforts were effective, such as calling at convenient times for participants and adapting to schedule changes (i.e., changes during and following historic flooding in recruitment regions). Conclusions: Academic-community partnerships extend the enterprise of university-based clinical research to offer innovative programming directly in underserved and underrepresented rural communities. Recommendations from this program include 1) involving community representatives in recruitment and outreach efforts, 2) targeting communication with local organizations, and 3) including a variety in modes of contact with potential participants. This program illustrates a model that optimizes inclusion of underrepresented populations in clinical research and may have applicability to improve clinical care options in underserved areas.

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Poster #16

Abstract
Title:**Patients Perspective and Expectations Following Primary or Revision Anterior Cruciate Ligament (ACL) Reconstruction: A Quality Improvement Project**

Author(s):

Jack A. Kuerzi, University of Kentucky College of Medicine, Lexington, KY; Caitlin W. Conley, Department of Orthopedic Surgery and Sports Medicine UK COM, Lexington, KY; Cale A. Jacobs, Department of Orthopedic Surgery and Sports Medicine UK COM, Lexington, KY

Abstract: **Introduction:** The UK Sports Medicine Clinic sees numerous patients with anterior cruciate ligament (ACL) injuries from all over the state with many coming from the Appalachian Region. Treatment requires surgical intervention and is commonly defined as a success if the knee feels stable on clinical exam. However, this definition fails to consider the patient's perspective. By knowing the patient's perspective, adjustments to our educational materials and recovery assessments can be made to reflect patient important goals after surgery. **Purpose statement:** To determine what outcomes are important to subgroups of patients treated with ACL reconstruction to guide the patient reported outcome(PRO) selections for the Sports Department. **Methods:** Patients presenting to UKHealthCare Sports Medicine clinic for ACL reconstruction were eligible to participate in this cross-sectional study. The questionnaire asked patients to rank from highest to lowest the importance of different aspects of their post operative recovery including knee stability, activities of daily living, sports return, pain relief, and long-term knee health. Subgroup analyses were performed to compare patient-important outcomes between sexes and primary vs. revision ACL reconstruction. **Results:** 27 patients (13M, 14F; age=21±10) ranked their most important recovery aspects. Outcomes most important to patients included return to sport(14 patients), knee stability(6 patients), long-term knee health(6 patients), activities of daily living(3 patients), and pain relief (1 patient). Sports return was less important among older patients. Females were less concerned with pain relief (1/14 ranked #1), favoring knee stability (4/14 ranked #1). Revision patients were most concerned with knee stability post-operatively. **Conclusions:** While we must continue to learn more about outcomes important to underrepresented, minority populations, our study suggests the use of a PRO instrument that incorporate measures of sports recovery, knee stability, and long-term joint health in the assessment of post-operative recovery in ACL reconstruction patients seen at the UKHealthCare Sports Medicine Clinic.

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Poster Abstracts

Poster #17

Abstract Title: **Effects of Tobacco History on Bone Mineral Density in Patients Undergoing Long-Segment Spinal Fusion**

Author(s): Lucas Steele, College of Medicine, University of Kentucky; Ryan Carter Cassidy, MD, Department of Orthopedic Surgery and Sports Medicine, University of Kentucky; Madhumathi Rao, MD, Division of Nephrology, Bone and Mineral Metabolism, Department of Internal Medicine, University of Kentucky; Rouzbeh Motiei-Langroudi, MD, Department of Neurosurgery, University of Kentucky

Abstract: Introduction: In a 2019 CDC report, Kentucky ranked 2nd nationwide for current cigarette use in adults at 23.6%. This was especially high in the Appalachian region. Nicotine, found in most forms of tobacco, has been shown to disrupt bone osteoblasts and increase bone osteoclasts, eventually resulting in osteoporosis. In patients undergoing long-segment spinal fusion, the presence of osteoporosis, diagnosed via a DXA T-score of -2.5 or lower, is a key determinant in outcome measures. Purpose Statement: One of the goals of this multi-purpose study was to evaluate the effects of tobacco use on long-term outcomes for patients undergoing long-segment spinal fusion and to determine the effects of tobacco on the rate of osteoporosis in our patient population. Methods: In this study, we analyzed 99 cases of long-segment spinal fusion that were performed at the University of Kentucky. We then assessed demographics, medical conditions, and outcome measures, including a diagnosis of osteoporosis, the previous usage of tobacco, post-operative pseudarthrosis, post-operative fractures, and the need for reoperation. Results: We saw no difference in the rate of osteoporosis between smokers and non-smokers (18.2% vs. 34.1%, respectively; p value = 0.2). This lack of difference, despite contrary literature evidence, is thought to be due to smoking history in medical records being recorded incorrectly and the fact that this data was collected from a surgical series, on which generally smokers are not offered surgery, so it does not resemble a general population. Conclusion: There is overwhelming evidence that usage of tobacco products leads to osteoporosis. However, in our subset of surgical patients we did not see this outcome. This reinforces the need for proper documentation of smoking history during patient intake, especially in a region with such high tobacco prevalence, and reminds us to be diligent when selecting data from a subset of surgical patients.

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Poster Abstracts

Poster #18

Abstract Title: **Bariatric Surgery Post Operative Weight Regain in Kentucky: Critical Time for Intervention**

Author(s): Sydney McIntosh, BS Department of Dietetics and Human Nutrition; University of Kentucky; Makenzie Barr, PhD, RD Department of Dietetics and Human Nutrition; University of Kentucky

Abstract: Metabolic and Bariatric Surgery (MBS) is currently the most effective treatment for obesity; however, 20-30% of the patients who receive bariatric surgery experience weight regain. The current study aimed to collect preliminary data from a Kentucky based bariatric surgery clinic that serves Appalachian and non-Appalachian patients. Data was collected through a cross-sectional survey that was emailed to potential participants through the clinic's email listserv. Survey data included demographics (age, race, ethnicity, sex), surgery type, weight regain pounds, compliance with post-operation diet, as well as self-efficacy of consuming a healthy diet. Survey participants (n=43) were predominately female sex (85.4%), white (95.7%), and 45 years of age (45.1±9.57 years average). Data collected from the sample showed that weight regain was highest among participants who were 3-4 years post-operation with an average of 32.0±14.3lbs, followed by those 2-3 years post-operation with an average of 25.1lbs, and with the least amount of weight regain 1–2-year post-op with an average of 2.2lbs. Thirty-four percent of participants report being from the Appalachian region. Wilcoxon rank sum test saw no significant differences in weight regain based on the region ($P=0.879$). Likewise, no significant differences were found in weight regain, compliancy with post-operative diet, and healthy eating self-efficacy between Appalachian and non-Appalachian participants. Findings from the current study indicate comparable MBS outcomes in this small cohort from 1-4 years post-operation. The critical timepoint of post-operative weight regain beginning around 2 years post-operation indicates the need for intervention prior to this time to attenuate continual weight regain. Working within this community to create then implement feasible, post-operative support-based interventions could be beneficial for this population to improve success long-term.

