

self-reported smell changes will complete a survey with a list of 45 household items to smell. Item reduction to develop the NASAL Short Smell Test will occur by measuring content validity, factor analysis, and internal consistency. In the Validation phase, 200 participants with self-reported smell changes will take the NASAL Short Smell Test at baseline and again at three weeks. In both phases, the validated University of Pennsylvania Smell Identification Test (UPSIT) will be used as the gold standard. Measures of performance as well as test-retest reliability and sensitivity to change will be measured. RESULTS/ANTICIPATED RESULTS: We anticipate that the majority of participants will have at least half of the items in their household and will report ability to smell for each. Measures of sensitivity, specificity, likelihood ratios, and UPSIT score correlations will allow us to evaluate performance of each item. Item reduction will allow us to create the NASAL Short Smell Test, in which a handful of common items will be used to create a screening tool for smell loss. The Validation phase will allow us to measure discriminative performance of this tool as well as test-retest reliability and sensitivity to change, which we expect to be at least comparable to the validated UPSIT. DISCUSSION/SIGNIFICANCE OF FINDINGS: Current tools for diagnosis of OD are costly, time-consuming, and often require a clinician to evaluate. The validation of the simple at-home NASAL Short Smell Test to screen for OD will allow us to detect infection with COVID-19, neuropsychiatric disease, or post-operative smell loss quickly and efficiently.

### Team Science

18069

#### WISE Indiana (Wellbeing Informed by Science and Evidence in Indiana) - A state-university partnership response to the pandemic

Amy Gilbert<sup>1</sup>, \*Sarah Wiehe<sup>2</sup>, Emily Hardwick<sup>2</sup>, Amber Osterholt<sup>2</sup>, Aaron Zych<sup>2</sup> and Jennifer Sullivan<sup>1</sup>

<sup>1</sup>Indiana Family Social Services Administration; <sup>2</sup>IU School of Medicine - Indiana Clinical & Translational Sciences Institute

ABSTRACT IMPACT: The WISE Indiana COVID-19 project facilitates rapid response and access to relevant and emerging evidence-based information for state personnel, healthcare providers and systems, managed care entities, community organizations, and all others involved in a professional capacity with the pandemic response. OBJECTIVES/GOALS: The COVID-19 project was developed to assist in responding to the Indiana Department of Health's need for rapid and evidence-informed responses to complex questions about the pandemic and best practices for preventing, mitigating, monitoring and recovering from the COVID-19 global pandemic. METHODS/STUDY POPULATION: The WISE Indiana team was activated to assist in managing the project and immediately connected with university research librarians. Through our established networks, we were able to quickly engage academic researchers and clinicians across the state to rapidly respond to key questions about COVID-19 from government leadership. Research librarians added their expertise by conducting comprehensive searches of evidence-based clinical, public health, policy, and law literature and writing up detailed annotated bibliographies. Academic experts were also recruited to write daily summaries of emerging COVID-19 literature for the benefit of Indiana's frontline responders and build and maintain an online repository of evidence-

based learning materials for practitioners on the front lines. RESULTS/ANTICIPATED RESULTS: This work has informed key decision-making at many levels of Indiana's COVID-19 response. Examples include data modeling for the IN.gov COVID-19 Dashboard, the allocation of Remdesivir, decisions about resuming elective procedures, and strategies for scaling back mitigation efforts. The WISE Indiana team has been able to engage over 40 academic experts from across the state of Indiana with expertise in pulmonary, infectious disease, law, epidemiology, mental health, public health, policy, and communications to assist in responding to key questions posed by government leadership and writing summaries of emerging COVID-19 literature which is summarized and accessible through our website: <https://indianactsi.org/community/monon-collaborative/covid-19/>. DISCUSSION/SIGNIFICANCE OF FINDINGS: The bidirectional exchange of information through the WISE Indiana collaborative network enable our team to quickly pivot to respond to the needs of our government leadership. Our team was able to rapidly translate the evidence-based information in order to respond to the policy and health outcomes needs of the state's response to the global pandemic.

99391

#### A TL1 Team Approach: The Role of Parents in Physical Activity Engagement Among Adolescents with Comorbid Asthma and Obesity

Jacqlyn Yourell, Natalie Koskela-Staples, David Fedele and Jennifer Doty

University of Florida

ABSTRACT IMPACT: Our research highlights the need for both parental and clinical support to promote PA engagement among higher risk youth with comorbid asthma and obesity; these findings will inform research and clinical efforts in the youth development, prevention science, and clinical psychology fields. OBJECTIVES/GOALS: Asthma incidence doubles in youth with obesity. Physical activity (PA) is beneficial for asthma management; however, parental influence on PA levels among youth with asthma and obesity is poorly understood. This study examines the association of parents and PA among youth with asthma and/or obesity, accounting for risk and protective factors. METHODS/STUDY POPULATION: Data from 5th, 8th, 9th, and 11th-graders were obtained from the 2019 Minnesota Student Survey (N=96,820). Linear regressions examined the impact of parent connectedness on PA across 4 groups (neither asthma nor obesity [OB], asthma only, OB only, comorbid asthma/OB). The p-value for significance was set at p<.001. For PA, youth reported how many days they were physically active (≥60 min/day) in the last week. Two items assessing youth perception of parent care and ability to talk to parents about their problems were used to measure parent connectedness. BMI was calculated using self-report height/weight, age, and gender. Control variables included age, race/ethnicity, and free/reduced lunch eligibility. Models 2-4 retained parent connectedness variables and added risk and protective factors. RESULTS/ANTICIPATED RESULTS: In Model 1, both parent variables significantly predicted PA for each risk group (β ranges: parent care=.07-.09; parent talk=.04-.05, p<.001), except for the asthma/OB group (parent talk: p>.001). Models 2 and 3 added risk factors. Depression was the most salient risk factor, particularly for the highest risk group (asthma/OB; β =-.13, p<.001). Safe neighborhood was positively associated with PA for all groups (β=.05, p<.001) except the asthma/OB group (p>.001). In Model 4, extracurricular activity involvement (protective factor) was

positively associated with PA across all groups ( $\beta$  ranges= .07-.11,  $p<.001$ ), and depression remained significant across all groups ( $\beta$  ranges=-.11 to -.14,  $p<.001$ ). For models 2-4, only parent care remained significant for the neither asthma nor OB group ( $\beta =.04$ ,  $p<.001$ ). **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*

20680

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

Ahya S Ali and Yang Mao- Draayer

Autoimmunity Center of Excellence, University of Michigan Medical School

**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.

44191

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

Catherine Striley, Piyush Chaudhari, Deepthi Varma and Linda Cottler

University of Florida

**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.

51130

#### **Risk of Prolonged Opioid Use After Intensive Care Unit Admission\***

Lia D Delaney<sup>1</sup>, Brooke Kenney<sup>2</sup>, May Hu<sup>2</sup>, Michael Englesbe<sup>3</sup>, Chad Brummett<sup>4</sup> and Jennifer F Waljee<sup>3</sup>

<sup>1</sup>University of Michigan Medical School; <sup>2</sup>Center for Healthcare Outcomes and Policy, University of Michigan; <sup>3</sup>Department of Surgery, University of Michigan; <sup>4</sup>Department of Anesthesiology, University of Michigan

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