

selecting Web site content, images, and colors. Using this feedback, the TRI Recruitment Unit (RU), in conjunction with UAMS Communications and the Center for Health Literacy, developed the materials and crafted comprehensive communication and recruitment strategies. The UAMS Center for Pacific Islander Health, Hispanic faculty, and CAB members translated materials. UAMS IT programmed the user-friendly site to allow registration from smartphones and i-Pads and linked to UAMS patient electronic health messages. RESULTS/ANTICIPATED RESULTS: The RU committee implemented successful innovative strategies, including recruiting at the Arkansas State Fair and ballgames, attended by people of all races, ages, and socio-economic levels. Using i-Pads at the sites, recruitment took <5 minutes/registrant. Within 8 months, >2400 participants from across Arkansas had joined the registry: 14% African-Americans, 8% Pacific Islanders, 5% Hispanic, and 3% Native American. DISCUSSION/SIGNIFICANCE OF IMPACT: Involving CAB multi-disciplinary input to design and implement recruitment materials was highly successful. Despite challenges of recruiting under-represented groups, the registry includes 30% minorities. By tracking registrants' demographics with Lime Survey software, the RU will prioritize future recruitment events to maximize diversity of registrants.

2058

Are atrial fibrillation patient-reported outcomes associated with person and environment characteristics?

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OBJECTIVES/SPECIFIC AIMS: (1) Determine person (sex, age, education level), environment (marital status, living alone, insurance), and health and illness (BMI, type of AF, comorbidities) characteristics that are associated with outcomes (QOL, symptom severity, and emotional and functional status). (2) Determine the association of symptom management strategies (ablation, cardioversion, and rate and rhythm control medications) and outcomes (QOL, symptom severity, and emotional and functional status). (3) Test person (sex, age, and education level) and environment (marital status, living alone, insurance) characteristics as moderators of the effect of symptom management strategies (ablation, cardioversion, and rate and rhythm control medications) on outcomes (QOL, symptom severity, and emotional and functional status). METHODS/STUDY POPULATION: AF patients (≥ 18 years of age) already enrolled in the PaTH study will be included. To date, 1026 total participants have been enrolled. Based on the enrolled participants, 92% (945) of our study population are Caucasian and 36% (362) are female. The age range of the enrolled participants is: 2% (16) 18–39, 4% (42) 40–49, 11% (108) 50–59, 33% (343) 60–69, 34% (353) 70–79, and 16% (162) 80+. Participants are recruited through in-person, email, phone, patient portal messaging and post mail techniques to ensure a representative sample. The PaTH study integrates electronic health record and insurance claims data with patient-reported outcome measures collected through online surveys. RESULTS/ANTICIPATED RESULTS: We hypothesize that sex, older age, low education level, living alone, absence of partner, absence of insurance coverage, high BMI, and a high number of comorbidities will be associated with lower QOL, high symptom severity, and low emotional and functional status. We further hypothesize that symptom management strategies will be associated with higher QOL, low symptom severity, and high emotional and functional status, and that these associations will be moderated by person and environment characteristics. DISCUSSION/SIGNIFICANCE OF IMPACT: The proposed research is an important first step in determining potential causes of person and environment differences in symptom severity. It will lead to tailored symptom management interventions for individuals most at risk for experiencing high symptom severity.

2061

Prevalence, associated characteristics, and diagnostic and treatment process experiences of women seeking emergency department care after being strangled: A mixed methods study

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OBJECTIVES/SPECIFIC AIMS: Aim 1—estimate prevalence and associated characteristics of nonfatal, non-self-inflicted strangulation among women ages 18 and older who presented to a US emergency department between 2006 and 2013. Aim 2—explore care-seeking behaviors, the context of the care seeking, treatment expectations and perceived diagnosis in a sample of women ages 18 and older who present to a US emergency department and report being strangled by an intimate partner. Aim 3—merge and synthesize findings from