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**Poster #19**

Abstract Title: **Development of a Novel Fragility Fracture Risk Stratification Model**

Author(s): Amina Sidrah Anwar, University of Kentucky College of Medicine, Lexington Kentucky;
Dr. Madhumathi Rao, University of Kentucky Department of Internal Medicine, Lexington Kentucky

Abstract: Fragility fractures are pathological fractures in the setting of minimal trauma which are a sign and symptom of osteoporosis. Kentucky has the highest rate of osteoporotic fractures among the fifty states with an incidence of 472.2 per 10,000. Patients who experience an osteoporotic or fragility fracture (FF) are at the highest risk for recurrent fracture, hospitalization, and mortality in the year after the index fracture. Unfortunately, the occurrence and reoccurrence of fragility fractures can reflect failure of preventative measures at all three levels. However, there are currently no established guidelines for risk stratification and management of patients based on their risk factors and comorbidities. Our research for this model is in progress; however, In this retrospective chart review of hospitalized patients (n=102), we further scrutinize the clinical context and post-fracture care. Progress to date has revealed the average age of our sample was 77 years old and many required ambulatory assistance at baseline (59.8%), significant co-morbidities include cancer (28.4%), CKD (24.5%), and dementia (22.5%). Prevalence of known osteoporotic risk factors: Vitamin D deficiency (87.3%), poor nutrition (56.9%), smoking (43.1%). In addition, a notable number of patients had a prior fracture (57%), and many were lost after discharge with no follow up in nephrology clinic (80%). Our results demonstrate a high percentage of concurrent severe co-morbid conditions, with concomitant detectable osteoporotic risk factors. Furthermore, an overwhelming amount are lost to follow up post-discharge which is concerning for lack treatment initiation and fracture recurrence. We anticipate our study is a valuable starting point in characterizing the clinical gestalt of this patient population, and will impact the future development of risk stratification models, as well as determining factors contributing to extensive lack of optimal post-fracture care.

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**Poster Abstracts****Poster #20**

Abstract Title: "Mindfulness and Depression in Rural Kentucky"

Author(s): Kaitlin Bush, PA-S, University of Kentucky, Department of Physician Assistant Studies; Sandra Combs, PA-S, University of Kentucky, Department of Physician Assistant Studies; Abby Howard, PA-S, University of Kentucky, Department of Physician Assistant Studies; Andrea Marchyn, PA-S, University of Kentucky, Department of Physician Assistant Studies; Ben McKinney, PA-S, University of Kentucky, Department of Physician Assistant Studies; Darian Lewis, PA-S, University of Kentucky, Department of Physician Assistant Studies; Shelley Irving, MSPAS, PA-C, University of Kentucky, Department of Physician Assistant Studies

Abstract: Introduction: A recent study found that 50 percent of primary care patients with depression are undiagnosed or underdiagnosed (Barrett, Kathleen, and Yu-Ping Chang)^[1]. Primary care provides disease prevention and health promotion services, including common mental health screenings. Research supports the incorporation of mindfulness into treatment plans to decrease depression and improve patient outcomes (Lei F)^[3]. Mindfulness is an alternative treatment option for depression that could be practiced at home by patients in rural communities. Although there has been abundant research regarding mindfulness and depression, an astonishing lack of exploration has been conducted focusing on rural areas. This study aims to fill those gaps. Purpose: The purpose of this study is to investigate if mindfulness engagement decreases depression severity in rural KY adults (18+) when using a Patient Health Questionnaire-9 (PHQ-9), a validated and self-administered depression presence and screening tool. Methods: This was an observational, cross-sectional study using a survey that included a PHQ-9 questionnaire and set of additional questions to capture demographic and past medical history information regarding prevalent health conditions in rural Kentucky that seeks to observe the correlation between mindfulness and depression. The research team recruited patients from the St. Claire Family Medicine clinic at the CHER building location in Morehead, Kentucky to participate in this IRB approved study. Results: Results did not demonstrate a statistically significant relationship between mindfulness practices quantified by time, and decreased PHQ-9 scores. Further analysis exploring the impact of gender and chronic illnesses did not demonstrate a correlation with PHQ-9 scores. This study highlights an area of opportunity for further research around the benefits and appropriate utilization of mindfulness techniques as part of a treatment plan for depression in rural communities.

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Poster #21

Abstract Title: **Using Virtual Reality to Support Psychological Well-being and Reduce Social Isolation**

Author(s): Fallon Dickinson, University of Kentucky, College of Arts and Sciences; Richard Hoagland, RalphVR Incorporated, Lexington KY; Bruce O'Hara, University of Kentucky, College of Arts and Sciences; Dmitry Strakovsky, University of Kentucky, College of Fine Arts; Lauren N. Whitehurst, University of Kentucky, College of Arts and Sciences

Abstract: Introduction: Mental health disparities in Appalachia pose a significant public health concern and social isolation is a risk factor for poor mental health. Virtual reality (VR) technology may be a unique solution as it provides a platform for people to connect irrespective of physical distance. Purpose Statement: We examined if a VR environment that simulates physical touch can mimic a real-life social interaction by examining psychological and physiological outcomes simultaneously in two participants as they completed tasks in an enriched VR environment, a control VR environment, and in real life. Methods: Participants (N=30, 15 dyads, 18+) were enrolled in a dyadic paradigm and matched by age cohort (<60 or ≥60 years). Participants were instructed to complete two collaborative tasks: hand-game (HG), requiring participants to touch hands while performing a series of hand motions, and object search (OS), requiring participants to touch objects in their environment. These tasks were completed in three conditions, the enriched VR environment (VRT), control VR (VRC), and real life (RL). Participants' affective states were assessed pre- and post-task per condition using the Positive and Negative Affect Scale (PANAS). Electrocardiography (ECG) continuously measured physiological changes. Results: All participants reported more positive than negative emotions for both collaborative tasks, irrespective of condition. In the HG task, participants reported more positive emotions during VRT than VRC ($t(17)=2.63, p=0.017$); no significance was found between RL and VRT ($t(16)=0.28, p=.84$). No differences in conditions were found in the OS task. No difference in negative affect was found across tasks or conditions ($p's>0.08$). Participants demonstrated significant psychological linkage in the HG task: RL: $r=0.904$, VRT: $r=0.877$, VRC: $r=0.846$. A paired t-test showed significantly less linkage in VRC than RL ($p=0.018$) and no difference between VRT and RL ($p=0.17$). Conclusion: Findings suggest a VR environment with simulated physical touch may foster psychological experiences that are like real life social connections.

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Poster Abstracts

Poster #22

Abstract Title: **The Relation of the Pandemic, Its Consequences, and ACEs.**

Author(s): Rosa Villarreal-Adame, University of Kentucky College of Social Work

Abstract: Recent traumas caused by the COVID-19 pandemic could soon be categorized as part of the adverse childhood experiences (ACEs) that has plagued dysfunctional families across the U.S. but more so, the Appalachian regions that are known for environments that have experienced intergenerational ACE consequences on health and life expectancies of adults and children. Significant impacts on the Appalachian region's vulnerable populations cause higher rates of food insecurity, unemployment, incertitude among households; schools closures forcing to transition into remote learning keeping at-risk children socially isolated without the proper resources to adapt therefore creating an environment of constant child maltreatment producing further emotional, physical, and sexual abuse, IPV, and neglect (Hege, et al., 2020, p. 14-15). "Social epidemiologists argue the need for more attention is needed on issues outside the home, and occurring in the community, which may be influencing the outcomes on research needing further examination of the socioeconomic environment allowing for more macrolevel research approaches and emphasis on structural change interventions" (Hege, et al., 2020, p. 13). The research in progress, views consequences as mendable but must be acknowledged and addressed as ACEs may endure. Though with the assistance towards prevention of further intergenerational afflictions, strengthening their life skills and providing children and adults with a support system and resources will help families thrive (The President and Fellows of Harvard College, 2020). Further advocacy from academic researchers, community leaders, and policy makers will require funding from federal, state, and local levels of government as a developing Building Community Resilience Model is being tested and adapted in communities across the U.S. requiring a community engaging in the education and awareness of an understanding on how to shape this debilitating issue in the rural Appalachian communities (Hege, et al., 2020, p. 17).

