

Oral Presentation

Abstract Title: **Relationship between Hepatitis C Perception and Likelihood of Antiviral Treatment among HCV-infected Women**

Author(s): A. D. Adekunle, College of Public Health, U of Kentucky A. S. Critchfield, Department of Obstetrics and Gynecology, U of Kentucky K. L. H. Harp, College of Public Health, U of Kentucky S. Barnhart, College of Social Work, U of Kentucky K. T. Winter, College of Public Health, U of Kentucky

Abstract: Background: Despite availability of effective antiviral treatments for hepatitis C virus (HCV), most HCV-infected persons in Kentucky have not been treated. Methods- Thirty-four HCV-infected perinatal women in substance use disorder treatment were surveyed about their knowledge, attitudes, and beliefs regarding HCV as well as their current infection status and their intention to seek HCV treatment. Participants reported perceptions about: 1) importance of receiving HCV treatment; 2) severity of HCV, including likelihood of experiencing liver damage and long-term complications; 3) benefits of HCV treatment; 4) barriers/concerns about HCV treatment; and 5) the likelihood of seeking HCV treatment. Concordance between clinical HCV status and perceived status was determined using medical records. Exact tests and independent t- tests were used to test associations. Results: 28 (85%) of the 33 participants accurately reported their HCV status. Most women (76%) reported that HCV treatment was very important, and 61% reported a high likelihood of seeking care. Perception of benefit from HCV treatment significantly correlated with likelihood of seeking care ($p=0.0005$), however, there was no significant correlation between concern score ($p=0.38$) or severity perception ($p=0.99$) and likelihood of seeking care. Conclusion: Although HCV testing among this patient population is routine, some infected patients were not aware of their clinical statuses. Efforts need to be put into addressing concerns and emphasizing the benefits of treatment to patients. In the presence of advanced HCV therapies, this study highlights the importance of effective patient education in enhancing treatment uptake, even in settings with expanded eligibility coverage.

Supported by: IRC pilot funding through UK ADRS UK PATHways program at Polk Dalton Clinic UK College of Nursing Beyond Birth Program

Primary Presenter / email: **Adekunle, A.D.** / adad226@uky.edu University of Kentucky
Epidemiology
MPH/MHA

Mentor / e-mail: Winter, K. T. / kathleen.winter@uky.edu

Oral Presentation

Abstract Title: **The Clinical Features of Bronchiectasis Associated with Alpha-1 Antitrypsin Deficiency, Common Variable Immunodeficiency, and Primary Ciliary Dyskinesia: Results from the U.S. Bronchiectasis Research Registry**

Author(s): R. Choate, MPH, College of Public Health, University of Kentucky, Lexington, KY E. Eden, MB.BS, Icahn School of Medicine, Mt Sinai, NY A. Barker MD, Oregon Health Sciences University Hospital, Portland, OR Bronchiectasis and NTM Research Registry Consortium

Abstract: RATIONALE: Bronchiectasis is associated with rare conditions including Alpha-1 antitrypsin deficiency (AATD), Common Variable Immunodeficiency (CVI) and Primary Ciliary Dyskinesia (PCD). The purpose of this study is to compare and contrast the clinical characteristics of bronchiectasis associated with these rare conditions. METHODS: This retrospective cross-sectional study included patients with non-cystic fibrosis bronchiectasis from the Bronchiectasis Research Registry (BRR) diagnosed with AATD, CVI, PCD, and patients with tests negative for the above conditions ('idiopathic') (n=615). RESULTS: Patients with PCD (n=79, mean age 41.9±14.5) were significantly younger than AATD (n=58, 66.9±10.7), CVI (n=18, 66.7±10.5), and idiopathic (n=460, 64.2±15.9), p<.0001. A diagnosis of bronchiectasis was made at a much younger age in those with PCD (22.8±15.7) than in the other groups (p<.0001). Significantly greater proportion of patients with PCD reported pulmonary exacerbations and hospitalizations in the past 2 years compared to other groups (p=0.002 and p<.0001, respectively). Patients with PCD showed a significantly lower pre-bronchodilator FEV1 and FVC (% predicted) than the other groups. A greater percentage of patients with PCD reported daily bouts of coughing (p=0.012) and wheezing (p<.0001), and had the greatest proportion of cultures positive for Pseudomonas aeruginosa compared to other groups (p<.0001). CONCLUSIONS: Our study demonstrates that patients with PCD within the BRR are significantly younger, more often report having respiratory symptoms, exacerbations and hospitalizations compared to other groups; their bacterial cultures more frequently show presence of Pseudomonas aeruginosa.