both the quantitative and qualitative strands to provide a more complete understanding of post-strangulation emergency care of women. METHODS/STUDY POPULATION: This mixed-methods study will use a convergent parallel design, with a single phase of concurrent and independent data collection. Analysis of quantitative and qualitative data will be performed separately then compared, with main findings integrated during the interpretation phase and presented in a merged data analysis display. IRB review and approval will be obtained before initiating this study. Aim 1 will include a cross-sectional analysis of 2006–2013 Nationwide Emergency Department Sample (NEDS) data, from the Agency for Healthcare Research and Quality's Healthcare Cost and Utilization Project (HCUP). NEDS is the US's largest all-payer emergency department (ED) database, providing national estimates of hospital-based ED visits from ~120 to 135 million ED visits/year (weighted). For this study, we will examine data from patients meeting inclusion criteria with an International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM; Medicode, 1996) code of strangulation. For this strand, females aged 18 years or older who presented to a US emergency department between 2006 and 2013 will be included. The outcome variable will be non-fatal, non-self-inflicted strangulation, defined using at least one of the ICD-9-CM codes for strangulation. These codes are: 994.7 ("asphyxiation and strangulation"), E963 ("assault by hanging and strangulation"), E983.8 ("strangulation or suffocation by other specified means undetermined whether accidentally or purposely inflicted"), and E983.9 ("strangulation or suffocation by unspecified means undetermined whether accidentally or purposely inflicted"). Patients with a concurrent ICD-9-CM code for suicide attempt (E953, "Suicide and self-inflicted injury by hanging, strangulation and suffocation") will be excluded, to minimize self-inflicted assault events. Aim 2 will employ a narrative descriptive approach, with semistructured individual interviews to gather more information about women's experiences when engaging the health care system after being strangled. Medical records related to the strangulation event will also be reviewed for diagnostic codes and other nursing and/or medical notes that may relate to diagnoses, treatment and referrals. For this strand, women aged 18 years or older who present for care to an urban, academic ED will be recruited, purposely sampling those reporting strangulation as a reason for their visit. We anticipate interviewing ~20–30 women to achieve saturation of information. RESULTS/ANTICIPATED RESULTS: Data from the NEDS from 2006 to 2013 will be analyzed for prevalence and associated characteristics of women seeking care after being strangled. Individual interviews and medical record reviews of a small sample of adult women will be conducted to explore women's in-depth experiences within the health care system. Results from both the quantitative and qualitative analyses will then be collectively compared and interpreted to better synthesize the evidence from this work. Convergent and divergent findings will be presented in a merged data analysis display (Creswell and Plano Clark, 2011). Qualitative data will be used to fill the knowledge gap remaining from the quantitative analysis, and to explain and contextualize some of the findings. Such integration will help expand the current limited evidence on care of strangled women, and will identify additional research questions that will guide future research in this area. DISCUSSION/SIGNIFICANCE OF IMPACT: To our knowledge, this study will be the first to explore this issue using a nationally representative sample of adult women who sought emergency medical care for strangulation analyzed in conjunction with a detailed qualitative analysis of strangled women's experiences with the health care system. The resulting knowledge will be critical to informing clinical assessment, intervention and prevention efforts for this vulnerable population, as well as public policy and future research regarding this specific violence tactic.

2087

Better Together Lebanon County: A collaboration to improve the health environment and reduce obesity through community-owned initiatives

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OBJECTIVES/SPECIFIC AIMS: Improving public health requires effective community-engaged approaches. The Better Together Lebanon County initiative plans to create opportunities for improved health and quality of life by aligning strategies of local organizations, previously working independently. METHODS/STUDY POPULATION: Better Together began with a 1-day summit, convening stakeholders with the goal of coordinating efforts and maximizing resources in the Lebanon community. Key stakeholders were identified using the socioecological model to assist with planning, goal setting, and developing outcomes for this initiative. Representation included community members, hospital systems, restaurants, school administrators, nonprofit organizations (including YMCA, American Heart Association), grocery stores and policy makers such as the mayor, health departments, and state representatives. RESULTS/ANTICIPATED RESULTS: The Better Together

summit brought together almost 200 individuals representing 82 local organizations to share ideas and evoke collaboration around decreasing health disparities. Attendees learned about programs within and outside of their communities and volunteered for task forces to propel the community forward. Currently, we have members committed to further this work through Action Teams within the sectors of Physical Activity, Healthy Food Access and Family and Community Engagement. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Convening individuals from many layers of the community helps to ensure discussions are representative of the overall community voice. It is vital to facilitate effective collaboration that includes networking, identifying assets and areas of improvement, brainstorming solutions and integrating research and best practices to improve the health of a community.