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Poster #23

Abstract Title: **Psychological Impact of Coronavirus Disease-2019 on Healthcare Workers**

Author(s): James M. Mears, M.D. WVU School of Medicine - Charleston Division Department of Family Medicine; Scott A. Fields, Ph.D., WVU School of Medicine - Charleston Division Department of Family Medicine; Lisa Calderwood, MPH, Charleston Area Medical Center Institute for Academic Medicine

Abstract: Introduction: The sudden emergence of coronavirus disease-2019 (COVID-19) created an environment conducive to stress, fear, and trauma for healthcare worker by nature of caring for patients with a highly contagious and novel disease. Given the experiences of workers in other global events, there was interest in assessing stress, anxiety, and post-traumatic stress disorder in time of COVID-19 pandemic. **Purpose:** Investigators studied the psychological impact of the coronavirus disease- COVID-19 on employees at an urban tertiary care center in the United States' Mid-Atlantic region. **Methods:** A REDCap (Research Electronic Data Capture) survey was completed by 1116 employees who worked during the COVID-19 pandemic at the tertiary care center. Data collected included: a demographic survey, the Impact of Events Scale-Revised (IES-R), the Patient Health Questionnaire - 9 (PHQ-9) and the Generalized Anxiety Disorder - 7 (GAD-7). A series of Chi- square and Fisher's Exact tests were performed to compare outcomes among participants. **Results:** Healthcare employees who had direct contact with patients during the pandemic had significantly higher scores (increased impairment) on the GAD-7 ($P < .05$), PHQ-9 ($P < .001$), and IES-R scales ($P < .01$). Employees with prior psychiatric diagnoses had significantly higher scores on those same corresponding psychological measures ($P < .001$). Employees who identified with a set of spiritual beliefs had significantly lower scores on the GAD-7 ($P < .001$) and PHQ-9 ($P < .01$). Employees reporting five or more years of work experience had lower markers of distress across measures ($P < .05$). **Conclusions:** The COVID-19 pandemic has had a profound psychological effect on healthcare workers. Findings of this survey point to patient contact and prior psychologic distress as risk factors for impairment, while employee spirituality and prior work experience appear to mitigate risk. Findings may benefit healthcare leaders by informing decisions to help employees cope with health crises.

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Poster #24

Abstract Title: **Kentucky Disaster Ready: A Community Engaged Approach to Building Household Disaster Preparedness**

Author(s): Kelly Kennoy, University of Kentucky; Luz Huntington-Moskos, University of Louisville; Stacy Stanifer, University of Kentucky

Abstract: The University of Kentucky's Center for Appalachian Research in Environmental Studies and the University of Louisville's Center for Integrative Health Sciences are partnering to assess household disaster preparedness across the commonwealth. Given the frequency of extreme weather events in Kentucky, a statewide assessment of household preparedness can provide evidence for individual and community preparedness interventions. The presentation will discuss the development of the Kentucky Ready Project, including chosen items, recruitment for survey completion, interaction with community partners and collaboration between two NIEHS P30-funded centers in Kentucky.

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Poster #25

Abstract Title: **Implementing SMART Recovery in Rural Recovery Housing: Preliminary Findings of an Equitable Recovery Support Service**

Author(s): Robin Thompson, Fletcher Group, Inc., London Kentucky; Madison Ashworth, Fletcher Group Inc., London Kentucky; Jennah Baier, Fletcher Group Inc., London Kentucky; David Johnson, Fletcher Group Inc., London Kentucky

Abstract: Introduction: With over 40.3 million Americans impacted, substance use disorder (SUD) is a public health crisis disproportionately impacting Appalachian communities. SUD recovery can include both medical and social models including recovery housing (RH), a substance free housing model centered on peer-support. Due to the limited retention to and availability existing only for certain SUD types, it is imperative to investigate equitable, evidence-based social model options currently available. Self-Management Recovery Training (SMART) is a low-cost program that delivers a life skills curriculum through a mutual aid group approach that can be delivered within RH. **Purpose Statement:** We aim to implement SMART within 100 homes located in U.S. rural counties and survey participating residents and house staff on the utility of the curriculum, impact on recovery outcomes, and implementation barriers and facilitators to assess implementation feasibility and curriculum impact. **Methods:** Recovery homes have been enrolling in an implementation initiative that involves 12 weekly SMART sessions delivered remotely by a trained facilitator. To assess SMART's impact on recovery outcomes, participating residents complete surveys at intake, post session 6 and 12, and at 6 months. To assess implementation barriers and facilitators, staff complete a survey at week 12. **Results:** To-date, 21 houses spanning 9 states (2/3 in Appalachian states) including 110 residents have enrolled. Preliminary analysis has shown an increase in average recovery scores among participants completing surveys the 6-session survey. Among participants completing the 12-session survey, average importance of SMART for recovery and belief in ability to implement tools was 9.1 and 9.2, respectively, out of 10. **Conclusions:** Preliminary findings indicate SMART has a positive impact on individuals in SUD recovery residing in RH and may be an effective recovery tool. SMART is a low-cost recovery support service that can be implemented by RH located in the Appalachian regions.

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**Poster Abstracts****Poster #26**

Abstract Title: **Community-Level Factors and Their Associations with Changing Opioid Overdose Fatality Rates in Kentucky in 2019 and 2021**

Author(s): Shawn Nigam, University of Kentucky, Lexington, Kentucky; Philip Westgate, University of Kentucky, Lexington, Kentucky; Svetla Slavova, University of Kentucky, Lexington, Kentucky; Rachel Vickers-Smith, University of Kentucky, Lexington, Kentucky; Katherine Thompson, University of Kentucky, Lexington, Kentucky

Abstract: *Background:* Kentucky has one of the highest opioid overdose fatality rates in the United States, which has increased significantly from 2019 to 2020, with rates increasing from 29.5 to 42.6 deaths per 100,000 residents. The COVID-19 pandemic has caused lasting effects on mental health and health care, which have been linked to increased opioid overdose. *Purpose Statement:* The purpose of this study is to characterize how opioid overdose fatality rates in Kentucky changed from 2019 to 2021. In addition, we aim to identify associations between community-level factors and opioid overdose fatality rates and how such associations may have changed from 2019 to 2021. *Methods:* We highlight two years of interest: 2019 (before the COVID-19 pandemic) and 2021 (2nd COVID-19 pandemic). County-level data from all 120 Kentucky counties are used to fit a marginal generalized estimating equations (GEE)-type negative binomial model to determine which factors were associated with opioid overdose fatality rates in 2019 and 2021 and how these associations may have changed. *Results:* Opioid overdose fatalities increased from 2019 to 2021 (RR: 1.82). This increase was much larger in adjacent-to-metropolitan (RR: 2.54) and Appalachian (RR: 2.38) counties. Both age and buprenorphine reception rate were associated with increased opioid overdose fatality rates in 2019 and 2021, and the observed association for age was stronger in 2021. In addition, metropolitan county status was associated with increased fatality rates in 2019, whereas adjacent-to-metropolitan county status was associated with increased fatality rates in 2021. *Conclusions:* Opioid overdose fatalities increased significantly from 2019 to 2021, which is alarming. Adjacent-to-metropolitan status's association with overdose fatalities in 2021 may indicate a differential effect of COVID-19 on suburban communities. Future studies should investigate additional factors related to COVID-19 as well the lasting effects of the pandemic on opioid overdose in Kentucky.

