and type of infection (MRSA/MSSA) (Fisher's p-values = 0.171 and 0.371, respectively). In households of participants with MSSA wound infections, the number of colonized sites is positively associated with the level of household MSSA contamination ($p = 0.027$). Further analyses will examine the associations between molecular subtypes, wound location, household surface contamination and household member colonization and infection. DISCUSSION/SIGNIFICANCE OF IMPACT: This study aims to understand the patient-level and environmental-level factors associated with SSTI recurrence, surface contamination and household transmission, and to examine the interactions between bacterial genotypic and clinical/phenotypic factors on decontamination, decolonization, SSTI recurrence and household transmission. This study will evaluate the barriers and facilitators to implementation of home visits by CHWs in underserved populations, and aims to strengthen the evidence base for implementation of strategies to identify and reduce household reservoirs and then control SSTI recurrence and household transmission.

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Social determinants of health and comorbidity in individuals with type 2 diabetes at HealthStreet, a community engagement initiative

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OBJECTIVES/SPECIFIC AIMS: Research on social determinants of health (SDHs) in type 2 diabetes have largely examined disease etiology rather than severity. To find factors associated with complications, we investigated socio-demographics, healthcare access, and healthcare utilization in individuals with type 2 diabetes with respect to related comorbidity. METHODS/STUDY POPULATION: Community health workers assessed 8494 participants for type 2 diabetes (n = 939; 11%) through HealthStreet, a community-engagement model implemented in North Central Florida. Comorbidities were defined as neuropathy, retinopathy, high cholesterol, hypertension, and kidney failure. We conducted multivariate analyses to test the association of socio-demographic factors and comorbidity status. RESULTS/ANTICIPATED RESULTS: Of 939 members with type 2 diabetes, 164 (17%), 272 (29%), 370 (39%), and 133 (14%) reported having 0, 1, 2, and 3+ comorbidities, respectively. There is a smaller proportion of African-Americans reporting 3+ comorbidities compared with other comorbidity groups ($p = 0.003$). Those with more comorbidity are less employed ($p < 0.0001$) and are more likely to have Medicare/Medicaid ($p = 0.03$) than those without comorbidity. Those with no comorbidity are more likely to be uninsured compared to those with comorbidity ($p = 0.0297$). Adjusting for age, race, gender, and BMI, those that have at least 1 comorbidity are 1.4 times more likely to be food insecure ($p = 0.004$) and are 1.9 times more likely to have seen a doctor in the past 12 months ($p = 0.002$) compared to those without comorbidity. DISCUSSION/SIGNIFICANCE OF IMPACT: Although there is complexity among the relationships between SDHs and diabetic comorbidity, results suggest significant sociodemographic and healthcare-related disparities among individuals living with type 2 diabetes. Members with more comorbidity utilize healthcare, but are more likely to be food insecure among other factors. Those with no comorbidity are least likely to see a physician, which could imply a gap in the care continuum. This analysis gives insight into the importance of efficient diabetes management, focused on disparities in economic stability and healthcare access and utilization.

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National trends in ambulatory Versus emergency department visits for low-income patients with skin and soft tissue infections

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OBJECTIVES/SPECIFIC AIMS: Community-associated methicillin-resistant *Staphylococcus aureus* (CA-MRSA) skin and soft tissue infections (SSTIs) recurrence ranges from 16% to 43% and presents significant challenges to clinicians, patients, and families. The number of emergency department visits for SSTIs increased from 1993 to 2005 from 0.48 to 1.16 ED visits per 100 US residents (95% CI 0.94 to 1.39; $p < 0.001$); high safety-net status EDs saw a 4-fold increase in visits. The CA-MRSA Project (CAMP2) comparative effectiveness research (CER) study aims to evaluate a home-based intervention implemented by Community Health Workers (CHWs) or "promotoras" to prevent recurrence and transmission of CA-MRSA in primarily low-income, minority patients presenting to primary care with SSTIs. The intervention disseminates and implements methods found effective in the REDUCE MRSA trial. The present analysis was conducted using publically available data set to characterize the national patterns of healthcare utilization for treatment of SSTIs. METHODS/STUDY POPULATION: An analysis was conducted using data downloaded from the CDC National Ambulatory Medical Care Survey (NAMCS) and the CDC National Hospital Ambulatory Medical Care Survey (NHAMCS) from 2012 (most recent data available) to evaluate the addition of Emergency Departments (EDs) as compared to Ambulatory Care as recruitment sources for a clinical trial to reduce CA-MRSA SSTI recurrence and household transmission. "Low-income" population was defined using "Expected Source of Payment" categories "Medicaid" and "Uninsured," and ICD-9-CM dermatologic diagnosis codes for SSTIs and ICD-9-CM Procedure Codes for Incision and Drainage (I&D) were used to define a visit for SSTI treatment. RESULTS/ANTICIPATED RESULTS: In all patients, I&D was performed at a higher rate in EDs as compared with the ambulatory care setting (49.57 vs. 1.44 per 10,000 US residents in Medicaid and Uninsured; 44.48 vs. 5.24 per 10,000 US residents in all other insurance types). Nationally, low-income patients are 4 times more likely to have I&D procedure performed (OR 4.05, 95% CI 0.614–26.759, $p < 0.0001$) and 5 times more likely to be diagnosed with an SSTI (OR 5.10, 95% CI 2.987–8.707, $p < 0.001$) in the ED setting. DISCUSSION/SIGNIFICANCE OF IMPACT: These results confirm that low income patients seek primary care for SSTIs in both EDs and ambulatory care, such as Federally Qualified Health Centers (FQHCs). This also confirms the trend we have experienced in FQHCs in NYC, many of whom refer patients to the ED for the I&D procedure, and those patients return to the FQHC for follow-up. Thus, the most comprehensive test of using CHWs to disseminate and implement the findings from the REDUCE MRSA trial would engage both EDs and Ambulatory Care/FQHCs for patient identification and recruitment.