Supported by: This study was supported by the COPD Foundation

Primary Presenter / email: **Choate, R.** / Radmila.choate@uky.edu University of Kentucky
Epidemiology
PhD

Mentor / e-mail: Eden, E. / Edward.Eden@mountsinai.org

Oral Presentation

Abstract Title: **Teenage Mothers and Breastfeeding: What is the Impact of the Kentucky HANDS Program?**

Author(s): J. Maita, College of Public Health, U of Kentucky S. E. Cprek, Department of Health Behavior & Society, College of Public Health, U of Kentucky C. M. Williams, Department of Health Behavior & Society, College of Public Health, U of Kentucky

Abstract: Background: Breastfeeding rates among teenage mothers are lower than that of all other ages. The Kentucky Health Access Nurturing Development Services (HANDS) program is a home visiting program available to all pregnant teenage mothers. HANDS visits, both prenatal and postnatal, are free to teen mothers if they choose to participate in the program. This study examines the effect participation in the HANDS program has on breastfeeding among teen mothers. Methods: HANDS program records and birth certificate records from the Kentucky Department for Public Health were used in this study. Mothers aged 15-19 years who received at least one prenatal home visit between January 2014 and December 2017 (n=2740) were matched based on race and insurance status to women who did not participate in the program. Chi-squared tests and logistic regression models were estimated in SAS to evaluate preliminary differences in breastfeeding. Results: Overall, there was no difference in breastfeeding among teen mothers by HANDS participation (56.1% vs. 57.8%). However, there were subgroup differences: among those with a signed paternity acknowledgement, teen mothers with at least 18 prenatal HANDS visits were more likely to breastfeed (OR=1.4, 95% CI=1.03-1.82), controlling for age, race/ethnicity, obstetric visits, and urban/rural. Conclusions: HANDS program participation seems to have no overall effect over teenage mothers' decision to initiate breastfeeding. Social support appears to play a role in increasing breastfeeding, either through HANDS participation or having a father involved. This results presents interesting questions to further examine such as the significant relationship between social support and breastfeeding.

Supported by: Contract from the Kentucky Department of Public Health

Primary Presenter / email: **Maita, J.** / jma365@uky.edu University of Kentucky
Health, Behavior and Society
BPH

Mentor / e-mail: Williams, C.M. / corrine.williams@uky.edu

Oral Presentation

Abstract Title: **Sexual Risk-Taking Behaviors among Young Men Who Have Sex with Men (MSM) in Central Kentucky and Usage of Social Networking Applications to Meet Partners**

Author(s): V.O. Pravosud, Department of Epidemiology, U of Kentucky

Abstract: Objective: To determine associations between sexual risk-taking behaviors and usage of social networking applications (“apps”) to meet partners (1) only for sex, (2) to date, as well as (3) for sex and/or to date. Methods: Data were collected from 253 participants who were biologically male, aged 18 to 34, had engaged in anal sex with another man during the past 6 months, and resided in Central Kentucky. Results: Findings from adjusted logistic regression models revealed that number of anal sex partners (insertive, receptive, or oral), participation in group sex, substance use before/during sex, rectal douching among partners, and sex with HIV positive people were associated with increased odds of using apps to meet partners for sex and/or to date. These results were very similar when considering the usage of applications to meet partners only for sex; however, we found no significant associations among these behaviors and app usage to meet partners to date, not necessarily just for sex. Moreover, increase in condom use during receptive anal sex was associated with increased odds of using apps to meet partners just for sex as well as to date, whereas increase in condom use during insertive anal sex was only associated with increased odds of app usage to meet partners only for sex. Conclusion: Many respondents were involved in sexual risk-taking behaviors associated with the usage of applications to meet partners for sex and/or to date. However, the reported associations were mostly driven by using applications to meet partners specifically for sex.

Supported by: This research was supported by the National Institute on Drug Abuse (NIH NIDA R03 DA039740).

Primary Presenter / email: **Pravosud, V.O.** / vira.pravosud@uky.edu University of Kentucky
Epidemiology
PhD

Mentor / e-mail: Young, A.M. / april.young@uky.edu

Oral Presentation

Abstract Title: **Rural-Urban Differences in Partial Hospitalization Program Availability**

Author(s): T.R. Williams, College of Public Health, U of Kentucky T. Borders, College of Public Health, U of Kentucky

Abstract: Background: Partial hospitalization programs (PHPs) can reduce or avoid inpatient stays by allowing patients to reside at home while receiving intensive, structured psychiatric services in outpatient settings during the day. Mostly offered in hospital settings, PHPs are used for numerous behavioral health conditions and have demonstrated effectiveness comparable to inpatient services. However, little information exists about the relative availability of PHPs in rural and urban areas. Methods: A sample of hospitals (N = 4,011) from a national survey of hospitals were classified as metropolitan (N = 2,483) or non-metropolitan (N = 1,528). We compared the percentages of these hospitals that provided PHPs, as well as the percent that offered the services in-house, through another provider in their health system, or through another provider as part of a joint venture. We also stratified metropolitan and non-metropolitan facilities by whether they offered PHPs in-house to compare other hospital characteristics. Results: More metropolitan than non-metropolitan hospitals offered PHPs overall, with more also offering the services in-house or through their health system. Additionally, regardless of location, hospitals with higher capacities and patient volumes offered PHPs in-house more often, regardless of location. More metropolitan hospitals did not offer PHPs in-house if they had established ACOs or were a part of a health system. There was a similar absolute difference among non-metropolitan hospitals, but it was not statistically significant. Discussion: Significantly fewer non-metropolitan hospitals offer PHPs than metropolitan hospitals, suggesting that many rural residents lack access to an effective and versatile form of behavioral health care.