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Poster #27

Abstract Title: **The Challenges of Conducting Drug Use Research in Central Appalachia**

Author(s): Robert Lane, West Virginia University, Morgantown West Virginia; Bernadine Kwan, West Virginia University, Morgantown West Virginia; Nicole Fama, West Virginia University, Morgantown West Virginia; Jon Zibbell, Research Triangle Institute Inc, Durham North Carolina; Judith Feinberg, West Virginia University, Morgantown West Virginia

Abstract: Purpose: Naloxone is critical to preventing overdose (OD) fatalities but can only be used *after* an OD. In contrast, fentanyl test strips (FTS) can identify fentanyl in illicit drugs *before* they are consumed, thus offering consumers the ability to adjust drug use behaviors to reduce OD risk. The Dogwood Study seeks to understand how FTS availability at syringe services programs (SSPs) in rural areas impacts drug use behavior of people who inject drugs (PWID). Methods: Dogwood, a mixed-methods, longitudinal study, is being conducted at SSPs in Monongalia County, WV and Gaston County, NC-- rural states with high OD mortality rates. Quantitative surveys are administered at baseline, 6- and 12-months with semi-structured (qualitative) interviews with a subset of participants. Dogwood employs a tracking database and monthly check-ins to maintain participant contact. Challenges associated with recruiting and retaining rural PWID for a longitudinal cohort study are presented. Results Well-known barriers to recruiting PWID in urban locations— poverty, housing instability, transportation, competing priorities, loss to follow-up due to OD/incarceration— are only exacerbated in rural settings. Namely, the near-total absence of public transportation in many rural communities; limited broadband; and structural homelessness (53% of study participants). We mitigated obstacles by 1) recruiting and conducting study activities on-site during SSP hours of operation, 2) providing bus passes and modest compensation for participation, and 3) having study staff assist with SSP services that engendered rapport and trust. Local government's recent decision to relocate homeless persons to lodgings far from the SSP without access to limited public transportation has further hindered both SSP use and study participation. Study staff driving to remote locations to conduct visits and participants' support helped identify other participants affected by relocation. Conclusions Recruiting and retaining PWID in nonurban areas are inherently challenging, requiring trust and extra efforts by staff to overcome obstacles.

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Poster #28

Abstract Title: **Clinicians' Perceptions of the Influence of Rural Kinship Networks and Stigma on Prison-Based Medication Initiation for Individuals with Opioid Use Disorder**

Author(s): Maria Rockett, University of Kentucky, Lexington Kentucky; Carrie Oser, University of Kentucky, Lexington Kentucky; Evan Batty, University of Kentucky, Lexington Kentucky; Marisa Booty, University of Kentucky, Lexington Kentucky

Abstract: Introduction: Justice-involved individuals in Appalachia experience opioid use disorder (OUD) at elevated rates when compared to their non-justice involved counterparts. Medications for opioid use disorder (MOUD) display treatment efficacy but are underutilized within this population, impacting OUD recovery outcomes. Kinship networks in Appalachian communities often play an essential role in medication related decision-making, including the decision to initiate MOUD. Purpose Statement: This study examines clinicians' perspectives on how rural kinship networks and stigma interact to impact one's decision of whether to initiate MOUD while in prison. Methods: Qualitative interviews with prison-based Clinicians (n=23) and Administrators (n=8) collected from the Geographic variation in Addiction Treatment Experiences (GATE) study were analyzed using NVivo software. A research coding team compiled a codebook and achieved inter-coder consensus prior to coding each additional interview. Excerpts associated with the primary codes of "stigma" and "social networks" and the secondary code of "rural" were analyzed in order to assess the relationship between kinship ties, stigma, and MOUD initiation in Appalachian communities. Results: Themes within the clinician interviews suggest that there are elevated challenges regarding stigma and social networks in rural Appalachian communities, impacting participant MOUD uptake while in prison. Clinicians also indicate that education plays a salient role in mitigating MOUD stigma within kinship networks, potentially facilitating prison-based MOUD initiation. Conclusions: These findings carry implications for better understanding how rural Appalachian communities in Kentucky are experiencing MOUD-related stigma and how stigma within kinship networks impacts justice-involved individuals' decisions of whether to initiate MOUD. Further, observed themes suggest a need for family-oriented MOUD education programs facilitated by the Kentucky Department of Corrections for justice-involved individuals.

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Poster #29

Abstract Title: **Messages to Address Community Stigma Towards Substance Use Disorder and Treatment Among Appalachian and Non-Appalachian Residents: Evidence from a Randomized Controlled Trial**

Author(s): Madison Ashworth, Fletcher Group, Inc., London KY; Robin Thompson, Fletcher Group, Inc., London KY

Abstract: Introduction: Substance use disorder (SUD) is a significant public health problem across the U.S. and especially in the Appalachia region. Community stigma towards those with SUD and SUD treatment has been found to negatively impact those in recovery and pose a substantial barrier to establishing community treatment resources. Purpose statement: To test the effectiveness of information messages at reducing community SUD stigma, examine the differences in community stigma and message effectiveness between the Appalachian region and the rest of the U.S., and assess determinants of community stigma. Methods: We designed a randomized controlled trial to test if facts about recovery housing, or personalized stories of recovery that varied in the social distance of the storyteller and the delivery medium, may reduce community SUD stigma. A U.S. nationally representative sample (total N = 2,721; Appalachia regional N = 633) was recruited via Qualtrics between January and February 2022. Results: We find that written stories of recovery can reduce community stigma in the rest of the U.S., but that stigma in the Appalachia region may be particularly difficult to influence as no message significantly reduces stigma among participants living in the Appalachia region. Participants in the Appalachia region are more likely to have positive feelings towards those in recovery from SUD and hold more favorable beliefs about how those with SUD should be treated. Participants who have personal experience with SUD, are familiar with RH, or generally trust people are likely to have less stigma while criminal justice professionals and conservatives are likely to have more stigma. Conclusions: Our results suggest that community stigma in the Appalachia region may be exceedingly difficult to change as compared to the rest of the U.S. Communication strategies should be designed and tested to determine what interventions may be most effective in the Appalachia region.

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Substance Use Disorder



Poster #30

Abstract Title: **Impact of Mental Health Difficulties on HCV/HIV Risk-Reduction Interventions Among Incarcerated Rural Appalachian Women Who Use Substances**

Author(s): Caitlyn O. Hood, Department of Psychiatry, University of Kentucky; Christopher McLouth, Department of Biostatistics, University of Kentucky; Michele Staton, Department of Behavioral Science, University of Kentucky; Christal L. Badour, Department of Psychology, University of Kentucky

Abstract: Background: Mental health difficulties may exacerbate risk for contracting and transmitting hepatitis C virus (HCV) and human immunodeficiency virus (HIV) among justice-involved rural Appalachian women with histories of interpersonal violence (IV), indicating a need to approach HCV/HIV risk-reduction interventions from a trauma-informed perspective. This project examined the impact of anxiety, depression, and PTSD symptoms on the effectiveness of HCV/HIV risk-reduction interventions administered to incarcerated rural Appalachian women with IV histories. **Methods:** Incarcerated women ($N=320$; $M_{age}=33.0$, $SD=8.1$) were randomized to receive a single-session of HCV/HIV psychoeducation alone or along with four sessions of motivational interviewing. Women completed interviews at 3, 6, and 12 months post-release. The Risk Behavioral Assessment measured injection drug and sexual risk behaviors. The Global Appraisal of Individual Needs assessed anxiety, depression, and PTSD symptoms prior to incarceration, as well as lifetime histories of IV. **Results:** Latent growth curve models were used to test the primary aim. Symptoms of anxiety ($B=-0.06$, $SE=0.13$, $p=.67$), depression ($B=0.06$, $SE=0.17$, $p=.75$), and PTSD ($B=0.11$, $SE=0.10$, $p=.25$) at baseline were not associated with change in injection drug use during community re-entry. Higher levels of anxiety at baseline were associated with a steeper decline in sexual risk behavior post-release ($B=-0.25$, $SE=0.09$, $p=.003$). Women with lower depressive symptoms at baseline experienced a steeper decrease in sexual risk behavior soon after release from jail, whereas post-incarceration sexual risk-taking declined more steadily for those with higher depressive symptoms ($B=-0.11$, $SE=0.05$, $p=.04$). PTSD symptoms were not associated with sexual risk behavior following community re-entry ($B=0.07$, $SE=0.06$, $p=.25$). **Conclusion:** Results suggest anxiety and depressive symptoms prior to incarceration were associated with different trajectories of change in sexual, but not injection drug, risk behavior post-release. Findings can inform targeted prevention and intervention efforts aimed at reducing HCV/HIV risk behaviors among rural Appalachian women with IV histories and mental health difficulties.