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Investigating markers of early traumatic brain injury (iMet): An interim analysis

Tara Rhine, Ting Sa, Nanhua Zhang, Shari Wade and Rachel P. Berger

OBJECTIVES/SPECIFIC AIMS: Analyze data from the first 30 children enrolled in a prospective cohort study evaluating the ability of specific serum biomarkers to distinguish children with traumatic brain injuries (TBI) from children with orthopedic injuries (OI). METHODS/STUDY POPULATION: Children ages 0 < 5 years were eligible if they presented to the emergency department within 6 hours of injury. Children were identified as having a TBI if they sustained a head injury and were found to have an acute injury on head CT. Children were identified as having an OI if they sustained a musculoskeletal injury significant enough to necessitate radiography per clinical care. Individual (eg, age) and clinical (eg, radiography findings) factors, as well as serum biomarkers [eg, ubiquitin C-terminal hydrolase L1 (UCH-L1), glial fibrillary acidic protein (GFAP)] were collected at time of enrollment. TBI and OI groups were compared using Wilcoxon rank-sum and Kruskal-Wallis tests. RESULTS/ANTICIPATED RESULTS: This cohort consisted of 13 children with TBI (7 with isolated skull fractures, 1 with intracranial injury, and 5 with both a skull fracture and an intracranial injury) and 17 with OI (12 with fractures). Most patients were male (67%) and White (67%), and this did not differ between groups ($p > 0.1$). Children with TBI were significantly younger than children with OI, with an average ($\pm$ standard deviation) age of 15 ± 13 and 39 ± 13 months, respectively ($p < 0.01$). There was not a significant difference in time from injury to biomarker collection between TBI and OI patients at 4.1 ± 1.8 and 5.8 ± 2.6 hours, respectively ($p = 0.07$). Median (IQR) levels of GFAP were significantly higher ($p < 0.01$) in children with TBI, relative to children with OI: 220 (67–421) pg/mL Versus 37 (25–74) pg/mL, respectively. Median (IQR) levels of UCH-L1 were also significantly higher ($p < 0.01$) in the TBI group, relative to children with OI: 444 (377–449) pg/mL Versus 248 (140–417) pg/mL, respectively. In a subanalysis comparing median biomarker levels across three study groups (ie, TBI with an isolated skull fracture, TBI with an intracranial injury, and OI), group differences remained significant for both biomarkers with TBI patients having higher levels, relative to OI patients, of both GFAP ($p < 0.01$) and UCH-L1 ($p = 0.02$). DISCUSSION/SIGNIFICANCE OF IMPACT: GFAP and UCH-L1 hold promise to improve the diagnosis of TBI in very young children. Identification of a marker of TBI that can be done in the acute care setting would advance the diagnosis of TBI in very young children, a vulnerable population for whom identification of neurological symptoms can be challenging.

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Risk of adjacent segment breakdown at the cervico-thoracic junction: Where should we stop?

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OBJECTIVES/SPECIFIC AIMS: Cervical fusion is commonly performed for the management of degenerative disc disease, which can cause spinal stenosis and radiculopathy. Adjacent segment disease (ASD) is an adverse postsurgical outcome experienced by some patients as new radiculopathy, stenosis, or other

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