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Contraceptive Decision Making Among Women with Diabetes Mellitus: A Mixed Methods Study

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OBJECTIVES/GOALS: Women with diabetes (DM) have higher rates of unplanned pregnancy and pregnancy complications, indicating a need for DM-specific counseling. Our aim is to use the Health Belief Model (HBM), widely applied to DM interventions, to create a conceptual model of contraceptive decision-making for women with DM. **METHODS/STUDY POPULATION:** Our convergent mixed methods study integrates quantitative survey data and qualitative interview data from women aged 18-50 with DM. We will interview until theoretical saturation is achieved. Descriptive statistics will be calculated to summarize demographics, health history, and contraceptive use and knowledge. Using a grounded theory approach, qualitative analysis will be conducted by JW and EJ with special focus on exploring HBM constructs. A joint display will be used to integrate key quantitative variables by qualitative themes. Finally, we will aim to implement these HBM constructs within the context of contraceptive decision-making for women with DM. **RESULTS/ANTICIPATED RESULTS:** To date, we have interviewed 16 women with average age of 35 and an equal mix of type 1 vs. type 2 DM and those who identify their health as poor/fair vs. good/very good. The following HBM domains have emerged as relevant to contraceptive decision-making: perceived threats, perceived barriers, cues to action and self-efficacy. An analysis of the cues to action domain suggests that patients' responses to provider counseling are substantially dependent on provider tone and awareness of patient context. Effective cues were delivered supportively with focus on health promotion, while ineffective cues focused on adverse outcomes or were delivered to women not at risk of pregnancy. **DISCUSSION/SIGNIFICANCE OF IMPACT:** The application of the HBM to contraceptive decision making among women with DM will provide insight into critical factors that inform both patient and provider attitudes and behaviors and can be targeted for future interventions to reduce unplanned pregnancy in this vulnerable population.

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CTSA Recruitment Resources: An Inventory of What CTSA Hubs Are Currently Offering

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OBJECTIVES/GOALS: The objective of this project was to determine the research volunteer recruitment capabilities and methodologies currently utilized by CTSA Hubs in order to disseminate recruitment best practices and create collaborations across institutions. **METHODS/STUDY POPULATION:** The CTSA Recruitment and Retention working group developed a REDCap survey to collect information about what participant recruitment and retention resources and processes

are being used at CTSA institutions to support investigators. It was distributed to CTSA institutions between May and July 2019. The survey, consisting of over 50 multiple choice and short answer questions, is an updated version of a 2016 survey. Institutions reported on registry use, feasibility assessment use, clinical trial listings, experience recruiting special populations, program operations and evaluation, workforce education, social media use and other recruitment resources. **RESULTS/ANTICIPATED RESULTS:** 40 of the 64 CTSA institutions completed the survey. Almost all of those responding are providing investigators access to a registry either favoring their institutional registry (45%) or ResearchMatch (34%) with most (85%) leveraging ResearchMatch to some extent. Over 80% of the CTSA institutions are providing investigators recruitment consultations, feasibility assessments, study listings, and EMR Utilization. 73% of the CTSA institutions are assisting with study materials with 47% offering social media assistance. Additionally, over half the respondents indicated they were successful recruiting healthy volunteers, patients, seniors, pregnant women, minors, low-income populations and underrepresented minorities; however, most found recruiting non or limited English speaking persons and rural populations challenging. **DISCUSSION/SIGNIFICANCE OF IMPACT:** A variety of recruitment and retention resources exist across CTSA institutions, and this inventory serves as a way to compile these services and foster collaboration across institutions. Additionally, it allows CTSA institutions to identify services not currently being offered that could improve outcomes while also creating opportunities for collaboration.

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Development and validation of parental empathy analog tasks

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OBJECTIVES/GOALS: Parents' empathy toward their children affects their parenting, which can in turn impact child outcomes. Although parental empathy is theoretically distinct from trait empathy, current literature relies on largely self-report measures of parents' trait empathy. Thus, the current study evaluated new analog assessments of parental empathy. **METHODS/STUDY POPULATION:** One parental empathy analog measure (Empathy Measure for Parents Analog Task, Emotion Script; EMPAT-ES) was created based on parents' responses to open ended prompts describing scenarios that elicit different emotions (e.g., happy, mad, sad, scared) in children. These responses were used to create short scripts. A second analog task (EMPAT, Emotion Audio) was created using 20 sec audio clips of children expressing the different emotions wherein participants respond with how they feel hearing the emotions and separately, how they believe the child feels. After an initial pilot, both versions of the EMPAT-E were administered to 120 families enrolled in a prospective longitudinal study. Parents completed self-report measures of trait empathy and parental empathy, as well as the EMPAT-ES and EMPAT-EA analog tasks. **RESULTS/ANTICIPATED RESULTS:** Internal consistency of both the EMPAT-ES and EMPAT-EA tasks are expected to be robust, demonstrating the reliability of these novel assessments of parental empathy. Results are also expected to demonstrate the construct and convergent validity of both analog tasks. These new measures of parental empathy are expected to be significantly associated with measures of trait empathy. Specifically, parents' responses indicating how they believe the child feels in the analog are expected to be strongly related to their reported emotion recognition abilities and responses indicating how

analog items made parents feel are expected to be related to parents' empathic concern. Finally, parents' responses to the analog tasks are anticipated to be strongly associated with parents' self-reported parental empathy. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Valid, novel assessments of parental empathy can impact the parenting literature as well as community intervention and prevention efforts with parents. Such analog tasks can bolster parenting research but they may also be translated to the community setting as a training tool wherein parents are taught new skills that promote more positive parenting.