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Poster Abstracts

Poster #31

Abstract Title: **Correlates of Overdose among Treatment-Engaged, Justice-Involved Military Veterans by Appalachian Residence**

Author(s): Joseph M. Calvert, Center on Drug and Alcohol Research, University of Kentucky, Lexington Kentucky; Megan F. Dickson, Center on Drug and Alcohol Research, University of Kentucky, Lexington Kentucky; Michele Staton, Center on Drug and Alcohol Research, University of Kentucky, Lexington Kentucky; Sarah Johnson, Division of Addiction Services, Kentucky Department of Corrections, Frankfort Kentucky

Abstract: Introduction: The rate of overdose (OD) among veterans increased over a 30-year period, and veterans are disproportionately likely to experience an opioid-related OD fatality. While researchers have identified veteran-specific OD risk factors, less is known about these risk factors among justice-involved veterans. This is notable considering these veterans may be at greater risk due to the intersection of substance use, justice involvement, and challenges during reentry to civilian life. OD risk may further be exacerbated for those in Appalachia, an area disproportionately impacted by the opioid crisis. **Purpose statement:** This study examines whether previously-identified, veteran-specific OD risk factors are associated with lifetime OD among justice-involved veterans and explores whether OD prevalence and risk factors vary for those living in Appalachia prior to incarceration. **Methods:** Data were collected as part of a study of a statewide evaluation of Kentucky Department of Corrections substance use treatment programs. Analyses focused only on those who reported current or former military service (N=275). Bivariate analyses examined the prevalence of OD risk factors by Appalachian residence, while nested logistic regression investigated whether OD risk factors were associated with lifetime OD, controlling for Appalachian residence. **Results:** Results suggest Appalachian veterans were significantly more likely to report White race (100.0% vs 73.9%), stimulant use disorder (69.1% vs. 54.6%), suicidal thoughts (22.1% vs. 11.6%), and kidney disease (7.8% vs. 1.1%). Regression analyses reveal that some veteran-specific risk factors (e.g., injection drug use, COPD, asthma, and social isolation) were significantly associated with lifetime OD. Appalachian status did not affect number of OD risk factors present or prevalence of lifetime OD. **Conclusions:** Findings warrant further investigation into correlates of OD among these at-risk veterans, which may inform the development of a novel OD risk screening tool. Future research should longitudinally investigate the effects of OD risk factors on OD experience.

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Poster Abstracts

Poster #32

Abstract Title: **A Qualitative Analysis of Self-Reported Barriers and Facilitators to Opioid Use Treatment from Medicaid Beneficiaries in West Virginia**

Author(s): Rebecca Wallis, West Virginia University Office of Health Affairs, Morgantown, WV; Dr. Mohammad Masudul Alam, West Virginia University Office of Health Affairs, Morgantown, WV; Dr. Jonathan Young, West Virginia University Office of Health Affairs, Charleston, WV; Yilin Cai, West Virginia University Office of Health Affairs, Morgantown, WV; Amanda Jones, West Virginia University Office of Health Affairs, Morgantown, WV; Abigail Buehler, West Virginia University Office of Health Affairs, Morgantown, WV; Keith King, West Virginia Department of Health and Human Services, Charleston, WV; Dr. Matt Christiansen, West Virginia Department of Health and Human Services, Charleston, WV; Leann Hughes, West Virginia University Office of Health Affairs, Charleston, WV; Dr. Shyama Mahakalanda, West Virginia University Office of Health Affairs, Charleston, WV; Cynthia Parsons, West Virginia Department of Health and Human Services, Charleston, WV; Dr. Brianna Sheppard, West Virginia University Office of Health Affairs, Morgantown, WV

Abstract: Introduction: The opioid crisis has acutely impacted the West Virginia (WV) Medicaid program, which insures most of the State’s population with opioid use disorder (OUD). Three Food and Drug Administration-approved medications for OUD (MOUD) are covered by WV Medicaid; the state identified a need to evaluate outcomes associated with MOUD compared to treatment without MOUD. Purpose: A mixed methods approach was used to evaluate facilitators and barriers to accessing OUD treatment and recovery supports to better understand factors that impact treatment access and recovery outcomes for WV Medicaid enrollees diagnosed with OUD. Methods: Thirteen semi-structured interviews were conducted in Spring 2022 and collected information on community perceptions of opioid use, access to treatment, communications with providers, quality of care, and patient-identified gaps in treatment. Participants were recruited from a larger survey sample of Medicaid enrollees with at least one claim with a diagnosis for OUD between 2018 and 2020 and either a claim for medication for OUD or a diagnosis of OUD but no claim for MOUD. A general inductive approach was used to analyze qualitative data to create a summary of findings, identify emerging themes, and link study objectives to the findings derived from interview data. Quantitative findings from the survey are included in support of the emergent themes. Results: We found that inflexible care can lead to disengagement with treatment, programs and support networks can alleviate transportation/financial barriers and increase access to care, non-judgmental patient-provider relationships are highly valued, and stigma in community and medical settings can have significant negative effects on health and recovery. Conclusions: These findings highlight the importance of interpersonal aspects of treatment for successful recovery. Patients can benefit from strengthened support networks, additional provider education on stigma and person-centered care, more treatment options, and public interventions to reduce stigmatizing beliefs and behaviors.

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Poster Abstracts

Poster #33

Abstract Title: **Engaging Community Stakeholders to Advance HIV Prevention Intervention Services for People Who Inject Drugs in Rural Kentucky**

Author(s): Cole Derossett, University of Kentucky, Lexington, KY; Evelyn Gonzalez-Lozano, University of Kentucky, Lexington, KY; Hilary L. Surratt, University of Kentucky, Lexington, KY

Abstract: Background: People who inject drugs (PWID) are at high risk for HIV infection, yet many rural areas have limited access to HIV prevention, testing and harm reduction services, including Pre-Exposure Prophylaxis (PrEP). Infrastructure to deliver PrEP is limited in Appalachian Kentucky, and scale up among PWID has been nominal. This presentation examines multi-level barriers and facilitators of PrEP care from the perspective of community stakeholders in two rural Kentucky communities. **Methods:** Data are drawn from an ongoing NIH-funded study designed to adapt and integrate a PrEP initiation intervention for high-risk PWID at point of care in two rural syringe service programs (SSPs) in southeastern Kentucky. A qualitative study guided by PRISM (Practical, Robust, Implementation, and Sustainability Model) was undertaken to gather community stakeholder perspectives on barriers and enablers to a novel PrEP care intervention. In-depth interviews were conducted between October 2021 and February 2022 with 15 community stakeholders. A detailed coding scheme guided by PRISM was applied and codes were synthesized to identify salient themes. **Results:** Participants were health department directors, nurse clinicians, harm reduction providers, pharmacists, physicians, and behavioral health workers. Overall, several key themes emerged in terms of barriers to PrEP care: At the patient level, limited knowledge of both HIV and PrEP represented a key challenge, in addition to inadequate access to transportation and other competing needs. Primary environmental barriers included prevalent HIV-related stigma and a lack of local PrEP providers and targeted resources to support PrEP. **Conclusions:** Drawing on the perspectives of community stakeholder partners, we documented a number of important barriers and facilitators of PrEP care for PWID that informed intervention adaptations and priority implementation strategies to be employed in our pilot randomized controlled trial. Partnerships with local SSPs and adaptations for the local context are anticipated to support longer-term sustainability of the intervention model.

