in understanding and addressing the needs of women with OF: clinical care, academia, international health, civil society, and government. Twenty-one individuals were interviewed about their perceptions of IDs for OF self-management and their implementation. Interviews were audio-recorded and transcribed. The Consolidated Framework for Implementation Research (CFIR) guided data collection and analysis. Thematic analyses were carried out within Nvivo v.12. RESULTS/ANTICIPATED RESULTS: Determinants of implementation of an ID for OF self-management (by CFIR domain) include: (1) intervention characteristics—*relative advantage* and *cost*; (2) individual characteristics—*knowledge and beliefs about the innovation*; (3) inner setting– *organizational culture, implementation climate, tension for change,* and *compatibility*; (4) outer setting– *patient needs and resources* and *external policy and incentives*; (5) process—*opinion leaders* and *collaboration*. Facilitators include: tension for change for low-cost, accessible IDs; relative advantage over existing tools; development of partnerships; and identification of implementation champions. Barriers include: need for educational strategies to encourage clinical provider acceptability; lack of evidence of the optimal beneficiary. DISCUSSION/SIGNIFICANCE OF IMPACT: Tools for therapeutic OF self-management could be integrated into comprehensive OF programming. Employing the CFIR as an overarching typology allows for comparison across contexts and settings where OF care occurs and may be useful for clinicians, researchers, and policy-makers interested in implementing IDs for OF self-management in LMICs. CONFLICT OF INTEREST DESCRIPTION: I am working with colleagues at the non-profit Restore Health on developing an insertable cup for therapeutic self-management of obstetric fistula in LMICs

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4432

Transportation Barriers and Preferences Among Drivers with Developmental Disabilities in Southeast

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OBJECTIVES/GOALS: Transportation may be a barrier for individuals with Autism Spectrum Disorder (ASD). More individuals with ASD utilize public transportation compared to typically developing (TD) individuals. This study seeks to elucidate the transportation needs of individuals with ASD in the Southeast. METHODS/STUDY POPULATION: Sixty-one licensed drivers with a diagnosis of ASD (n = 21), Attention-Deficit/Hyperactivity Disorder (ADHD; n = 19), or no diagnosis (TD; n = 21) were recruited and were matched across diagnosis groups by age (16-30 years old), gender, and IQ. Participants completed an adapted version of the Barriers to Care Scale and a survey assessing transportation preferences and quality of life. Means and frequencies were obtained. Chi-square analyses were conducted to estimate associations between diagnosis and transportation preferences. RESULTS/ANTICIPATED RESULTS: Nearly all of the sample had access to a car (98.4%). Yet, only 71.4% of drivers ASD preferred to use their own car compared to 89.5% and 90.5% of the ADHD and TD groups respectively. The use of public transportation (6.6%) and ride-hailing services (18%) for general transportation needs was very low across the groups. There was a significant association between group type and the reliance on others for transportation ($\chi^2(2,61) = 9.9$, $p < .01$). Only 21.1% of those with ADHD relying on others for transportation needs, compared to 61.9% of TD and 66.7% of individuals with ASD. 23.8% of ASD drivers, 10.5% of ADHD drivers, and 9.5% of TD drivers believe transportation proved as an obstacle. DISCUSSION/SIGNIFICANCE OF IMPACT: The proportion of ASD drivers who believed transportation to be a barrier appeared slightly higher than other groups. Public transportation use may be low due to lower accessibility to such services in the Southeast. The travel patterns of individuals with ASD and ADHD merits further exploration.

4345

Two-step Algorithm for Clostridioides difficile is Inadequate for Differentiating Infection from Colonization in Children

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OBJECTIVES/GOALS: In 2017, new guidelines recommended multi-step algorithms for CDI diagnosis, and clinical centers rapidly implemented changes despite limited pediatric data. We assessed a multi-step algorithm using NAAT followed by EIA for ability to differentiate symptomatic CDI from colonization in children. METHODS/STUDY POPULATION: We prospectively enrolled pediatric patients with cancer, cystic fibrosis, or inflammatory bowel disease who were not being tested or treated for CDI and obtained a stool sample for NAAT. If positive by NAAT (colonized), EIA was performed. Children with symptomatic CDI who tested positive by NAAT via the clinical laboratory were also enrolled and EIA performed on residual stool. A functional cell cytotoxicity neutralization assay (CCNA) was performed in addition. RESULTS/ANTICIPATED RESULTS: Of the 138 asymptomatic children enrolled, 24 (17%) were colonized. An additional 37 children with symptomatic CDI were enrolled. Neither EIA positivity (41% versus 21%, $P = 0.11$) or CCNA positivity (49% versus 46%, $P = 0.84$) were significantly different between symptomatic versus colonized children. When both EIA and CCNA were positive, children were more commonly symptomatic than colonized (33% versus 13%, $P = 0.04$). DISCUSSION/SIGNIFICANCE OF IMPACT: A multi-step testing algorithm with NAAT and EIA failed to differentiate symptomatic CDI from colonization in our pediatric cohort. As multi-step algorithms are moved into clinical care, pediatric providers will need to be aware of the continued limitations in diagnostic testing.

