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### Communication frequency and content between parents of concussed youth and systems of care

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**OBJECTIVES/SPECIFIC AIMS:** To characterize parent communication frequency and content between systems of care (medical, school, and sports/recreation) of concussed youth who are in prolonged recovery. **METHODS/STUDY POPULATION:** In this ongoing study, 16 concussed youth (average age = 14.9 years, SD = 1.5; 31.2% female and 68.8% male) and their parent study partner (average age = 44.3 years, SD = 4.3; 87.3% female and 12.5% male) have been enrolled to date from sports medicine clinics. Demographic information was obtained during the initial clinic intake session. Weekly phone calls were also conducted with the parent and child until the child was considered asymptomatic (ie, reporting no symptoms on the SCAT3), to collect data on communication with the school, sport/recreation, and medical systems throughout the recovery process. For the purpose of this study, we evaluated communication patterns of those parents who had a child in prolonged recovery (ie, symptomatic 14 d or more post-concussion injury). Communication variables included frequency (ie, number of times a parent contacted or attempted to contact a system of care) and content or topic discussed during the contact event. **RESULTS/ANTICIPATED RESULTS:** Of the 16 enrolled participants to date, 68.8% (n = 11) experienced concussion related symptoms 14 days postinjury (M = 22.2, SD = 4.6) at the time of their 2 week follow-up call and were thus considered to be in prolonged recovery. Of those 11, 81.8% (n = 9) of parents reported communicating with the school system at some point between the initial clinic intake session and the 2 week follow-up phone call. The frequency of communication for this period ranged between 0 and 10 instances of contact (M = 2.5, SD = 2.9). Of the 11 prolonged cases, 8 participants were members of sports teams. Sixty-three percent (n = 5) of those parents with a child on a sports team communicated with a coach while none of the parents contacted a team athletic trainer. The frequency of communication with the coach ranged from 0 to 8 (M = 1.5, SD = 2.5) over the course of 2 weeks from enrollment. With regards to the medical system, the majority of parents (72.7%, n = 8) communicated at least once with a medical professional during the same time period. The frequency of communication with the medical system ranged from 0 to 8 (M = 2.2, SD = 2.6) points of contact. Themes that arose for communicating with the school system included informing school personnel of academic accommodations prescribed by the physician, explaining absences, and concerns about missed academic work and grades. The content of communication with the sports system (ie, coach) pertained to return-to-play issues as well as progress updates on recovery. Themes for communication with the medical system were centered on scheduling appointments, attending follow-up medical appointments, and starting return-to-play protocols. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Parents of concussed youth who were still in prolonged recovery, for the most part, appear engaged in communicating with multiple systems of care. However, a subset of parents did not participate in contact with these systems. Further discussion of these findings will highlight areas for improvement in concussion management as well as strategies parents can utilize to advocate for their child in terms of return-to-learn and recovery.

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### Validating acute urinary retention using diagnosis and procedure codes

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**OBJECTIVES/SPECIFIC AIMS:** We evaluated the accuracy of diagnosis and procedure codes to identify acute urinary retention (AUR) due to lack of existing validation studies. **METHODS/STUDY POPULATION:** We performed a cross-sectional validation study at a single medical institution in the emergency department (ED) and outpatient Urology Clinic in men  $\geq 45$  years. International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) diagnosis codes 788.20, 788.21, 788.29 for urinary retention and Current Procedural Terminology, Fourth Edition (CPT-4) codes 51701, 51702, 51703 for urinary catheterization were used to identify men with potential AUR. Four algorithms using ICD-9-CM and CPT-4 codes were compared against medical record review. Sensitivity, specificity, positive predictive value, negative predictive value, and area under the curve were calculated for both the ED and Urology Clinic. **RESULTS/ANTICIPATED RESULTS:** A total of 333 treated and released men in the ED were identified using facility billing data, and 245 men using physician billing data in the Urology Clinic were identified using the codes for urinary retention or urinary catheterization. Of the 4 algorithms, any

ICD-9-CM diagnosis code for urinary retention was the preferred algorithm with a sensitivity and specificity of 0.95 and 0.91 using ED facility billing data and a sensitivity and specificity of 0.95 and 0.58 using Urology physician billing data. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Use of the ICD-9-CM diagnosis codes for urinary retention performed well at identifying AUR in the ED. This study provides justification to use urinary retention diagnosis codes (specifically 788.20 and 788.29) in future studies to identify AUR using administrative data, especially in the ED.

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### Evaluating a community research consult service: Getting to outcomes and impacts

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**OBJECTIVES/SPECIFIC AIMS:** This study describes the design, operation, and evaluation of a community-based research (CBR) consult service within the setting of a Clinical and Translational Science Award (CTSA) institution. To our knowledge, there are no published evaluations of a CBR consult service at a CTSA hub. **METHODS/STUDY POPULATION:** A CBR consult service was created to support faculty, healthcare providers/research coordinators, trainees, community-based organizations, and community members. A framework was developed to assess the stages of client engagement and to foster clear articulation of client needs and challenges. A developmental evaluation system was integrated with the framework to track progress, store documents, continuously improve the consult service, and assess research outcomes. **RESULTS/ANTICIPATED RESULTS:** This framework provides information on client numbers, types, services used, and successful outreach methods. Tracking progress reveals reasons that prevent clients from completing projects and facilitates learning outcomes relevant to clients and funding agencies. Clients benefit from the expert knowledge, community connections, and project guidance provided by the consult service team, increasing the likelihood of study completion and achieving research outcomes. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Our evaluation suggests that clients benefit by (1) gaining the collective knowledge of the experts comprising the team, (2) learning the process of doing CBR, including the required steps to reach completion, and (3) gaining a project management mentality promoting translational research outcomes. This study offers a framework by which CTSA institutions can expand their capacity to conduct and evaluate CBR while addressing challenges that inhibit community engagement.

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### Establishment of the Tennessee-sickle cell disease network as a mechanism for engaging a rare disease population in patient centered outcomes research

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**OBJECTIVES/SPECIFIC AIMS:** Despite the high prevalence of individuals diagnosed with sickle cell disease (SCD) in Tennessee, comprehensive care and education for patients with SCD is not as widely available as healthcare services for individuals managing other chronic illnesses. We aimed to engage SCD stakeholders in patient-centered outcomes research (PCOR) as a mechanism for advancing care and translational research for this rare disease population. **METHODS/STUDY POPULATION:** Through a partnership with the Sickle Cell Foundation of Tennessee, we implemented Community Health Ambassadors to systematically engage patient partners with SCD and their caregivers, aged 18–50 from rural and urban communities throughout Tennessee, in PCOR to establish a sustainable infrastructure, focused on connecting the SCD community through a service providing community-based organization to offer (1) information on how to connect with other families; and be informed about SCD community activities, or educational offerings; (2) training in basic research principals; and (3) opportunities to contribute to PCOR, including feedback on effective and practical ways for providing input on research efforts through patient centered input, comparing urban and rural area preferences. Community ambassadors utilized health fairs, clinic days at various hospitals and community centers, and social media to spread awareness of the project, in addition to boosting the recruitment process. **RESULTS/ANTICIPATED RESULTS:** A statewide SCD network was developed to offer social support and increase access to education, medical care, and engagement in research activities. Findings include: recruitment of 150 patients and 35 executive committee members (local physicians, community leaders, adults