2117

Parenting, anxiety, and adaptive function in children with chromosome 22q11.2 deletion syndrome

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OBJECTIVES/SPECIFIC AIMS: Chromosome 22q11.2 deletion syndrome (22q) has a prevalence almost as common as Down syndrome. 22q is well known for medical complications, including congenital heart disease and immune dysfunction. However, children with 22q also have borderline cognitive abilities, are at high risk for ADHD and anxiety, and have poor independent living skills (adaptive function). Parenting is one modifiable factor that has been found in typically developing populations to promote independent functioning and protect against the development of anxiety disorders. This study investigates the associations between parenting, anxiety, and adaptive functioning in 22q. **METHODS/STUDY POPULATION:** Parent-child (ages 4–11) dyads participated in an ongoing study involving observed parenting during challenging tasks plus questionnaires of parenting, child anxiety, and child functioning. In total, 52 dyads [22q = 25; typical development (TD) = 27] have enrolled to date. Parents completed questionnaires, including the Parenting Styles and Dimensions Questionnaire (PSDQ), Spence Children's Anxiety Scale, and Adaptive Behavior Assessment System for Children (ABAS-II). PSDQ dimensions of interest included Parental Psychological Control (PPC: the management of child behavior through the manipulation of emotions, expectations, and independence), Authoritative, Authoritarian, and Permissive, and the subscales of these broad dimensions. Scores were compared using *t*-tests and multiple regression models were used to investigate the relationships between 1-parenting and anxiety and 2-parenting and adaptive function. **RESULTS/ANTICIPATED RESULTS:** Mean age was 7.8 ± 2.1 years. Full Scale IQ (TD: 112.3 vs. 22q: 82; $p < 0.001$) and ABAS-II Global Adaptive Composite (TD: 102.7 vs. 22q: 69.2; $p < 0.001$) were significantly higher in the TD group. Parents in the 22q group reported higher levels of PSDQ PPC (22q: 2.3 vs. TD: 2.1; $p = 0.06$), specifically overprotection (22q: 3.7 vs. TD: 3.3; $p = 0.04$), and lower Authoritative parenting (22q: 4.1 vs. TD: 4.4; $p = 0.03$), across the subscales. There were no differences in Authoritarian or Permissive parenting. Children with 22q had higher Spence Total Anxiety scores (22q: 62.5 vs. TD: 47.4; $p < 0.001$). Self-reported PPC and group ($R^2 = 0.3$, $F_{3,48} = 8.1$, $p < 0.001$) predicted child anxiety with a main effect of PPC ($\beta = 16$, $p = 0.02$). Group tended to moderate the association between PPC and anxiety ($\beta = -17.5$, $p < 0.10$), with PPC predicting anxiety for the 22q group ($r = 0.35$, $p < 0.09$), but not the TD group ($r = -0.08$, ns). At this time, a relationship between PPC and child ABAS-II GAC in 22q ($r = -0.14$; $p = 0.5$) is not identified. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Children with 22q are at high risk for anxiety and poor adaptive outcomes. These results suggest that parents of children with 22q use higher levels of PPC, which is correlated with increased child anxiety. These analyses also provide support for parenting interventions to improve anxiety in children with 22q and possibly mitigate the serious mental health risk in this population.

