positively associated with PA across all groups (β ranges=: .07-.11, p<.001), and depression remained significant across all groups (β ranges=-.11 to -.14, p<.001). For models 2-4, only parent care remained significant for the neither asthma nor OB group (β =.04, p<.001). DISCUSSION/SIGNIFICANCE OF FINDINGS: Results demonstrate that although parent care is an important protective factor for youth PA engagement, it is less impactful when additional risk factors (e.g., depression) are present, particularly among the highest risk group (comorbid asthma/OB). Thus, clinical support is needed in addition to parent support among higher risk youth.

Translational Science, Policy, & Health Outcomes Science

Characterization of Clinical and Immunological Laboratory Features in Multiple Sclerosis Patients with COVID-19

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ABSTRACT IMPACT: Better understanding of the factors impacting disease severity and immunological response of MS patients on disease modifying therapy will enable better recommendations for vaccination options and risk mitigation strategies OBJECTIVES/GOALS: The Coronavirus Disease 2019 (COVID-19) and global health crisis has raised health concerns for patients with multiple sclerosis (MS). We aim to study the clinical characteristics, immunological laboratory data, and immunoglobulin response in patients with MS and COVID-19, to identify factors impacting disease severity and immune response. METHODS/STUDY POPULATION: Database search was done using DataDirect to search for MS patients who had tested positive for COVID-19 at the University of Michigan hospital. Patients with a positive nasopharyngeal swab polymerase chain reaction (PCR) for COVID-19 between March 1 and September 2020 were included. The primary outcome was the immunological laboratory data and immunoglobulin levels and the secondary outcome was their disease severity. We collected demographics, neurological history, MS treatment, Expanded Disability Scale Score (EDSS), comorbidities, and COVID-19 characteristics. A 7-point ordinal scale previously used to assess disease severity was used. Univariate and multivariate analyses will be performed to assess relationships between the collected variables. RESULTS/ANTICIPATED RESULTS: A total of 17 patients, mean age 53 (SD 11.6) years, mean disease duration, 6.2(SD 4.1) years were analyzed. 41% of patients had relapsing remitting multiple sclerosis, 17% had primary progressive MS. (88%) patients were on Disease Modifying Therapy (DMT) at the time of COVID-19 diagnosis. 2 patients died from COVID-19 complications. There was a higher proportion of patients with higher disease severity receiving Ocrelizumab. Only one patient showed positive IgG to SARS-CoV-2 after the resolution of infection. CBC with differential was obtained and a longitudinal follow-up of labs will be done. Regression analysis will be done to check the association between the use of DMT, immunological response, and COVID disease severity in them. The impact of COVID-19 on MS relapse, EDSS, and MRI activities will also be studied. DISCUSSION/SIGNIFICANCE OF FINDINGS: Recommendations to continue current DMT have been made, however, the immune response has not been correlated with the individual's risk profile. Certain

therapies may interfere with mounting a protective immune response of COVID-19 and this knowledge is crucial when advising patients regarding the choice of vaccine and risk mitigation strategies.

As Food Insecurity Worsens During COVID-19, Negative Mental Health Impact on Community Members Increases

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ABSTRACT IMPACT: For community engagement to be impactful and reduce health inequity, it needs to address timely needs in the community, including COVID-19 impacts. Here, we describe how pre- and post-COVID-19 food insecurity worsened mental health among community members served by HealthStreet University of Florida community engagement program. OBJECTIVES/GOALS: COVID-19 impacts the economic vitality and the mental health of communities; research and engagement activities must consider the context in which we are practicing and the needs of our community members. METHODS/STUDY POPULATION: HealthStreet, the University of Florida community engagement program, sends Community Health Workers (CHWs) where people congregate to assess social determinants of health and medical histories, used to make referrals to services and research opportunities. CHWs conducted follow-up COVID-19 assessments measuring perceived stress, loneliness, depression, anxiety, binge drinking, and opioid use, as well as high blood pressure and food insecurity. Here, we consider mental health outcomes among 1,300 adults who reported being food insecure either at some time in the past 12 months at baseline, or at the COVID-19 follow-up assessment, and completed both. Chi-Square Test was used to determine p-values. RESULTS/ANTICIPATED RESULTS: Overall, at the COVID-19 follow-up assessment, 37.1% (of 1,300) were still food insecure during COVID-19 (same), 20.3% (had become food insecure during COVID-19 (worse) and 42.6% were no longer food insecure (better). Those who were no longer food insecure were more likely to report less stress, while those still food insecure were more likely to report the highest stress and loneliness (p<0.0001), while the worse off group was in the middle. Those who stayed food insecure were most likely to report depression and anxiety, and also high blood pressure and using opioids (p<.05) compared to those getting worse or better. Binge drinking behavior was not significantly different across groups. DISCUSSION/SIGNIFICANCE OF FINDINGS: Community engagement activities across CTSIs must be sensitive to the needs of their communities. HealthStreet findings show that new and continuing food insecurity negatively influence mental health problems, pointing to the need for engagement to address multiple problems.