Supported by: This project was supported by the Federal Office of Rural Health Policy (FORHP), Health Resources and Services Administration (HRSA), U.S. Department of Health and Human Services (HHS) under cooperative agreement # U1CRH30041. The information, conclusions

Primary Presenter / email: **Williams, T.R.** / timothy.williams1@uky.edu University of Kentucky
Health Management and Policy
DrPH

Mentor / e-mail: Borders, T. / ty.borders@uky.edu

College of Public Health Research Day

Oral Presentation

Abstract Title: **Multiple Imputation by Chained Equations to Avoid Bias in Missing Data with Interactions: A Simulation Study**

Author(s): N. Wilson, Department of Biostatistics, College of Public Health, U of Kentucky E. Slade, Department of Biostatistics, College of Public Health, U of Kentucky

Abstract: Improper treatment of missing data can lead to biased or invalid results. If the data are missing at random (MAR), multiple imputation by chained equations (MICE) is one method utilized to reduce bias. When implementing MICE, the imputation model must be compatible with the final analysis model. We aim to show how to include interaction terms in the imputation model to ensure valid results are obtained. Data were simulated for one continuous outcome originating from two binary predictor variables and their interaction. Missingness was imposed via a MAR mechanism. To handle the missing data, four methods were performed: complete records analysis (CRA) and three variations of MICE, each with different imputation models that vary in their inclusion of interaction effects. We also investigated two different methods for specifying these imputation models in R using different arguments in the mice() function. We utilized a final analysis model consisting of linear regression of the outcome on both main effects of the predictors and their interaction. This process was repeated 10,000 times to compute bias and coverage. The analyses performed with MICE including all two-way interactions had the least biased estimates and appropriate coverages. CRA often led to biased estimates and wide confidence intervals. Utilization of the MICE package in R is not entirely intuitive and few resources exist online to assist R users needing to implement MICE in data with interaction effects. There are caveats that must be included when coding for the imputation procedure, and misspecification can lead to inappropriate results.

Supported by: None

Primary Presenter / email: **Wilson, N.** / nathaniel.wilson@uky.edu University of Kentucky
Biostatistics
MPH/MHA

Mentor / e-mail: Slade, E. / emily.slade@uky.edu

Poster Presentation 263

Abstract Title: **Contributing Factors Leading to Suicide in Children: Kentucky 2005-2016**

Author(s): S. Adkisson, Department of Epidemiology, U of Kentucky S. Brown DrPH, Department of Epidemiology, U of Kentucky

Abstract: Introduction: Suicide regularly ranks among the top ten leading causes of death in the United States. In ages 10 to 24, suicide is the second leading cause of death. The purpose of this study was to develop a coding scheme to determine reoccurring contributing factors in child suicides from 2005-2016 in Kentucky. Research is limited in the United States on suicides in children and more specifically precipitating circumstances leading a child dying by suicide. Methods: We used the Kentucky Violent Death Reporting System data from 2005-2016. A subset of cases was generated that included all child suicides in children aged 10-21. A mixed method statistical approach is being used; the first step is a thematic qualitative using the narrative reports from death scene investigators. Once themes have been identified, and a coding scheme developed, reoccurring contributing factors to suicides were coded for further quantitative analysis. Discussion: There are many complex individual and social factors that lead up to suicide making it important for practitioners and researchers to consider co-morbidity, especially in children, youth and young adults. When there is substance misuse it can lead to a lack of impulse control while also amplifying depression, anxiety, and other risk factors. Raising awareness about triggering events along with other chronic conditions in children, youth and young adults could lead to more conversation about suicide and more targeted interventions. More research and resources are needed to understand these issues and educate parents, guardians and teachers—for example—about the signs and factors leading to suicide in children, youth and young adults.

Supported by: GRANT NUMBER 424128 from the: CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC). It's contents are solely the responsibility of the author and do not necessarily represent the official views of the CDC.

Primary Presenter / email: **Adkisson, S.** / sydney.adkisson@uky.edu University of Kentucky
Epidemiology
BPH

Mentor / e-mail: Brown, S. / sabrina.brown@uky.edu

Poster Presentation 264

Abstract Title: **Paraprofessionals' and Supervisors' Perspectives on Implementation of an Evidence-Based Parenting Program in Appalachian Region**

Author(s): M. N. Antel, Department of Health, Behavior & Society, U of Kentucky C. B. Cornell, Department of Health, Behavior & Society, U of Kentucky S. E. Loheide, Department of Dietetics and Human Nutrition, U of Kentucky V. V. Madabhushi, MD, Department of General Surgery, U of Kentucky J. A. Jacobs, MPH, Department of Health, Behavior & Society, U of Kentucky C. R. Studts, PhD, Department of Health, Behavior & Society, U of Kentucky

Abstract: Background: The efficacy and effectiveness of behavioral parent training (BPT) interventions in reducing behavioral problems in children is well established. However, low-resource communities experience shortages in programs targeting behavioral problems in early childhood. The Family Check-Up (FCU), an evidence-based BPT intervention, was systematically adapted to fit the needs of a rural Appalachian community. The key adaptation to the delivery of the FCU was the use of local, trusted paraprofessionals in the place of mental health professionals who typically deliver such a program to parents. Paraprofessional interventionists piloted the FCU with 20 families in Appalachian communities. Methods: Using a semi-structured interview guide based on the Consolidated Framework for Implementation Research (CFIR), one-hour key informant interviews were conducted with interventionists (N=5). Interviews were transcribed verbatim. Directed content analysis methods were used, framed by the CFIR constructs, to understand interventionists' experiences with delivering the FCU. Each team member independently coded each transcript, and discrepancies were resolved through discussion and consensus. The codebook was iteratively refined until a sixth and final version was developed. Findings: Consistent themes emerged around intervention compatibility with interventionists' existing job responsibilities. Interventionists discussed the strengths and weaknesses of the training and supervision provided. Common patient needs and resources in the region, levels of tension for change in the community, differences in organizations' leadership engagement, and other themes were also observed. This information will be used to understand the necessary adjustments and strategies for maximizing success in developing a sustainable model for implementing behavioral parent-training interventions in similar rural communities.

