

their own providers, and that there are an array of problems that could be targeted. Intervening with parents of young children has the potential to affect multiple child outcomes. A group intervention may target poor social support, though this format is not universally preferred. Next steps for this project include assessing the acceptability of and preference for various content components (ie, depression, parenting stress, legal issues) and linking parent data with child data (including developmental screening results, weight, feeding problems, and behavior problems).

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Community engagement in clinical and translational research: A framework for research institutions

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OBJECTIVES/SPECIFIC AIMS: Community engagement is a commonly used term, but is complex in both meaning and application. In order to help academic institutions and administrators develop infrastructure to promote and support community engagement and to help investigators work productively with communities, this analysis discusses the major components of community engagement in research on both the institutional and individual project levels as well as the interplay between them. **METHODS/STUDY POPULATION:** A literature synthesis conducted by a community engagement in research committee at 1 CTSA institution that examined the myriad factors related to effective community engagement in research identified across multiple disciplines was used to distill the major factors identified, assesses the interplay of the identified factors, and produce a conceptual model to help administrators and investigators apply best practices in engaging communities in clinical and translational research. **RESULTS/ANTICIPATED RESULTS:** This work takes a concept—community engagement in research—that is often stated and discussed, but is highly complex and challenging to implement—and identifies and discusses the multiple, interrelated factors germane to it. The model illustrates that while community engagement in research is implemented in the context of individual projects, a deep and continual interplay between individual projects and the goals, capacity, and policies of research institutions is needed for rigorous, ethical, and effective community engagement. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Results are presented through a conceptual framework which displays the major components needed for rigorous, ethical, and effective community engagement in clinical and translational research. In addition, the conceptual framework presented will provide assistance to those developing approaches to measure and evaluate institutional readiness for community engagement in research as well as the effectiveness of individual community engagement efforts.

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Examination of barriers and facilitators to sexual healthcare access among adolescent Latinas in Alabama

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OBJECTIVES/SPECIFIC AIMS: Alabama (AL) experienced a 145% increase in its Latino population between 2000 and 2010; making it the state with the second fastest growing Latino population in the United States (US) during that time. Adolescent Latinas in the US and in AL are disproportionately affected by sexual health disparities as evidenced by the disproportionate burden of HIV, STIs and early pregnancy compared with their non-Hispanic, White counterparts. Empirical data with adult Latinas in the southeast suggest significant barriers to sexual healthcare access. However, to our knowledge, no other researchers have examined barriers and facilitators to sexual healthcare access for this subpopulation. Therefore, the purpose of this study is to examine adolescent Latinas' sexual healthcare needs through in-depth qualitative interviews. These qualitative interviews (phase 1 of a 3-phase study) will inform the development of community-driven, theory-based, culturally-relevant, multi-level intervention strategies to reduce sexual health disparities and increase sexual healthcare access for this group. Community-based participatory research (CBPR), which ensures equitable participation of stakeholder groups through partnerships, and the socioecological model of health, which conceptualizes the individual as nested within a set of social structures, provide the philosophical and theoretical frameworks for the work. **METHODS/STUDY POPULATION:** Between January and March of 2017, we will conduct 30 qualitative interviews with eligible adolescents who: self-identify as Latina, are between 15 and 19 years old, have been in the US for over 5 years, and live west AL. We will use venue-

based, purposeful convenience sampling to recruit participants. We will manage and analyze the data with the qualitative software NVivo 10. We will use a multi-step, consensus-based process to code and analyze the interviews in the language in which they were conducted (ie, Spanish or English). We will maintain detailed audit trails during the analysis process and seek an inter-rater reliability of 0.85. **RESULTS/ANTICIPATED RESULTS:** We expect to identify barriers and facilitators to sexual healthcare services at distinct levels of the socioecological model of health. Study results and implications for practice in clinical settings will be discussed in detail. **DISCUSSION/SIGNIFICANCE OF IMPACT:** The proposed research is significant because (1) the state of AL experienced a dramatic increase in its Latino/a population over the last 15 years and adolescent Latinas in AL are disproportionately affected by sexual health disparities; (2) to our knowledge, this will be the first study to examine the multi-level factors associated with sexual healthcare access for adolescent Latinas in the South and inform intervention strategies to promote sexual healthcare access in this population; (3) the work will be conducted under the philosophical lens of CBPR such that community members will be involved in every step of the research process, resulting in culturally relevant intervention strategies.