4151

Understanding barriers and solutions towards access to mental health among rural adolescents

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OBJECTIVES/GOALS: There are two objectives: 1) To identify healthcare providers' (HCP) barriers and potential solutions towards

rural adolescents' access to mental healthcare. Healthcare providers include pharmacists, physicians, and mental healthcare providers (MHPs). 2) To identify rural high schoolers' barriers and potential solutions towards access to mental healthcare. METHODS/ STUDY POPULATION: Fifteen HCPs will be recruited via email listserv and the snowball method. Perceived barriers of rural adolescents, personal barriers, current practices to address mental health in adolescents, and preferred solutions will be discussed. Twenty student and parent dyads will be recruited using fliers in school systems and will be interviewed individually outside of class time on school grounds or over the phone. Barriers to care and preferred solutions will be discussed. All interviews will be semi-structured, recorded, conducted in person or over the phone, and last for 30 minutes to an hour. Compensation will be $25 for students and parents each, $50 for pharmacists and mental health providers and $100 for physicians. Thematic qualitative data analysis will be performed using Atlas.ti software. RESULTS/ANTICIPATED RESULTS: Data collection is ongoing. Anticipated results for barriers include absence of mental healthcare providers in rural areas, inability to access mental healthcare providers further away, stigma towards mental healthcare, and lack of knowledge of mental health conditions and treatment. Anticipated results for potential solutions may include promoting mobile applications to assist with telehealth and self-care. Other solutions may be collaboration among rural healthcare providers for adolescents with mental health conditions. Preferred solutions may also include pharmacists disseminating knowledge to rural adolescents and their parents or referrals to mental healthcare providers. DISCUSSION/SIGNIFICANCE OF IMPACT: This project will identify barriers and solutions to access to mental healthcare among rural adolescents. These solutions can then be applied towards the creation of programs that address salient issues within rural communities with a greater chance of uptake and use so that rates of depression and suicide will decrease. CONFLICT OF INTEREST DESCRIPTION: Funding through UAB TL1 award.

4129

Understanding Treatment Preferences for Hodgkin Lymphoma (HL) among Physicians, Patients and Caregivers

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OBJECTIVES/GOALS: Although their 5-year survival >90%, young patients with HL face tradeoffs between near-term disease control and risk of treatment-related adverse effects decades later, so we seek to understand what patients and clinicians value in HL treatment decisions. METHODS/STUDY POPULATION: Leveraging our access to large cohorts of physicians, HL patients/survivors, and caregivers, we will use adaptive choice-based conjoint analysis (ACBC) to elicit treatment preferences when offered scenarios that incorporate tradeoffs, e.g., would a patient rather live 20 years with 10% risk of second malignancy or live 40 years with 30% of second malignancy. To reduce survey fatigue, prior choice responses limit subsequent scenarios. Through ACBC, we will identify variations in preferences and the importance of disease outcomes, treatment characteristics, and late effects for HL by respondent type. RESULTS/

ANTICIPATED RESULTS: The goal is a final sample of 200 physicians and 200 patients/caregivers. We will collect demographics from physicians (age, type of physician, years practicing, type of practice, gender, and geography) and patients/caregivers (age at diagnosis, time since treatment, race, gender, smoker, education). We will ask questions about values of disease outcomes, late effects (second cancers, cardiac disease, chronic fatigue and neuropathy), and treatment characteristics (uncertainty of late effects, salvageability). Results will include utilities about participants views on disease-control and late effects. We anticipate participants to value disease control over late effects. DISCUSSION/SIGNIFICANCE OF IMPACT: Our study will elicit how physicians and patients/caregivers value treatment tradeoffs for HL. In an era of multiple treatment choices with varying short- and long-term benefits and harms, identifying values and preferences become critical for patient-centered treatment decisions.

4317

Using Failure Modes and Effects Analysis to Guide Adaptation of an Evidence-Based Parenting Program for Mothers with Substance Use Disorders

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OBJECTIVES/GOALS: To identify possible failures that could occur in the delivery of an evidence-based parenting program for mothers with substance use disorders (SUD) through existing home-visiting services, and to develop solutions to the most significant failures. METHODS/STUDY POPULATION: Using failure modes and effects analysis (FMEA) methodology, we conducted two 2-hour advisory panel discussions with 15 people from a variety of disciplines and life experiences related to SUDs. The intervention delivery process included five steps: (1) Recruitment, (2) Screening, (3) Matching, (4) Enrollment in person, and (5) Intervention delivery. Participants collectively determined possible failures, causes, and consequences. Participants then agreed on three scores (Likert Scale 0-10) for the likelihood of occurrence, detection, and severity of the failure, with 10 being the highest likelihood, difficulty detecting, or severity. A risk priority number (RPN) was calculated as the product of the 3 scores (maximum RPN = 1,000). The group then identified possible solutions for failures with higher RPNs. RESULTS/ANTICIPATED RESULTS: For each step in the process we identified the following number of failure nodes and RPN scores: (1) recruitment: 13 failures; RPN = 800, (2) screening: 102 failures; RPN = 10, (3) matching: 4 failures: RPN = 490, (4) enrollment: 6 failures; RPN = 80, (5) delivery: 11 failures; RPN = 80. The most critical failures related to recruitment and were perceived as being caused by potential development of mistrust in the community. Participants strongly encouraged the use of "strengths-based language," clear referral plans for mothers that did not qualify, and inclusion of mothers that did not have custody of their children. These findings resulted in changes to the screening script, enrollment procedures, and inclusion criterial for the program. DISCUSSION/ SIGNIFICANCE OF IMPACT: FMEA methodology was particularly effective in identifying possible failures for the integration of an