Supported by: This project is supported by NIH/NIMH (R34 MH106661) and NIH/NCATS (through the UK Center for Clinical and Translational Science, UL1TR000117 and 8KL2TR000116). The content is solely the responsibility of the authors and does not necessarily represent the

Primary Presenter / email: **Antel, M. N.** / mallory.antel@gmail.com University of Kentucky
Health, Behavior and Society
MPH/MHA

Mentor / e-mail: Studts, C. R. / tina.studts@uky.edu

Poster Presentation 265

Abstract Title: **Kentucky Access Nurturing Development Services Home Visiting Program Improves Maternal and Child Health Outcomes among Multigravida**

Author(s): M. Avery, U of Kentucky L. Eminoski Nunez, BPH U of Kentucky B. Matthews, U of Kentucky K. Van Buren, MPH U of Kentucky J. Maita, U of Kentucky M. Manchikanti, U of Kentucky S. Cprek, MPH Department of Health Behavior, U of Kentucky C. Williams, ScD Department of Health Behavior, U of Kentucky

Abstract: Background and Objectives: Since 2004, Kentucky Health Access Nurturing Development Services (HANDS) program has been providing both prenatal care and post birth continuous home visitation programs to Kentucky's at risk first-time parents. As a result of increased funding, HANDS was expanded to include multigravida in 2011. This is the first study, to our knowledge, that assesses the impact of home visiting programs on multigravida. Methods: A quasi-experimental study was used to calculate the possible different health outcomes among multigravida HANDS participants who received at least one prenatal visit and multigravida who were referred to the HANDS program, but did not receive a visit. Individuals eligible to be included in this study were referred to the program between January 1, 2012 and December 31, 2016. Results: Multigravida who received a prenatal HANDS visit had significantly less risk of a pre-term birth compared to mothers who did not receive a prenatal HANDS visit (12.5% vs. 18.3%, respectively; $p < 0.001$). Multigravida who received a prenatal HANDS visit were less likely to give birth to a low birth weight infant compared to mothers who did not receive a prenatal in-home visit (10.2% vs. 16.0%, respectively; $p < 0.001$) and less likely to report inadequate prenatal care (27.2% vs. 32.8%, respectively; $p < 0.001$). Conclusions: The HANDS program appears to be effective in improving maternal and child health outcomes in multigravida. These findings highlight the need to encourage prenatal enrollment in the HANDS program among this demographic and support expansion of other home visiting programs to include multigravida.

Supported by: Contract for the Kentucky Department for Public Health

Primary Presenter / email: **Avery, M.** / morganavery13@gmail.com University of Kentucky
Health, Behavior and Society
MPH/MHA

Mentor / e-mail: Williams, C. / Corrine.williams@uky.edu

College of Public Health Research Day

Poster Presentation 266

Abstract Title: **Theta EEG Waves of Aging Professional Musicians as an Indicator of Working Memory and Cognitive Function**

Author(s): J. Carr, U of Kentucky A. Hoskins, U of Kentucky S. Hoffmann, U of Kentucky C. Schneider, Ph.D., U of Kentucky J. Watkins, Ph.D., U of Kentucky Y. Jiang, Ph.D., U of Kentucky

Abstract: Context: A large population of aging US adults have cognitive impairment. Cognitive function is highly variable, but studies have identified multiple lifestyle factors that influence cognitive performance at old age. This study focuses on cognitive challenge using music as an outlet. Playing instruments has shown to activate cognitive functions, motor functions, and sensory systems simultaneously. Literature suggests a strong correlation between cognitive function and musical ability. In the past, the introduction of music to an aging person has been used as an intervention technique for cognitive decline and impairment. This study aims to measure music as a protective mechanism against cognitive impairment. Methods: This study surveys and examines 29 older adult professional orchestral musicians. Cognitive and neuropsychological profiles were taken of participants through neuropsychological testing and EEG recordings. Results: Musician's scores were compared with normative scores of like-aged non-musicians. Current musicians scored both significantly faster and more accurate on four of the five neuropsychological exams administered. Regression and ANCOVA analysis was done between theta EEG signatures in the frontal, parietal, and occipital lobes during the Bluegrass Working Memory Task. Two variables exhibited strong positive correlations: the number of years of private music lessons and the number of hours spent practicing music weekly.