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Poster Abstracts

Poster #34

Abstract Title: The Challenges of Managing Co-Occurring Chronic Pain and Opioid Use Disorder

Author(s): Lyn Yuen Choo, West Virginia University, West Virginia Clinical and Translational Science Institute; Erica Longenecker, West Virginia University Research Corporation
Jennifer Lukas, West Virginia University, West Virginia Clinical and Translational Science Institute; Stacey Whanger, West Virginia University, West Virginia Clinical and Translational Science Institute; Jessica Merlin, University of Pittsburgh, School of Medicine; Erin Winstanley, West Virginia University, School of Medicine, Department of Behavioral Medicine and Psychiatry, Department of Neuroscience

Abstract: Introduction: Chronic pain is a significant comorbid condition among patients with OUD that, if undertreated, may contribute to early treatment discontinuation and increased risk of relapse. Although buprenorphine is an effective medication for OUD and produces analgesic effects in patients with chronic pain and OUD, there is insufficient data on how to optimize buprenorphine dosing for these co-occurring conditions. Preliminary research in West Virginia (WV) has found that 37.3% of buprenorphine patients who reported non-medical use of buprenorphine did so to treat their pain, emphasizing the need to address co-occurring chronic pain and OUD among WV patients. Purpose Statement: To explain barriers to managing chronic pain and OUD, strategies to potentially improve outcomes and clinical research investigating novel approaches. Methods: Data from published literature and the design of TREETOP research study will be discussed. Results: In WV, challenges to managing chronic pain and OUD include a limited number of specialized pain treatment centers, insufficient pain management in OUD treatment settings, and suboptimal buprenorphine dosing. The NIH funded TREETOP Study (MPIs: Merlin & Kramer) includes an intervention utilizing a pain self-management intervention and flexible buprenorphine dosing (up to 32 mg per day) to improve engagement and retention in treatment. Primary care programs affiliated with the WVPBRN will be participating in the TREETOP study, along with two office-based buprenorphine treatment programs. Novel strategies to management co-occurring pain and OUD in primary care and addiction treatment programs may help improve access in WV. Conclusion: Patients with comorbid chronic pain and OUD have complex treatment needs and experience barriers to accessing treatment. Rigorous research is needed to identify effective interventions to guide the management of chronic pain and OUD in clinical practice.

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Poster #35

Abstract Title: **Tobacco use disparities in rural communities: A community-academic project using a Culture of Health approach**

Author(s): Ellen J. Hahn, Amanda Bucher, Lee Ann Taylor, Kathy Rademacher, Whitney Beckett, Audrey Darville, University of Kentucky College of Nursing; Melinda J. Ickes, University of Kentucky, Department of Kinesiology & Health Program, College of Education

Abstract: The purpose of this community-academic partnership was to identify and explore ways to reduce tobacco use among rural low-socioeconomic (SES) populations. First, we created a resource database for two rural Kentucky counties that included organizations serving low-SES populations, using a Culture of Health model, to broaden our stakeholder base. Second, using the resource database, we identified and recruited key stakeholders serving low-SES populations in the two counties and conducted an initial set of focus groups and key informant interviews in each county. We also completed seven key informant interviews with tobacco users in these counties to further understand facilitators and barriers to reducing tobacco disparities. Lastly, we completed a Community Action Plan for each of the two counties, which were reviewed with the key stakeholders via virtual focus groups to solicit their feedback, resulting in rich discussion of the main themes and recommendations. In one county, the main themes from the initial focus groups were: (1) pro-tobacco culture promotes tobacco use; (2) acceptance of smoking risks outweighs the benefits of quitting; (3) need to match tobacco treatment services to tobacco user needs; and (4) youth tobacco use is impacted by family, social, and industry influences. The themes that emerged from the tobacco user interviews revealed, in part, the urgent need to communicate available cessation resources, especially with those of low-SES, through the local health department, workplaces, and healthcare providers. This one rural community identified an opportunity to build Community Health Worker (CHW)-delivered tobacco treatment into an existing school-based health center. As a result, we are piloting a CHW-led intervention to educate and engage tobacco users in counseling and support, and partner with local primary care prescribers to deliver evidence-based tobacco treatment with low-SES tobacco using adults.

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Poster #36

Abstract Title: **Title: Exploring Tobacco in Rural Communities: A Photovoice Project**

Author(s): Courtney Martin, University of Kentucky

Abstract: Background. E-cigarette use is especially common among youth for a number of reasons. However, limited research currently exists exploring how Appalachian communities may be disproportionately impacted by marketing tactics and subsequently increased prevalence. Purpose. The purpose of this study was to explore photovoice as a method to engage youth in tobacco prevention efforts. Specifically, through comparing marketing toward and access of e-cigarettes in Appalachian and non-Appalachian communities and any differences that may arise and exploring local policy and the role it may have, if any. Further, we aimed to understand youth perspectives and involve youth in the translation of photovoice to policy advocacy. Methods. To better understand tobacco in rural communities and the differences that may exist, we recruited students from Appalachian and non-Appalachian counties to participate in a community-based project utilizing photovoice. Our participants (n=10) were introduced to photovoice and participated in a brief training. Afterward, they captured and submitted 10 photos along with a guided worksheet and culminating caption. The photos were analyzed using qualitative content analysis and categorized into themes, subthemes, and subtopics. We then met with our participants to address any discrepancies. Additionally, we conducted a tobacco policy assessment of each student's hometown through statewide database searches. At the conclusion, we asked participants to provide insight into ways they think our findings could be used for advocacy and outreach. Results & Conclusion. Findings are forthcoming. Applying a photovoice framework can serve as a valuable tool in promoting youth engagement. Further, understanding tobacco use in rural communities from the perspective of youth most impacted can aid in the development of outreach efforts. Doing so could assist us in raising awareness of the presence of e-cigarette use, the realities of targeted marketing, and ultimately engaging youth in advocacy efforts to help create an improved outlook in rural communities.

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Poster #37

Abstract Title: **The Effectiveness of Cannabidiol in Non-seizure-related Conditions: A Systematic Review of Published Randomized Clinical Trials**

Author(s): Yuni Tang, Department of Epidemiology and Biostatistics, School of Public Health, West Virginia University, Morgantown, WV; Kolbi Laurin Tonkovich, Department of Family Medicine, School of Medicine, West Virginia University, Morgantown, WV; Toni Marie Rudisill, Department of Epidemiology and Biostatistics, School of Public Health, West Virginia University, Morgantown, WV

Abstract: Introduction: Cannabidiol (CBD) is one of the most prevalent cannabinoids found in cannabis and have received the most attention in epidemiological and medical research. The evidence of its effectiveness for non-seizure-related health conditions or outcomes is still limited. Purpose statement: A systematic review of the literature was conducted to investigate characteristics of the examined populations, and the efficacy of CBD in randomized clinical trials (RCTs) other than seizure-related indications. Methods: Seven publication databases were searched from February through March 2021. Study inclusion criteria were as follows: 1) used an RCT design; 2) published in a peer-reviewed journal or thesis/dissertation; 3) used English for publication; 4) investigated either prescription (i.e., Epidiolex) or non-prescription CBD that was derived from Cannabis Sativa plant with <3% THC; 5) reported at least one outcome. This study did not include seizure-related disorder conditions, published protocols, other systematic reviews, or meta-analysis. Two authors conducted independent reviewing, risk of bias assessment, and data abstraction. Results: Fifty-eight studies were included in this review. Twenty-seven studies (47%) were conducted in healthy populations, eight studies (24%) were restricted to males, and forty-eight studies (72%) had sample sizes less than 40 participants. The dosages used in those studies ranged from 400 µg to 6000 mg. Most studies, which largely concentrated on anxiety, psychosis, schizophrenia, and substance use disorders, was conducted on CBD's impact on mental health. While CBD appears to be anxiolytic, research on its efficacy for treating other conditions was quite inconsistent. Conclusions: The inconsistent results of CBD as a treatment for non-seizure-related health conditions or outcomes are highlighted in this review. Larger sample size in more diverse groups are recommended for future research. Although CBD was generally safe and well-tolerated among included studies, more precise dosing recommendations and stricter regulations of CBD products are also required.