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How interruptions affect the triage process in the emergency department

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OBJECTIVES/SPECIFIC AIMS: The aim of this study was to determine how interruptions affect the triage process. **METHODS/STUDY POPULATION:** Prospective, observational study, where 118 triage interviews were observed. **RESULTS/ANTICIPATED RESULTS:** In total, 57% of triage interviews were interrupted. The most common interruption was by other nurses; however, 7% of the interruptions were by the triage nurse themselves. When an interruption occurred during the triage process, 67% of the time the triage nurse would stop the triage assessment and attend to the interrupter. In the interrupted interviews, 17% of the entire triage time was dedicated to addressing interruptions. Some interruptions (ie, additionally staff entering to conduct ECG) had a positive impact by expediting care during the triage process; where other interruptions delayed patient care. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Interruptions increased the total triage time and contributed to patient treatment delays, as well as led to errors in nursing assessment. Understanding the classifications of triage interruptions and the impact on patient outcomes will allow researchers to develop interventions to mitigate the impact of these interruptions.

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Development of a Pediatric Hydrocephalus Severity Index to predict long-term clinical outcomes

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OBJECTIVES/SPECIFIC AIMS: To create a composite index, referred to as the Pediatric Hydrocephalus Severity Index (PHSI), to classify the severity of disease at baseline and predict outcomes among children treated for hydrocephalus. **METHODS/STUDY POPULATION:** The Hydrocephalus Outcome Questionnaire will be administered in person or online to the parents of 150 patients between the ages of 5 and 18 years who are followed at the Neurosurgery Clinic at St. Louis Children's Hospital for hydrocephalus. Patients must have been diagnosed and treated for hydrocephalus at least 6 months prior to the survey date. Potential participants are excluded if their health status changed during the 4 weeks prior to survey date, as determined by the child's parents. Potential risk factors (see anticipated results) will be identified on retrospective medical record review. We will create a clinical prediction rule, called the PHSI, to stratify patients on likelihood of experiencing a poor long-term outcome after surgical treatment. Participants will be classified as "good" or "poor" outcome based on thresholds set for questionnaire results. We will use a combination of bivariate analysis and clinical reasoning to restrict the number of factors for further analysis, and multivariate logistic regression to build a predictive model for poor outcome. Creation of the PHSI will involve assigning integer values to adjusted odds ratios for significant risk factors at a 95% confidence level. **RESULTS/ANTICIPATED RESULTS:** Risk factors that we anticipate will be predictive of long-term clinical outcome include signs and symptoms at onset (bulging fontanel, splayed sutures, papilledema, up-gaze palsy, headache, vomiting, lethargy), head circumference above the 97th percentile, frontal-occipital horn ratio greater than 0.4, etiology of meningitis or neonatal intraventricular hemorrhage, central nervous system comorbidities (seizures, Chiari malformation, scoliosis, periventricular leukomalacia), pre-operative infection or sepsis, and frequent shunt revisions or infections. We

hypothesize that a PHSI will be a valuable tool for stratifying patients in future research studies, as well as aiding prognosis in clinical situations. **DISCUSSION/SIGNIFICANCE OF IMPACT:** A validated composite PHSI would be a major advance in clinical hydrocephalus research and practice. A PHSI would allow investigators to stratify patients based on initial presentation for clinical research studies, which may in turn lead to the establishment of more standardized treatment guidelines. It would also facilitate studies investigating differential utilization of healthcare resources based on disease severity. Clinically, a PHSI would better equip physicians to counsel parents on what to expect for their child or future healthcare resource requirements.