Supported by: n/a

Primary Presenter / email: **Carr, J.** / jillianecarr@gmail.com University of Kentucky
Gerontology
None/not applicable

Mentor / e-mail: Schneider, C. / cs5767@nyu.edu

Poster Presentation 267

Abstract Title: **Feasibility, Acceptability, and Proof of Concept of a Parenting Intervention Adapted for Delivery in Appalachia**

Author(s): C. B. Cornell, Department of Health, Behavior & Society, University of Kentucky A. S. Merritt, MPH, Department of Health, Behavior & Society, University of Kentucky J. A. Jacobs, MPH, Department of Health, Behavior & Society, University of Kentucky F. J. Feltner, DNP, Center of Excellence in Rural Health C. R. Studts, PhD, Department of Health, Behavior & Society, University of Kentucky

Abstract: Background: Mental health professional shortages and stigma hinder parents from seeking services targeting child behavior problems in rural Appalachia. The Family Check-Up (FCU) is an evidence-based parenting intervention that was adapted using the ADAPT-ITT model to be culturally acceptable and accessible to the target population. Methods: Five community-based paraprofessionals implemented the adapted FCU in Appalachian counties. Data from parents who completed post-intervention assessments (n=10) were analyzed. Feasibility was assessed using recruitment and retention data. Acceptability was measured with the European Parent Satisfaction Scale about Early Intervention (EPASSEI). Proof of concept was demonstrated using paired sample t-tests (baseline to post-intervention) with three parent-report effectiveness outcome measures: the Child Behavior Checklist (CBCL), Beck Depression Inventory (BDI), and Parenting Young Children Scale (PARYC). Results: Participants were non-Hispanic White mothers (80%) or grandmothers (20%) with a high school diploma (60%) or higher education (40%). Most households had an annual income <\$30k (60%). The children were preschool-aged (M=4.23, SD=0.78) and mostly male (90%). EPASSEI scores suggested that parents were "extremely satisfied" with the FCU and its delivery. Proof of concept was demonstrated by a signal of effect in every effectiveness measure: BDI scores, CBCL subscale and total scores, and PARYC subscale scores were all improved at post-intervention assessment, with two subscales of the PARYC showing statistically significant ($p<0.05$) improvement despite the small sample size. Conclusions: Results of this study will be leveraged to develop a large-scale hybrid effectiveness-implementation trial of FCU as a preventive intervention for families in underserved rural Appalachian communities.

Supported by: This project is supported by NIH/NIMH (R34 MH106661) and NIH/NCATS (through the UK Center for Clinical and Translational Science, UL1TR000117 and 8KL2TR000116). The content is solely the responsibility of the authors and does not necessarily represent the

Primary Presenter / email: **Cornell, C. B.** / cbco233@g.uky.edu University of Kentucky
Health, Behavior and Society
MPH/MHA

Mentor / e-mail: Studts, C. R. / tina.studts@uky.edu

College of Public Health Research Day

Poster Presentation 268

Abstract Title: **Documenting the Operations of a Dental Wellness Clinic**

Author(s): L. Dixon, University of Kentucky College of Public Health T. M. Woody, University of Kentucky College of Public Health S.B. Wackerbarth, Health Management & Policy, University of Kentucky College of Public Health

Abstract: The UK College of Dentistry's Diagnostic, Wellness and Prevention Clinic offers patients to opportunity to receive both dental and medical exams at a single visit. Prompted by the immediacy of a dental concern, such clinics often attract patients who have not participated in either dental or medical primary care. As such the clinic provides a unique gateway for a hard-to-reach population to receive preventive care and potentially re-engage with the healthcare system. The purpose of this research was to use process improvement tools to better understand current workflow processes and identify potential areas for improvement. Data were collected using the walk-through method and observation. The walk-through focused on understanding the experiences of patients scheduling screening appointments. The results of the walk-through depicted wide variation in the current process and informed the design of standardized protocols. During the observation phase members of our team shadowed dental students as they provided patient care. Data collected were analyzed using process workflow maps, spaghetti diagrams and the waste-walk method. These results as well as insights from the process owners were used to identify ideas to reduce waste and standardize processes. The next phases of the project involves collecting baseline measures of throughput time and a prioritizing improvement ideas.

Supported by: None

Primary Presenter / email: **Dixon, L.** / liana.dixon@uky.edu University of Kentucky
Health Management and Policy
BPH

Mentor / e-mail: Wackerbarth, S.B. / sbwack0@uky.edu

Poster Presentation 269

Abstract Title: **Home Visitation Impacts on Second-Time Mothers: Does Repeat Participation Make a Difference?**

Author(s): E. A. Edwards, College of Public Health, U of Kentucky* E. G. Goble, College of Public Health, U of Kentucky* E. M. Popham, College of Public Health, U of Kentucky* K. Van Buren, Department of Epidemiology, College of Public Health, U of Kentucky S. E. Cprek, Department of Health, Behavior & Society, College of Public Health, U of Kentucky C. M. Williams, Department of Health, Behavior & Society, College of Public Health, U of Kentucky *shared first authorship.

Abstract: Background: Research has shown positive impacts of the Kentucky Health Access Nurturing Development Services (HANDS) program, a home visiting program for high-risk families, on primigravida mothers. The program expanded to multigravida mothers in 2011; mothers then had the opportunity to be served by HANDS in multiple pregnancies. This study's objective was to evaluate differences in birth outcomes by varying levels of HANDS participation in first and second pregnancies. Methods: This study used HANDS administrative and live birth certificate data to analyze approximately 10,000 women who had their first and second pregnancies result in a live birth between 2013-2016. We evaluated four specific levels of HANDS participation between the first and second pregnancy: 1) HANDS in both pregnancies; 2) HANDS in second but not first pregnancy; 3) HANDS in the first but not second pregnancy; 4) no HANDS in either pregnancy. Chi-squared tests were estimated in SAS to evaluate preliminary differences in birth outcomes (preterm birth, low birthweight, and small-for-gestational age) by HANDS participation. Results: Preliminary findings showed a reduction in second preterm birth (15.5%) following a preterm birth in the first pregnancy for women who participated in HANDS in both pregnancies. Women who participated in only one pregnancy (first pregnancy participation=31.9%, and second pregnancy participation=34.8%) or neither pregnancy (24.1%) had higher occurrence of second preterm birth. Additional birth outcomes will be presented. Conclusion: HANDS participation in both pregnancies may offer some benefit, particularly for women who previously had an adverse birth outcome. Implications include reducing health disparities for high-risk populations.