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Poster Abstracts

Poster #38

Abstract Title: **Lessons Learned from a Community-Academic Partnership to Address Food Insecurity and Food Waste**

Author(s): Courtney Luecking, University of Kentucky, Department of Dietetics and Human Nutrition; Kendra OoNorasak, University of Kentucky, Department of Dietetics and Human Nutrition; Ashly Frank, University of Kentucky, Department of Dietetics and Human Nutrition; Alina Goodman, University of Kentucky, Department of Dietetics and Human Nutrition and College of Public Health

Abstract: The synergy of community-academic partnerships can support socially at-risk communities and promote health equity. Food insecurity and food waste are co-existing social issues in Appalachian communities. However, there is a dearth of information about successful partnerships that simultaneously address these issues. The purpose of this study was to identify characteristics contributing to the success of a new community-academic partnership, the Mobile Food Market, to decrease community food waste and increase access to fresh produce, healthy pantry staples, and nutrition education resources among families with young children experiencing food insecurity in a 13-county region in Kentucky. This case study was conducted during Fall 2021 and Winter 2022 and included eight representatives from the organizations (Glean Kentucky, Community Action Council, Campus Kitchen, Kentucky Nutrition Education Program) contributing to the partnership. Participants completed a semi-structured interview lasting 30 – 75 minutes. Interviews were recorded and a rapid qualitative analysis process was done to identify barriers and facilitators of the partnership. Participants identified having shared interests with partners and prior experience/success working with partners as characteristics for a successful start to the partnership. They also acknowledged the importance of the alignment of organizational mission and daily function with the overarching goal of the partnership. Resources essential to reducing food waste and increasing access to healthy food and nutrition information include people, time, money, space and equipment, transportation, and food. Critical processes for a successful partnership - bidirectional communication amongst partners, setting expectations, and logistics planning as a group and within individual organizations - were also identified as opportunities for improvement. Community-academic partnerships can be an important agent of change for local food systems. Partnerships to address food insecurity and food waste may be more successful when organizations share a common mission, can build upon previous working relationships, have transparent communication, and contribute complementary resources.

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Poster #39

Abstract Title: **Utilization of Foods in a Standard Food Pantry Food Box and Supplemental Fresh Produce Box by Low-Income Kentucky Appalachians Living in a Food Desert**

Author(s): Zixuan Li, University of Kentucky, Department of Dietetics and Human Nutrition; Tammy Stephenson, University of Kentucky, Department of Dietetics and Human Nutrition; Annie Koempel, University of Kentucky, Department of Dietetics and Human Nutrition; Dawn Brewer, University of Kentucky, Department of Dietetics and Human Nutrition

Abstract: Low-income Appalachian Kentuckians often utilize food assistance programs and community resources to obtain food. Food pantries often rely on donations from individuals and organizations. Of concern is nutrition quality and the ability to use food items. The current study explored if and how low-income Appalachian Kentuckians living in a food desert utilized their standard food pantry box as well as a supplemental box of free fresh produce. Participants were recruited through the local food pantry. Consent was obtained from 57 participants who came to the food pantry and simultaneously picked up their standard food box and produce box. The produce box included 20 pounds of culturally acceptable produce. The standard box contained mostly non-perishable foods. Three supplemental produce boxes were provided over 9 months. Participants completed anonymous questionnaires pertaining to utilization of food boxes. The majority of participants were non-Hispanic, white females. For each of the food boxes at least 97.1% reported knowing how to prepare the provided fresh produce; and at least 96% reported knowing how to prepare the items in their standard food box; and only 82.1% - 86.8% reported having the equipment to prepare or cook the produce items from the three boxes. For each produce item offered at least 91.1% of participants reported consuming or preserving it. Interestingly, 20.7% of participants reported not having the equipment to prepare or cook food items included in the first standard food box, but only 5.6% and 2.5% of participants reported not having the necessary equipment to prepare items in subsequent standard food boxes. Study outcomes suggest that distribution of food through local food programs need to be mindful of equipment needs of clients, especially with fresh produce. However, providing low-income Appalachian Kentucky communities living in food deserts with fresh produce may effectively increase fruit and vegetable consumption.

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Poster #40

Abstract Title: **The Supplemental Nutrition Assistance Program (SNAP), Food Insecurity, and Fruit and Vegetable Consumption in Appalachian Ohio**

Author(s): Lei Xu, The Ohio State University, Columbus Ohio; Zoë Plakias, West Washington University, Bellingham, Washington; Andrew Hanks, The Ohio State University, Columbus Ohio; Jennifer Garner, The Ohio State University, Columbus Ohio;

Abstract: Introduction: Ensuring the basic needs of the population are met is often a key goal for policymakers. Food insecurity and inadequate nutrition are two major challenges and continue to be contributors to poor health conditions among U.S. households. The U.S. government funds various food assistance programs. SNAP is a primary tool to fight food insecurity. Purpose statement: The purpose of this project is to evaluate the role of SNAP in mitigating food insecurity and encouraging fruit and vegetable consumption. We explore the effect of SNAP benefits on food insecurity and the intake of fruits and vegetables (FV) for participants by controlling food shopping patterns, such as distance to get food and where to get food. We control food shopping patterns because some studies find a significant relationship between store options and food security. Method: We use a novel household-level dataset on food insecurity and food assistance program participation in Appalachian Ohio. We use a logit model to estimate the relationship between SNAP participation and food security. Due to selection bias, we employ the nearest neighbor matching method (NNM) to match treated (SNAP participants) and untreated (SNAP nonparticipants) groups. We apply the OLS method with NNM to evaluate the effect of SNAP benefits on FV consumption. Results: We find that participating in SNAP can increase the probability of being food secure by about 30 percentage points after controlling food shopping patterns. We do not find any significant effect of SNAP participation on the intake of FV. Conclusions: SNAP participants are more likely to be food secure than similar non-participants at the margin, but SNAP is not effective at lifting households out of very low food security. Policymakers may consider more impactful strategies for elevating the households out of very low food security and encouraging participants to eat more fruits and vegetables.