2365

PTSD: Understanding differences in trauma cognitions, memory, and emotional regulation

Ellen Volpe, Tiffany Jenzer, Lauren Rodriguez and Jennifer P. Read

OBJECTIVES/SPECIFIC AIMS: Low-income, urban adolescents experience high rates of interpersonal and community violence and consequently post-traumatic stress disorder (PTSD). Memory theory purports that the development of PTSD can be explained by dysfunctional trauma cognitions, high sensory and poor articulation of trauma memories, and poor emotional regulation. The purpose of this paper are as follows: (1) to describe trauma experiences and PTSD symptoms of a high-risk sample of low-income urban youth and (2) to explore if post-traumatic cognitions, trauma memory quality, or emotional regulation means differ in participants screening positive for PTSD as compared with those that did not screen positive. **METHODS/STUDY POPULATION:** A preliminary sample of low-income, urban adolescents (ages 16–21) at risk for homelessness took a web-based, self-report survey responding to questions related to their experiences of trauma and mental health ($n=48$). PTSD was measured with the PTSD Checklist for DSM-5 criteria (PCL-5). A cut-off of 33 was used as a positive screen for PTSD. Post-traumatic cognitions was measured with the post-traumatic cognition inventory (pcti) with higher scores representing greater dysfunctions and negative cognitions. Trauma memory was measured with the Trauma Memory Quality Questionnaire (TMQQ) with higher scores representing more sensory-based and poorly verbalized memories. Emotional regulation was measured using the Difficulties in Emotional Regulation Scale (DERS) with higher scores representing greater difficulties with emotional regulation. All 3 variables conceptually represented theoretical constructs of the development of PTSD. Initial data from the baseline survey was used conducted a 1-way ANOVA to compare the difference in post-traumatic cognition, quality of trauma memory, and emotional regulation in those that screened positive for PTSD as compared with their peers. **RESULTS/ANTICIPATED RESULTS:** The majority of this population (80%) experienced at least 1 traumatic life event. This sample experienced an average of 10.5 lifetime traumas ($SD=10.6$). Of those experiencing trauma about 20% ($n=8$) reported a positive PTSD screen (PCL-5). There were significant group differences among those screening positive for PTSD and their peers in the following variables: (1) pcti ($F_{1,24}=10.43, p<0.004$), (2) TMQQ ($F_{1,29}=11.02, p<0.002$), and (3) DERS ($F_{1,36}=19.68, p=0.000$). The majority of this population (80%) experienced at least one traumatic life event. This sample experienced an average of 10.5 lifetime traumas ($SD=10.6$). Of those experiencing trauma about 20% ($N=8$) reported a positive PTSD screen (PCL-5). There were significant group differences among those screening positive for PTSD and their peers in the following variables: 1) pcti [$F(1,24)=10.43, p<0.004$], 2) TMQQ [$F(1,29)=11.02, p<0.002$], [$F(1,36)=19.68, p=0.000$]. **DISCUSSION/SIGNIFICANCE OF IMPACT:** This sample reported high rates of trauma and PTSD. Constructs representing memory theory (cognition dysfunction, quality of memory, and emotional regulation) all significantly differed among participants with PTSD compared with their peers. Consequently, it may be useful for trauma interventions to target the maladaptive post-traumatic cognitions, quality of traumatic memories, and emotional regulation in this population. These results will inform work that aims to explore if a trauma intervention, based on the memory theory can improve PTSD symptoms. Anticipated data collection completion in March 2017 ($n=120$).

2377

“Pipa” means early death: Obesity and cardiovascular disease (CVD) risks perception, knowledge and behavior among minority NYC cab drivers— A qualitative analysis