Supported by: This work was supported in part by a contract with the Kentucky Department for Public Health.

Primary Presenter / email: **Goble, E.G.** / emily.goble@uky.edu University of Kentucky
Health, Behavior and Society
BPH

Mentor / e-mail: Williams, C.M. / corrine.williams@uky.edu

Poster Presentation 270

Abstract Title: **Comparison of Online, Hybrid, and Face-to-Face Courses in Public Health and Healthcare Settings**

Author(s): M. F. Walls, College of Public Health, U of Kentucky M. L. Gunn, College of Public Health, U of Kentucky J. A. Daddysman, Department of Biostatistics, U of Kentucky

Abstract: As non-traditional degree and certificate programs become more widespread, there is a need to develop methods to evaluate student engagement and learning in these courses and programs. This poster uses published literature to examine the current use and effectiveness of online, traditional in-class, and hybrid courses in higher education. The goal of this review was to determine in which course setting college students tend to learn the best and the impact on their grades. Additionally, we developed survey questions to evaluate student learning and course setting preference. Questions include previous experience with hybrid courses and perceived productivity. Though generated for an undergraduate biostatistics hybrid course at the University of Kentucky, our methods can be adapted to graduate-level courses or programs and clinical settings in a variety of public health areas.

Supported by: N/A

Primary Presenter / email: **Gunn, M. L. and Walls, M. F.** / mlgu224@g.uky.edu University of Kentucky
Biostatistics
BPH

Mentor / e-mail: Daddysman, J. A. / Jennifer.daddysman@uky.edu

College of Public Health Research Day

Poster Presentation 271

Abstract Title: **Documenting the Operations of a Travel Clinic**

Author(s): W. Clevinger, University of Kentucky College of Public Health K. Omeyinma, University of Kentucky College of Public Health S.B. Wackerbarth, Health Management & Policy, University of Kentucky College of Public Health

Abstract: The UK College of Public Health's Travel Clinic is a full-service clinic that provides all immunization and country-specific advice, as well as post-travel screening and evaluation. The clinic provides a critical service to travelers to and new arrivals from all corners of the globe. As such, the clinic plays an important role in maintaining the health of individuals and populations. The purpose of this research was to use process improvement tools to better understand current workflow processes and identify potential areas for improvement. Data were collected using the walk-through method and observation. The walk-through focused on understanding the experiences of patients scheduling screening appointments. The results of the walk-through depicted wide variation in the current process and informed the design of standardized protocols. During the observation phase members of our team shadowed dental students as they provided patient care. Data collected were analyzed using process workflow maps, spaghetti diagrams and the waste-walk method. These results as well as insights from the process owners were used to identify ideas to reduce waste and standardize processes. The next phases of the project involves collecting baseline measures of throughput time and a prioritizing improvement ideas.

Supported by: None

Primary Presenter / email: **Johnson, S.** / sarah.johnson0@uky.edu University of Kentucky
Health Management and Policy
BPH

Mentor / e-mail: Wackerbarth, S.B. / sbwack0@uky.edu

Poster Presentation 272

Abstract Title: **Association of multiple proteinopathies, cognitive decline, and dementia in a community-based autopsy cohort**

Author(s): Shama Karanth, Department of Epidemiology, U of Kentucky, Sanders-Brown Center on Aging, U of Kentucky Yuriko Katsumata, Department of Biostatistics, U of Kentucky, Sanders-Brown Center on Aging, U of Kentucky Richard J. Kryscio, Department of Biostatistics, U of Kentucky, Sanders-Brown Center on Aging, U of Kentucky Peter T. Nelson, Department of Pathology, U of Kentucky, Sanders-Brown Center on Aging, U of Kentucky David W. Fardo, Department of Biostatistics, U of Kentucky, Sanders-Brown Center on Aging, U of Kentucky Erin L. Abner, Department of Epidemiology, U of Kentucky, Sanders-Brown Center on Aging, U of Kentucky

Abstract: Background: Abnormal accumulation of amyloid β (A β) plaques and neurofibrillary tangles in the brain are the hallmark of Alzheimer's disease (AD). However, it is important to recognize that AD pathology is frequently accompanied by additional neurodegenerative pathologies, specifically TDP43 and α -synuclein. We hypothesized that the co-occurrence of four misfolded proteins is common but under recognized in old age. This study aimed to determine the frequency of multiple proteinopathy among cases; evaluate demographic, neuropsychological, neuropathological characteristics; as well as evaluate cognitive trajectories over time. Methods Data was analyzed from elderly, longitudinally evaluated participants in a community-based cohort study of aging and dementia who had undergone autopsy and satisfied criteria of having at least misfolded tau. Cases definitions were based on the presence of the misfolded proteins: tau alone n=14, tau+TDP43, n=19, tau+A β , n=138, tau+A β + α -synuclein, n=59, tau+A β +TDP43, n=68, tau+A β +tdp43+ α -synuclein, n=45. We examined the association between case groups and neuropsychological test scores, sex, age, years of education, clinical diagnosis, APOE ϵ 4, chronic comorbidities, additional neuropathologies. Results A total of 343 autopsied participants were included. All 4 misfolded proteins were detected in 13.11%, 3 misfolded proteins were detected in 37% and 2 misfolded proteins in 46%. The participants with more proteinopathies had the lowest neuropsychological scores at death. The lowest MMSE scores, consistent with severe dementia, were observed in cases with all 4 proteins. Conclusion Multiple proteinopathy is common in aged brains. This has significant implications for public health, since strategies to prevent/cure AD may be complicated by the unrecognized presence of additional neurodegenerative pathologies.