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Development of a Falls-Prevention Self-Management Plan for Community Dwelling Older Adults

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OBJECTIVES/GOALS: 1. To determine older adults' opinions on content that is valuable for inclusion in a falls-prevention self-management plan. 2. To determine older adults' recommendations of mode(s) to promote adherence to falls prevention recommendations. **METHODS/STUDY POPULATION:** On-on-one semi structured interviews with older adults are ongoing to determine their opinions on content for inclusion in a falls-prevention self-management plan and recommendations for mode of delivery. As in our prior investigations, we used the theoretical constructs of the health belief model to develop our questions. Interviews will be recorded and transcribed. Data will be entered into MAXQDA12 and coded. Concurrent data collection and analysis will continue until theoretical saturation of themes are achieved. Through this iterative process, we will identify content and mode of delivery for a falls- prevention self-management plan for implementation with older adults. **RESULTS/ANTICIPATED RESULTS:** We anticipate we will have conducted enough interviews to achieve data saturation by February, 2020. We expect the results of this qualitative investigation to guide the development of a falls-prevention self-management plan that includes targeted implementation and adherence strategies deemed acceptable and feasible for use among older adults following community-based falls-risk screenings. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Falls are the leading cause of morbidity and mortality among older adults. Adherence to falls prevention among older adults is poor, even among those that voluntarily seek out recommendations. The results of this study will assist with development and pilot testing of a falls-prevention self-management plan to assist older adults to adhere to recommendations.

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Development of a Patient Registry and Biospecimen Repository to Identify Biomarkers in Nontuberculous Mycobacteria Lung Disease

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OBJECTIVES/GOALS: Non-tuberculous mycobacteria (NTM) is an emerging infection in the United States. Therapeutic development is impaired in NTM due to lack of biomarkers associated with disease activity and treatment response. To address this, we established a cross-sectional patient registry and biorepository from NTM

patients. **METHODS/STUDY POPULATION:** Beginning August 2019 patients were recruited in a cross-sectional format from the bronchiectasis and NTM clinics at our institution. All patients provided at least one sputum sample in the six months prior to inclusion. Clinical and epidemiologically relevant data was obtained, patient reported outcome measures including the SGRQ were provided, and blood specimens were processed and preserved. Patients were grouped based on clinical phenotype and descriptive statistics were reported as means and standard deviations. Serum inflammatory profiles will be analyzed using standard Luminex assays. **RESULTS/ANTICIPATED RESULTS:** 72 patients with prior NTM isolation from sputum have been recruited including 28 patients that do not meet ATS guidelines for NTM treatment (colonized), 29 patients are currently receiving treatment, and 15 patients that have a history of completing therapy. Among all NTM patients, the mean age was 59.5 ±17.6 years and 80.8% were female. The mean FEV₁ percent predicted among these patients was 68.0 ±21.5% and mean BMI was 22.35 ±4.1. The most common mycobacterial species isolated was Mycobacterium Avium Complex (47%). The mean SGRQ total score was 40.2 ±20.3 among all NTM patients. We plan to perform standard Luminex assays to identify inflammatory profiles associated with disease phenotype. **DISCUSSION/SIGNIFICANCE OF IMPACT:** We developed a cross sectional cohort of NTM patients including a registry of clinically relevant data for phenotyping and an accompanying biospecimen repository. Our long-term goal is to identify biomarkers indicative of disease activity and treatment response using these components.

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Development of a Survey Instrument to Predict Uptake of and Adherence to Active Surveillance among Men with Low-Risk Prostate Cancer

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OBJECTIVES/GOALS: Active surveillance (AS) is a recognized strategy to manage low-risk prostate cancer (PCa) in the absence of cancer progression. Little prospective data exists on the decisional factors associated with selecting and adhering to AS in the absence of cancer progression. We developed a survey instrument to predict AS uptake and adherence. **METHODS/STUDY POPULATION:** We utilized a three-step process to develop and refine a survey instrument designed to predict AS uptake and adherence among men with low-risk PCa: 1) We identified relevant conceptual domains based on prior research and a literature review. 2) We conducted 21 semi-structured concept elicitation interviews to identify patient-perceived barriers and facilitators to AS uptake and adherence among men with a low-risk PCa who had been on AS for ≥1 year. The identified concepts became the basis of our draft survey instrument. 3) We conducted two rounds of cognitive interviews with men with low-risk PCa (n = 12; n = 6) to refine and initially validate the instrument. **RESULTS/ANTICIPATED RESULTS:** Relevant concepts identified from the initial interviews included the importance of patient: knowledge of their PCa risk, value in delaying treatment, trust in urologist and the AS surveillance protocol, and perceived social support. Initially, the survey was drafted as a single instrument to be administered after a patient had selected AS comprising sections on patient health, AS selection, and AS adherence. Based on the first round of cognitive interviews, we revised the single