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OBJECTIVES/SPECIFIC AIMS: More than 2 out of 3 adults in the United States are overweight or obese. Obesity disproportionately affects minority

populations. There is limited data on obesity and CVD risks among inner-city minority cab drivers in New York City (NYC). The goal is to study perceptions, knowledge and health behaviors of Hispanic livery cab drivers of NYC that contributes to obesity. **METHODS/STUDY POPULATION:** We conducted an observational study of focus groups related to perception, knowledge, or behavior among Latino livery cab drivers of NYC. Direct transcription of the taped recordings into concepts were grouped into themes and common themes were categorized. The sample size of the focus groups was based on the saturation point where common themes emerged. **RESULTS/ANTICIPATED RESULTS:** In total, 25 Latino livery cab drivers were enrolled. Of those, 24 were men. Mean age is 53 years (21–69); body mass index (BMI) is 31 (22.8–38.7) kg/m^2 ; 50% had hypertension and 27% had diabetes. Eight dominant themes emerged. Cab drivers were aware of their increased risk for CVD which most of them attributed to work stress, sedentary lifestyle, and poor eating habits “on-the-go”. In particular, they mentioned a tendency of having “Pipa,” a Spanish term denoting increased abdominal girth, which they equated to early death. Family and social support was an important facilitator in changing unhealthy behaviors. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Our study shows that minority cab drivers are generally obese or overweight and aware of their personal risk factors for CVD including central obesity. Social and family support may be key to improving their lifestyle. An evidenced-based health model that includes family education and decision support will be tested in our next study phase to understand if it can improve body weight.

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Characterizing delayed transition to adult care in children with chronic kidney disease

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OBJECTIVES/SPECIFIC AIMS: As part of a larger effort to create a longitudinal record of care for patients with chronic kidney disease (CKD) in Delaware, we assessed transitions of care from pediatric to adult care. This study examined the length of time between last pediatric contact and first contact in the adult system in order to determine characteristics associated with delayed transition to adult care. **METHODS/STUDY POPULATION:** Patients who receive pediatric care at the Nemours/Alfred I. duPont Hospital for Children (Nemours) are transitioned to adult care between the ages of 18 and 21. Our study population consists of all patients seen in the Nephrology unit at Nemours for CKD, hypertension (HTN), or diabetes who turned 21 years old between 2007 and 2013. Records of office visits from Nemours, Christiana Care Health System (CCHS), and Nephrology Associates, P.A. (NAPA) were transformed into the OMOP common data model and merged. Patients who had at least 1 record in the Nemours EHR of pediatric care before age 21 and had at least 1 record in the CCHS or NAPA adult EHRs were considered transitioned. To identify characteristics associated with delayed transition to adult care, we compared gender, race, ethnicity, age, comorbidities, and level of kidney function at the last pediatric visit between patients whose transition gap was less than 1 year and patients whose gap was 1 year or more. Kidney function was estimated by calculating glomerular filtration rate (GFR). Nemours estimates GFR in children using the revised Schwartz equation, which is based on serum creatinine and height. To calculate adult GFR, we used the CKD-Epi equation, which is based on serum creatinine, age, sex, and race and is widely used to derive adult GFR. As kidney function declines, GFR decreases. We used Fisher exact test to compare categorical variables and t-test to compare age and GFR. **RESULTS/ANTICIPATED RESULTS:** We found only 109 (25%) patients who had records in our adult offices out of the 440 Nemours patients in our data set. Of the 109 transitioned patients, 54 had office visits at CCHS, 37 at NAPA, and 18 at both locations. Examining the office visits of the 109 transitioned patients, 34 (31%) had an overlap in visits defined as an office visit at CCHS or NAPA before the last office visit at Nemours, and 75 (69%) did not have an overlap. The median gap between last pediatric and first adult office visit for the 75 patients without an overlap was 615 days (range 8–3495 d). Only 6 (6%) of the 109 transitioned patients had overlapping GFR measurements from pediatric to adult care, and all of the adult GFR calculations (CKD-Epi) were greater than the pediatric GFR calculations (Schwartz). The difference between child and adult GFR ranged from 8.2 to 87.1 $mL/minute$ per $1.72 m^2$. **DISCUSSION/SIGNIFICANCE OF IMPACT:** During the transition from pediatric care to adult care, many young adults with CKD experience declines in health outcomes and comorbidities such as diabetes and HTN complicate self-management. Lack of overlap between pediatric and adult care office visits indicates a delay in executing this transition. In our population of 109