Supported by: This project is supported by the ALZHEIMER'S DISEASE CENTERS (ADC) through the Grant: P30 AG028383.

Primary Presenter / email: **Karant, S.** / shama.karant@uky.edu University of Kentucky
Epidemiology
PhD

Mentor / e-mail: Abner, E. L. / erin.abner@uky.edu

Poster Presentation **273**

Abstract Title: **Using Implementation Science to Increase the Accessibility and Acceptability of Behavioral Parent Training in Appalachia**

Author(s): S. E. Loheide A. Merritt, MPH J. A. Jacobs, MPH F. J. Feltner, DNP C. R. Studts, PhD

Abstract: Background: Implementation science is beneficial to public health through its assessment of multifaceted outcomes in addition to standard health measures, evidenced by the Consolidated Framework of Implementation Research (CFIR). In rural Appalachia, we conducted a pilot implementation trial of an adapted delivery model for behavioral parent training (BPT) assessing these implementation outcomes and determinants. Methods: Five community-based paraprofessionals were trained to deliver the Family Check-Up BPT. These paraprofessionals completed quantitative measures assessing constructs under three CFIR domains. Paraprofessionals' supervisors and agency directors (n=6) completed similar quantitative measures. Characteristics of the inner setting were measured with the Organizational Readiness to Change Assessment and the Program Sustainability Assessment Tool. Interventionist characteristics were measured using the Evidence-Based Practice Attitudes Scale-50, Counselor Activity Self-Efficacy Scale, and Therapist Satisfaction Index. Intervention characteristics were measured using Perceived Characteristics of Intervention Scale. Implementation outcomes were operationalized and assessed according to Proctor's definitions, with a focus on feasibility, acceptability, and fidelity of intervention delivery. Findings: With regard to implementation outcomes, results regarding feasibility and acceptability of the Family Check-Up BPT delivery were promising. Fidelity of BPT delivery was fairly low. To summarize the distributions of determinants of implementation outcomes as defined in the CFIR, descriptive statistics will be presented in detail, organized by the five counties in which the paraprofessionals delivered the intervention. Results should be interpreted with caution due to the small sample size. Conclusions: These results will inform the design of a large-scale hybrid effectiveness-implementation trial testing implementation strategies and BPT effectiveness in rural Appalachian communities.

Supported by: This project is supported by NIH/NIMH (R34 MH106661) and NIH/NCATS (through the UK Center for Clinical and Translational Science, UL1TR000117 and 8KL2TR000116). The content is solely the responsibility of the authors and does not necessarily represent the

Primary Presenter / email: **Loheide, S. E.** / sarah.loheide@uky.edu University of Kentucky
Health, Behavior and Society
None/not applicable

Mentor / e-mail: Studts, C. R. / tina.studts@uky.edu

College of Public Health Research Day

Poster Presentation 274

Abstract Title: **Hand hygiene compliance among anesthesia providers in the operating room**

Author(s): A. Miller Master of Public Health University of Kentucky M. Sekhon Office of Infection Prevention and Control UK HealthCare Dr. Ali Department of Anesthesia UK HealthCare

Abstract: Introduction: University of Kentucky HealthCare has specific standards in place for hand hygiene for healthcare workers. Hand hygiene is a primary method of decreasing health care-associated infections. Previous literature related to hand hygiene compliance for anesthesia providers in the operating room was reviewed. The purpose of this observational study was to assess hand hygiene compliance among anesthesia providers in the operating room. Methods: Five Colorectal surgeries were observed for the entire duration of the operation over five-week duration. The observations were in the same operating room for each surgery with different anesthesia providers. The hand hygiene standards observed included: before putting on gloves and after removing gloves, and at contact with blood and/or other potentially infectious materials or surfaces. Results: This study found that some standards for hand hygiene compliance in the operating room were not satisfactory. An average of 11 pairs of gloves (range 9-15) were utilized. Frequent hand hygiene was observed more often after doffing disposable gloves versus before donning disposable gloves. Frequent hand hygiene was observed before and after patient contact. Conclusion: The observations in the operating room revealed inherent challenges in improving hand hygiene compliance among anesthesia providers. Adequate education may improve hand hygiene before and after glove use.