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Community Factors that Influence Health Behaviors

**Poster Abstracts****Poster #41**

Abstract Title: **Examination of Food Security by Age in a Rural Appalachian County**

Author(s): Nathan Bandy, University of Kentucky, Dietetics and Human Nutrition; Emily DeWitt, University of Kentucky, Dietetics and Human Nutrition; Rachel Gillespie, University of Kentucky, Dietetics and Human Nutrition; Heather Norman-Burgdolf, University of Kentucky, Dietetics and Human Nutrition

Abstract: Introduction: Rural communities disproportionately experience chronic-disease morbidity and mortality in the U.S., which is exacerbated by low rates of food security. Nutrition assistance programs are a primary intervention method for food insecure communities in rural Appalachia. However, many programs have age limitations, creating potential gaps in protective food security measures. **Purpose Statement:** This study aims to identify where programmatic gaps occur by examining food security by age in a rural Appalachian county. These findings may inform interventions prioritizing age groups experiencing lower food security. **Methods:** A prospective cohort study identified prevalence of household food security using the USDA Six-Item Food Security Module in summer 2022. Participants (n=93) were divided into three age groups: 35 years and younger (n=14), 35 to 64 years (n=51), and 65 years and older (n=26). Food security status was assigned as: High/marginal, Low, and Very Low. **Results:** Among the entire sample, 34.1% reported Low or Very Low Food Security. Those with the highest food security rate were the 65 and older group (65.9%) followed by the 35 and younger (64.3%) and the 35 to 64 groups (62.7%) (p=0.85). Only 26.9% of adults 65 years and older experience Low or Very Low Food Security, whereas 35.7% and 37.2% of 35 and younger and 35 to 64 years, respectively, exhibit Low or Very Low Food Security. **Conclusions:** Adults age 65 and older in this community may experience greater food security because multiple nutrition assistance programs prioritize older adults. Although mechanisms exist to address food security gaps, there may be an increased need for intervention among those under 65 years. Specifically, studies exploring whether existing nutrition assistance programs are adequate or accessible for younger adults are needed. Future policies and interventions should consider whether protective measures are meeting food security needs of all adults.

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Poster Abstracts

Poster #42

Abstract Title: **Perceived Influence of Multilevel Factors on Adult Physical Activity Engagement in Rural Appalachia**

Author(s): Emily DeWitt, University of Kentucky Family and Consumer Sciences Extension, Lexington, KY; Rachel Gillespie, University of Kentucky Family and Consumer Sciences Extension, Lexington, KY; Nathan Bandy, University of Kentucky Department of Dietetics and Human Nutrition, Lexington, KY

Abstract: Introduction: Physical activity (PA) can lower an individual's risk for chronic diseases, including obesity and type 2 diabetes. However, PA rates are lower in rural communities compared to their urban counterparts. Individuals residing in certain subregions of the United States, including Appalachia, are even less likely to meet PA guidelines. **Purpose statement:** This study aims to identify levels of PA and barriers to PA participation among adults in Appalachia. These findings may inform tailored interventions aiming to increase PA and reduce chronic disease prevalence among adults in the region. **Methods:** A prospective cohort study captured participant PA engagement, and perspectives on individual, support, and environmental factors influencing their level of PA in one rural Appalachian county in Kentucky with high adult obesity prevalence (>40%) through self-reported surveys. **Results:** Approximately 44% of participants (n=93) reported being overweight which made it difficult to find ways to be active. Among all participants, 97% reported no weekly vigorous-intensity activity, but 55% reported participating in moderate-intensity activity for at least 10 minutes continuously. Participants indicated some level of social support, with 50% and 45% agreeing their friends and family members will participate in PA with them, respectively. Most participants reported they have a place to do PA (n=66, 71%) and these places are easy to get to (n=61, 66%), but nearly half (n=43, 46%) indicated PA is low on their priority list. **Conclusions:** These findings reinforce low levels of PA among adults in rural Appalachia. While adults may have social support and environmental access to engage in PA, individual-level barriers persist. Interventions exploring PA in rural Appalachia must consider how behavioral aspects of individual choice support or prohibit activity levels. Future interventions should incorporate creative multilevel strategies to enhance self-efficacy and strengthen autonomous motivation for engaging in PA to reduce chronic disease prevalence.

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Community Factors that Influence Health Behaviors



Poster Abstracts

Poster #43

Abstract Title: **"It's just part of our hospitality:" Examination of cultural factors influencing health outcomes in a rural Appalachian community**

Author(s): Lauren Batey, University of Kentucky, Department of Dietetics and Human Nutrition; Emily DeWitt, University of Kentucky Cooperative Extension, Family and Consumer Sciences; Heather Norman-Burgdorf, University of Kentucky, Department of Dietetics and Human Nutrition

Abstract: Introduction: Diet and physical activity are influenced by a person's culture and may contribute to the presence of health disparities within a geographic region. Health disparities are evident in Appalachia where a unique cultural identity exists. Culture-based initiatives focused on improving diet quality and increasing physical activity have improved health outcomes in diverse groups, yet interventions considering geographically tied cultures, like Appalachia, are limited. **Purpose statement:** This study aims to identify specific aspects of Appalachian culture that influence health outcomes to inform and increase success of health focused interventions. **Methods:** Five focus groups were conducted in one rural Appalachian community in summer 2021. Grounded Theory Approach was used to identify primary themes related to culture and health-promoting behaviors. **Results:** Participants (n=59) indicated economic hardship and community decline as barriers to health-promoting behaviors. Poor infrastructure was recognized as the main obstacle to physical activity, including broken or non-existent sidewalks. Limited access to traditional food procurement methods was also consistently noted. Participants revealed the loss of multigenerational food traditions, such as canning, affected dietary choices. However, many reported adaptive responses to limited food access, including homegrown produce. These adaptations were made despite geographic isolation and poverty, revealing the pride this community takes in providing for themselves and the importance of familial and social bonds. The value of community and family units, focusing on youth, was further identified as a major facilitator for making healthy choices. **Conclusions:** These findings indicate several cultural factors influence health-promoting behaviors along with unique regional barriers that should be addressed. These results have implications for future interventions in Appalachia. For example, programming could be multigenerational with a youth focus and incorporate cultural practices like gardening and canning to address nutritious food procurement. Other geographically based subcultures may consider culturally tailored approaches to promote and support improved health outcomes.

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Poster Abstracts

Poster #44

Abstract Title: **Measuring and Modeling Systemic Factors Driving Quality and Perception of Tap Water in Scioto County**

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Abstract: Small water systems in rural areas often face challenges in providing safe drinking water to ensure public health. Routine and disproportionate health-based violations, such as disinfection byproduct violations, combined with limited economy of scale, aging infrastructure, lack of trust, and environmental disasters can impact water quality and health. The purpose of this study was to investigate environmental, infrastructure, sociodemographic drivers of household tap water quality and perceptions using cognitive mapping of local stakeholders and measurements of tap water quality. Models of tap water quality based on systems-level drivers can predict which water systems require attention to address water quality concerns and to support decision making in design, operation, location, and maintenance of rural water systems. Community scientists performed at-home water testing, water sampling for laboratory analysis, and virtual interviews and surveys. Semi-structured interviews included a mental modeling activity to construct cognitive maps of drinking water systems. Model input data were obtained from online environmental and databases and will be incorporated into multiple linear regression models for predicting water quality and perceptions. Water quality measurements of household tap water samples taken between September 2021 and April 2022 indicated tap water quality was suitable based on regulated health-based parameters (e.g. disinfection byproducts, microbial indicators, metals). Water quality measurements aligned with mostly positive customer perceptions of tap water safety, satisfaction, and overall quality. Based on analysis of cognitive maps, customers believed maintenance of infrastructure, chemical use in water treatment, aesthetics, and environmental quality were main impactors of tap water quality. In-person community engagement and relationship building with community partners increased social capital to promote resilience of conducting virtual water sampling campaign. Customers' experience and background influenced perception of tap water quality. In this study, we demonstrated a proof-of-concept research framework for engaging communities in tap water education to build much needed social capital that can lead to greater trust in water utilities.

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Community Factors that Influence Health Behaviors