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A novel treatment delivery of acceptance and commitment therapy for chronic pain in an integrated primary care setting

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OBJECTIVES/SPECIFIC AIMS: This study seeks to test the feasibility and effectiveness of a brief acceptance and commitment therapy (ACT) treatment for chronic pain patients in a primary care clinic **METHODS/STUDY**

POPULATION: Primary care patients aged 18 years and older with at least 1 pain condition for 12 weeks or more in duration will be recruited. Patients will be randomized into (a) ACT intervention or (b) control group. Participants in the ACT arm will attend 1 individual visit with an integrated behavioral health provider, followed by 3 weekly ACT classes and a booster class 2 months later. Control group will receive enhanced primary care that includes patient education handouts informed by cognitive behavioral science. Data analysis will include 1-way analysis of covariance (ANCOVA), multiple regression with bootstrapping. **RESULTS/ANTICIPATED RESULTS:** The overall hypothesis is that brief ACT treatment reduces physical disability, improves functioning, and reduces medication misuse in chronic pain patients when delivered by an integrated behavioral health provider in primary care. In addition, it is anticipated that improvements in patient functioning will be mediated by patient change in pain acceptance and patient engagement in value-consistent behaviors. **DISCUSSION/SIGNIFICANCE OF IMPACT:** This pilot study will establish preliminary data about the effectiveness of addressing chronic pain in a generalizable integrated primary care setting. Data will help support a larger trial in the future. Findings have potential to transform the way chronic pain is currently managed in primary care settings, with results that could decrease disability and improve functioning among patients suffering from chronic pain.

2141

What is the role of race and ethnicity in the development of thionamide-induced neutropenia?

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OBJECTIVES/SPECIFIC AIMS: Thionamides are anti-thyroid drugs (ATD) that are commonly used to treat autonomous thyrotoxicosis. Although efficacious, these medications carry a risk of neutropenia or agranulocytosis in a small but finite proportion of the patients who receive them. Some risk factors for thionamide-induced neutropenia have been identified, including body mass index (BMI) and dose, but the role of race and ethnicity in the pathogenesis of this potentially life-threatening side effect is not known. We hypothesize that there will be no effect of race or ethnicity on the change in absolute neutrophil count (ANC) following initiation of thionamide therapy among adult patients with thyrotoxicosis. **METHODS/STUDY POPULATION:** Data from the electronic medical record at UNM HSC were obtained using a standard database query for the years 2000–2016. Inclusion criteria were the prescription of an ATD, an ANC recorded within 30 days of initiating ATD therapy (pre-ATD), and an ANC recorded between 75 and 365 days after starting an ANC (post-ATD). Patients taking other agents known to cause neutropenia and agranulocytosis, such as clozapine, allopurinol, or chemotherapy, were excluded. Patients were assigned to racial and ethnic groups as follows: Hispanic, non-Hispanic Caucasian (NHC), native American, Black, and Asian. The post-ATD ANC was defined as the nadir ANC observed after the ATD was started. "Delta ANC" was defined as [(post-ATD ANC) – (pre-ATD ANC)]. ANOVA analysis with Bonferroni-adjusted post-hoc testing was performed to examine differences in the mean changes of ANC across ethnic groups. **RESULTS/ANTICIPATED RESULTS:** In total, 123 adult patients met inclusion and exclusion criteria and were included in the analysis. No significant difference was found between any of the racial groups with regard to age, sex, BMI, pre-ATD ANC, or the pre-ATD to post-ATD ANC interval. The native American group showed a significantly greater post-ATD ANC (not shown) and Delta-ANC as compared with the other groups. Delta ANC Hispanic = -1.4 ± 3.3 , Caucasian = -0.6 ± 3.3 , Black = -0.9 ± 4.1 , Asian = -3.8 ± 4.8 , native American = 3.6 ± 5.1 (all units per mm^3 ; $p < 0.001$). **DISCUSSION/SIGNIFICANCE OF IMPACT:** In this cohort of New Mexicans with thyrotoxicosis, native American race was protective against thionamide-induced neutropenia.

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Relationships between medical complexity factors and medication confidence and adherence among older Singaporean adults

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OBJECTIVES/SPECIFIC AIMS: To investigate whether medical complexity (indicated by multiple providers or healthcare visits) is associated with lower levels of confidence in medication use and lower medication adherence **METHODS/STUDY POPULATION:** Data on socio-demographics, health encounters, health status, and health attitudes and behaviors from a nationally representative sample of 1575 older Singaporean adults were utilized. The