Supported by: N/A

Primary Presenter / email: **Miller, A.** / alexandra.miller@uky.edu University of Kentucky
Health Management and Policy
MPH/MHA

Mentor / e-mail: Ali, S / sali0@uky.edu

Poster Presentation 275

Abstract Title: **Representations of Aging among Eastern Kentucky University Undergraduates**

Author(s): O. M. Pokoski, College of Public Health, U of Kentucky G. D. Rowles, Graduate Center for Gerontology, U of Kentucky

Abstract: Ageism is stereotyping and discrimination on the basis of age and is commonly grounded in perceptions of older adults. As part of a larger study, the perceptions of aging of 135 junior and senior undergraduate occupational therapy students at a regional university were measured using a protocol that involved both drawing and verbal description. One purpose of the study was to compare visual and written representations. Findings with respect to the sketches produced indicated that students consider aging in terms of characteristics that can be easily drawn such as assistive devices (glasses, canes, walkers, and wheelchairs) and physical features (hair loss, wrinkles, and hunched stature). In contrast, findings with regard to the descriptions revealed more subtle dimensions of aging in a bifurcated fashion. While some written descriptions suggest a more negative undertone indicated by a loss of independence and loneliness, other descriptions project a more positive outlook on the aging process as expressed through discussion of retirement and happy marriages. Significant differences between the two sets of findings portray students' abilities to represent aging between the two forms of media. Differences between the two modes of representation suggest that students' abilities to express beliefs and ideas are closely linked to the medium of expression used. The visual medium of sketching tends to result in easily drawn ageist representations of aging while written descriptions tend to express more subtle internal and finely differentiated dimensions of the aging process.

Supported by: Not Applicable

Primary Presenter / email: **Pokoski, O. M.** / olivia.pokoski@uky.edu University of Kentucky
Gerontology
BPH

Mentor / e-mail: Rowles, G. D. / growl2@uky.edu

Poster Presentation 276

Abstract Title: **The Effects of Trauma on Adverse Pregnancy Outcomes**

Author(s): S.J. Robbins, Public Health, U of Kentucky, Lexington, KY H. Bush, Department of Biostatistics, U of Kentucky K. Glover, Department of Biology, U of Kentucky

Abstract: Trauma and violence is an increasing public health concern that has long-term negative consequences on individual health, including but not limited to heart disease, cancer, gastrointestinal disorders, and chronic pain. American women are more likely to experience trauma and violence than men thus presenting an immediate threat to a woman's health and well-being. These outcomes include negatively impacting specific pregnancy outcomes both when trauma occurs while pregnant as well as prior to pregnancy. This study seeks to identify the relationship between types and timing of trauma and its impact on a variety of adverse pregnancy outcomes. This study uses longitudinal data collected by the Kentucky Women's Health Registry (KWHR) between 2006 and 2014. This registry assess past and current health status of women across Kentucky and identifies instances of child abuse and adult violence as well as any adverse pregnancy outcomes. Researchers analyzed these comparisons using odds ratios and logistic regression models to determine the prevalence rate ratios of adverse pregnancies as a result of multi-traumatic exposures in childhood and adulthood.

Supported by: N/A

Primary Presenter / email: **Robbins, S.J.** / sarahjane.robbs@uky.edu University of Kentucky
Biostatistics
BPH

Mentor / e-mail: Bush, H. / heather.bush@uky.edu

Poster Presentation 277

Abstract Title: **Enhancing Timeliness of Drug Overdose Mortality Surveillance: a Machine Learning Approach**

Author(s): P. J. Ward, Kentucky Injury Prevention and Research Center and Department of Epidemiology, U of Kentucky P. J. Rock, Kentucky Injury Prevention and Research Center and Department of Epidemiology, U of Kentucky S. Slavova, Kentucky Injury Prevention and Research Center and Department of Biostatistics, U of Kentucky A. M. Young, Center on Drug and Alcohol Research and Department of Epidemiology, U of Kentucky T. L. Bunn, Kentucky Injury Prevention and Research Center and Department of Epidemiology, U of Kentucky R. Kavuluru, Department of Computer Science and Division of Biomedical Informatics, U of Kentucky

Abstract: Background: Timely data is key to effective public health responses to epidemics. Drug overdose deaths are identified in surveillance systems through ICD-10 codes present on death certificates. ICD-10 coding takes time, but free-text information is available on death certificates prior to ICD-10 coding. The objective of this study was to develop a machine learning method to classify free-text death certificates as drug overdoses to provide faster drug overdose mortality surveillance. Methods: Using 2017-2018 Kentucky death certificate data, free-text fields were tokenized and features were created from these tokens using natural language processing (NLP). These NLP features were then used to train a machine learning classifier on 2017 data. The resulting model was tested on 2018 Kentucky data and compared to a simple rule-based classification approach. Documented code for this method is available for reuse and extensions: <https://github.com/pjward5656/dcnlp>. Results: The machine learning model achieved 0.96 positive predictive value (PPV) and 0.98 sensitivity for an F-score of 0.97 on testing data. The machine learning model achieved significantly higher performance for sensitivity ($p < 0.001$) than the rule-based approach. This model can be deployed on death certificates as soon as the free-text is available, eliminating the time needed to code the death certificates. Conclusion: Machine learning using natural language processing is a relatively new approach in the context of surveillance of health conditions. This method can be employed to inform public health responses to the drug overdose epidemic in near-real time as opposed to several weeks following events.

Supported by: This project was supported by Cooperative Agreement Numbers 5 NU17CE002732-04-00 and 6 NU17CE924880-03-04, funded by the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent

Primary Presenter / email: **Ward, P. J.** / patrickjward@uky.edu University of Kentucky
Epidemiology
PhD

Mentor / e-mail: Slavova, S. / ssslav2@email.uky.edu