Risk of Prolonged Opioid Use After Intensive Care Unit Admission*

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ABSTRACT IMPACT: This is the first examination of risk factors for prolonged opioid use after an ICU stay and will inform efforts to

strengthen prescribing guidelines and care transition models for patients after critical illness. OBJECTIVES/GOALS: The majority of patients in intensive care units (ICU) receive opioids during admission, and up to 25% receive a prescription at discharge. However, transitions of care and prolonged use after discharge remain unknown. We aim to characterize risk factors for prolonged opioid use after an ICU stay. METHODS/STUDY POPULATION: A retrospective study using insurance claims from Optum Clinformatics ®Data Mart was conducted for opioid-naive adult patients (18-64 years) with an ICU admission from 2010 to 2019. The primary outcome was new persistent opioid use, defined as a continued prescription fill 91-180 days after discharge, in addition to a fill in the first 90 days. The primary exposure was an opioid fill at discharge. The ICU admission was characterized using the Clinical Classification System from the Agency of Healthcare Research and Quality, based on patients'primary diagnosis code. Diagnoses were combined into 11 groups highlighting the affected organ system/mechanism of injury. Logistic regression evaluated the associations of patient demographic and clinical characteristics with the probability of persistent opioid use. RESULTS/ANTICIPATED RESULTS: In this cohort of 90,721 patients discharged from the ICU, 3.3% continued to fill opioids at 6 months. An opioid prescription fill (OR 3.1; 95% CI 28 - 3.3) and benzodiazepine prescription fill (OR 1.6; 95% CI 1.4 - 1.8) within 3 days of ICU discharge were each significantly associated with the development of new persistent opioid use. Patient diagnosis groups of Musculoskeletal/Trauma (OR 2.3; 95% CI 2.0 - 2.6), Neoplasms (OR 1.6; 95% CI 1.5 - 1.9), and GI/Hepatobiliary (OR 1.5; 95% CI 1.3 - 1.8) were significantly more likely to develop new persistent use when compared to the Cardiovascular diagnosis group. DISCUSSION/SIGNIFICANCE OF FINDINGS: Opioid prescriptions at discharge after an ICU stay increase the odds of prolonged opioid use. These results will inform efforts to strengthen prescribing guidelines and care models after a critical illness. Further work will characterize the trajectory of prescribing and patient exposure to high-risk prescribing after ICU discharge.

52528

Implementation of Web-Based Patient-Reported Outcome Measures (PROMs) in the Clinical Care of Systemic Lupus Erythematosus (SLE): A Multi-Center Prospective Cohort Study

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ABSTRACT IMPACT: The integration of patient-reported outcome measures into clinical care is feasible and can facilitate patient-centered care for individuals with systemic lupus erythematosus. OBJECTIVES/GOALS: Patient-reported outcome measures (PROMs) are powerful tools which can facilitate patient-centered care by highlighting individuals' experience of illness. The aim of this study was to assess the feasibility and impact of implementing web-based PROMs in the routine clinical care of outpatients with systemic lupus erythematosus (SLE). METHODS/STUDY POPULATION: Outpatients with SLE were enrolled in this longitudinal cohort study at two academic medical centers. Participants completed PROMIS computerized adaptive tests assessing multiple quality of life domains at enrollment and prior to two consecutive routinely scheduled rheumatology visits using the ArthritisPower research registry mobile or web-based application. Score reports were shared with patients and providers before the visits. Patients and rheumatologists completed post-visit surveys evaluating the utility of PROMs in the clinical encounters. Proportions with confidence intervals were calculated to evaluate survey completion rates and responses. RESULTS/ANTICIPATED RESULTS: A total of 105 SLE patients and 16 rheumatologists participated in the study. Subjects completed PROMs in 159 of 184 eligible encounters (86%, 95% CI 81 - 91), including 90% of visit 1's (95% CI 82 - 95) and 82% of visit 2's (95% CI 72 - 90). Patients and rheumatologists found that PROMs were useful (91% and 83% of encounters respectively) and improved communication (86% and 72%). Rheumatologists reported that PROMs impacted patient management in 51% of visits, primarily by guiding conversations (84%), but also by influencing medication changes (15%) and prompting referrals (10%). There was no statistically significant difference in visit length before (mean=19.5 min) and after (mean=20.4 min) implementation of PROMs (p=0.52). DISCUSSION/SIGNIFICANCE OF FINDINGS: The remote capture and integration of web-based PROMs into clinical care was feasible in a diverse cohort of SLE outpatients. PROMs were useful to SLE patients and rheumatologists and promoted patient-centered care by facilitating communication.

59473

Clinical and demographic predictors of the need for pharmacotherapy in Neonatal Abstinence Syndrome (NAS)

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ABSTRACT IMPACT: This work has the potential to help clinicians decide which infants exposed to in utero opioids, will need to be treated early or can be discharged home early based on their risk, thus reducing prolonged hospitalization OBJECTIVES/GOALS: To develop and validate a prediction model with inclusion of clinical and demographic risk factors to identify infants with NAS likely to need pharmacotherapy. METHODS/STUDY POPULATION: A pooled cohort of 761 infants from 5 different studies including 2 trials and 3 observational cohorts will be used to develop the model. All infants >than or equal to 37 weeks gestational age born to mothers with history of OUD will be included. Infants with congenital disorders and severe medical and surgical illnesses will be excluded. Multivariable mixed effects logistic regression modeling will be performed to predict the need for pharmacologic treatment for NAS. Candidate variables will be included based on clinical knowledge and previously published data. Model performance will be evaluated by measuring discrimination using Area Under the Curve (AUC) statistics and calibration. Model will be internally validated using boot strap validation. RESULTS/ANTICIPATED RESULTS: Pending data analysis DISCUSSION/SIGNIFICANCE OF FINDINGS: Opioid Use Disorder in pregnancy has resulted in concurrent rise in NAS incidence. NAS affects opioid exposed infants variably and accurate prediction of its severity and need for treatment remains elusive. Known clinical and demographic factors can predict the need for NAS therapy in opioid exposed infants, aiding clinical decision making.