symptoms were similar in SARS-CoV-2 versus influenza patients. Vigilance should be undertaken in treatment of children presenting with all respiratory illnesses.

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Utilizing real-world evidence to increase efficiency of randomized controlled trials with application to repurposed therapeutics for COVID-19

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OBJECTIVES/GOALS: We aim to extend a novel statistical method called the Semi-Supervised Mixture Multisource Exchangeability Model (SS-MIX-MEM) and to implement the SS-MIX-MEM approach to supplement ALPS-COVID data with N3C data to achieve analyses with greater precision and actionable conclusions. METHODS/STUDY POPULATION: We will apply the SS-MIX-MEM to supplement the Angiotensin receptor blocker-based Lung Protective Strategy for COVID-19 (ALPS-COVID) RCTs with the National COVID Cohort Collaborative (N3C) database. ALPS-COVID includes both an inpatient and outpatient trial, which investigate losartan as a treatment for COVID-19. The outpatient trial sought to randomize 580 individuals but only enrolled 117, whereas the inpatient trial met its enrollment target and randomized 205 individuals. The N3C database has 3,237,344 COVID-19 cases alongside demographics, lab values, and more. RESULTS/ANTICIPATED RESULTS: In simulation studies, the proposed SS-MIX-MEM approach effectively leveraged a subgroup of supplemental real world data for RCT analyses, improving trial efficiency by increasing precision of treatment effect estimates, decreasing necessary sample size, and introducing minimal bias. In an influenza trial real world data application, the SS-MIX-MEM approach was able to effectively provide insight into treatment effect heterogeneity found in an RCT analogous to incorporating around 80 individuals into a subgroup analysis. We anticipate that leveraging external real world data in a re-analysis of the ALPS-COVID RCTs could provide new insights into losartan, a readily available, potentially beneficial therapeutic for COVID-19. DISCUSSION/SIGNIFICANCE: The high blood pressure drug, losartan, is readily available, has an established safety profile, and might be effective as a treatment for COVID-19. Given that we have very few effective treatment options and are still in the midst of a global pandemic, patients with COVID-19 would greatly benefit from a repurposed, readily available treatment.

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Characterization of Maternal Stress During Pregnancy

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OBJECTIVES/GOALS: 1. To characterize domains of maternal psychosocial stress from the Edinburgh Postnatal Depression Scale (EPDS) and Cohens Perceived Stress Scale (PSS) administered during pregnancy using principal components analysis (PCA). 2. To identify sociodemographic, perinatal, and lifestyle correlates of maternal psychosocial stress domains. METHODS/STUDY POPULATION: Using data from 1,079 pregnant women in the Healthy Start Study who completed both the EPDS and PSS in early pregnancy, we ran PCA and retained factors representative of

uncorrelated domains of maternal psychosocial stress based on the Scree plot and Eigenvalues >1. We then used linear regression to identify sociodemographic, perinatal, and lifestyle correlates of each maternal stress domain, followed by multivariable models that mutually adjusted for all characteristics that were statistically significant at alpha = 0.10. RESULTS/ANTICIPATED RESULTS: We identified three domains of maternal psychosocial stress based on PCA results: Feeling Overwhelmed (Domain 1), Anhedonia (Domain 2), and Lack of Control (Domain 3). In unadjusted analyses, lower household income and poor diet quality were associated with higher scores for all three domains. In adjusted analyses, lower household income, being multiparous, inadequate or excessive GWG, and poor diet quality were associated with Feeling Overwhelmed. Older age, Hispanic ethnicity, and poor diet quality were associated with Anhedonia. Non-Hispanic, Black race/ethnicity, lower educational attainment, having a partner born outside the US, larger household size, receiving public assistance, and smoking during pregnancy were associated with Lack of Control. DISCUSSION/SIGNIFICANCE: We identify three unique domains of maternal psychosocial stress that are differentially related to sociodemographic, perinatal, and lifestyle characteristics. Correlates of stress domains shed light on upstream determinants and biological and psychosocial mechanisms through which experiences of stress manifest.

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A Systematic Review of Epileptiform Changes During Sevoflurane Anesthesia In Infants and Children

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OBJECTIVES/GOALS: Early clinical case reports have described incidental epileptiform changes during electrophysiological monitoring. The objective of this study was to perform a systematic review of all existing investigations of epileptiform activity during sevoflurane use in pediatric anesthesia. The heterogenous EEG data will be analyzed in a meta analysis METHODS/STUDY POPULATION: A targeted, PICO-based clinical question was crafted and registered a priori on PROSPERO on 3/19/21. Under the guidance of a librarian from the Albert Einstein College of Medicine, a boolean search string was generated to search articles and gray literature for terms such as pediatric, sevoflurane and electroencephalogram in PubMed, OVID, Cochrane, Google Scholar, etc. We utilized the software platform tool COVIDENCE to manage our review. 495 references were imported for initial screening. 56 English-language, full-text studies were included for further review. The final 13 references were included in data extraction and Newcastle-Ottawa bias assessment. The characteristics of the studies and their primary outcomes were collected in tabular form. Strategies for data synthesis were discussed weekly. RESULTS/ANTICIPATED RESULTS: Epileptiform changes reported in the literature during pediatric sevoflurane