placebo and 370 an inhaler placebo. Time to sustained recovery and time to resolution of individual symptoms are compared between groups using Kaplan-Meier curves and unadjusted log-rank tests. A step-down procedure is applied to control the false discovery rate. RESULTS/ANTICIPATED RESULTS: Control participants assigned to tablet placebos had shorter time to sustained recovery (adjusted hazard ratio (HR) 1.34 (95% CI 1.11, 1.62)). When examining each of the eleven individually reported symptoms on study Day 14, nasal symptoms (adjusted odds ratio (OR) 0.44 (0.27, 0.72), p<0.01), dyspnea (OR 0.44 (0.22, 0.87), p = 0.02), and cough (OR 0.54 (0.35, 0.83), p<0.01) were identified as symptoms in which the tablet-placebo group performed notably better than those who received inhaler-placebos. In the follow-up, longitudinal analysis, we anticipate similar results. DISCUSSION/SIGNIFICANCE: Among ACTIV-6 control participants, those receiving a tablet placebo had a significantly shorter time to sustained recovery than those receiving an inhaler placebo. Platform trials using shared controls should consider efficiency in the context of the additional variability when sharing controls with a different route of administration.

13

Prognostication in super refractory status epilepticus: Preliminary results from an international survey study

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OBJECTIVES/GOALS: Super refractory status epilepticus (SRSE) is associated with high mortality, often due to withdrawal of life sustaining therapy (WLST) based on perceived poor neurological prognosis. Factors influencing decision making are underreported and poorly understood. We surveyed clinicians who treat SRSE to identify factors that influence WLST. METHODS/STUDY POPULATION: Health care providers (HCP), including physicians, pharmacists, and advanced practice providers, who treat SRSE answered a 51-question survey on respondent demographics, institutional characteristics and SRSE management that was distributed though professional societies. Respondents described approaches to prognostication and rated the importance of clinical factors in the management of two hypothetical clinical cases followed by their prediction of recovery potential for the same two cases. Neurointensivists and other HCP responses were compared using descriptive statistics to differentiate group characteristics; a p-value <0.05 was considered significant. Logistical regression models were employed to identify associations between clinician specific factors and prognostication. RESULTS/ANTICIPATED RESULTS: One-hundred and sixty-four respondents were included in the analysis. Compared to other HCPs (neurologists, epileptologists, neurosurgeons, other intensivists; n=122, 74%), neurointensivists (n=42, 26%) [Odds ratio (OR) 0.3, 95% confidence interval (CI) 0.14-0.68), p=.004)] were less likely to use prognostic severity scores and were less likely to prognosticate likelihood of good functional recovery (OR: 0.28 (95% CI: 0.13-0.62), p=.002) compared to non-neurointensivist HCPs, controlling for potential confounders including professional degree, years of experience, country of practice, and annual volume of SRSE cases. There was, however, significant overlap in factors deemed necessary for determining futility in care escalation. DISCUSSION/SIGNIFICANCE: Neurointensivists value similar clinical factors to other HCPs when evaluating medical futility in SRSE but are less likely to predict definitive outcomes. Pending final survey results, future studies aimed at understanding why neurointensivists may be less likely to decisively prognosticate (i.e. avoiding nihilism) in SRSE may be warranted.

14

Characterization of Xylazine-Related Overdose Deaths in Maryland (2020-2022)*

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OBJECTIVES/GOALS: Xylazine is a strong sedative and fentanyl contaminant which has been increasingly detected in drug overdose deaths in Maryland. The goal of this project is to analyze the demographic characteristics and time trends of xylazine-related overdose deaths (XROD) in Maryland from 2020-2022. METHODS/STUDY POPULATION: This cross-sectional study utilizes the Maryland medical examiner's autopsy reports from 2020-2022. These reports include every death in the state that was investigated by the medical examiner, with demographic and toxicological data showing the presence of various substances at the time of death. An XROD was defined as someone who died from drug overdose and had a positive serum xylazine test at time of death. Demographic characteristics and time trends for XROD were analyzed. Multivariable logistic regression modeled associations between demographic variables and the presence of other substances with XROD. RESULTS/ANTICIPATED RESULTS: A total of 1,509 people died from XROD, of which the mean age was 44.4 years and 73.3% were male. The majority were White (57.6%), 39.2% were Black, and 3.2% identified as another race. Over 99.9% of individuals who died from XROD tested positive for fentanyl. XROD peaked in January 2021 and has been trending downwards since then. Adjusted multivariable logistic regression revealed that White individuals had greater odds of XROD relative to Black individuals (OR=1.22, 95% CI=1.07-1.37), and adults aged 30-45 years had higher odds of XROD relative to adults over age 60 (OR=1.26, 95%CI=1.04-1.54). Individuals who used fentanyl had higher odds of XROD relative to those who did not use fentanyl (OR=327.4, 95%CI=46.0-2331.3). DISCUSSION/SIGNIFICANCE: This study demonstrates that middle age, White race, and fentanyl use are associated with xylazine-related overdose deaths in Maryland. Efforts to reduce xylazine-related mortality in the state should address the unique social and geographic factors that influence substance use in this population.

15

Discrepancies in Medication Usage and Lifestyle Modification Referrals in Metabolic Syndrome is Dependent on how the Syndrome is Coded: A TriNetX Study

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OBJECTIVES/GOALS: ICD-10 coding inconsistencies hinder timely recognition and treatment of metabolic syndrome (MetS), posing a significant risk for cardiometabolic disease progression. This study employed a digital phenotype for MetS and compared odds for medication and lifestyle intervention compared to those coded for MetS. METHODS/STUDY POPULATION: MetS is a cluster of cardiometabolic risk factors that increase risk for numerous adverse clinical outcomes. Patients with MetS were identified through electronic

https://doi.org/10.1017/cts.2024.36 Published online by Cambridge University Press

medical records on TriNetX LLC using the standard ICD-10 code or through a digital phenotype, involving grouping codes for the individual components. Percentage of patients with MetS not captured with the standard code was identified. In addition, disparities in blood pressure, glucose, lipid-lowering medication, and lifestyle intervention between the coding schemas were assessed, shedding light on healthcare inequities and informing targeted interventions. Odds ratios (RR) were presented for all outcomes. RESULTS/ANTICIPATED RESULTS: Patient demographics and lab values were similar between the standard code and digital phenotype cohorts. Of the 4.3 million individuals aged 50 to 80 identified as having MetS using the digital phenotype in the TriNetX research network, only 1.78% of participants shared the standard code. Individuals with the digital phenotype for MetS were at lower odds in receiving glucose lowering medication (OR: 2.11, 95% CI: 1.98–2.13, p <0.001) and exercise or nutrition-based intervention advice (OR: 1.76, 95% CI: 1.55–1.96, p <0.001) after controlling for demographics and lab values for each MetS component. DISCUSSION/SIGNIFICANCE: This project utilized TriNetX to create a digital phenotype for MetS, and suggests most patients are not coded for it using the standard ICD-10 system. This is troublesome given those with the standard code are less likely to receive certain interventions.

16

Sociodemographic and Hospital-Level Characteristics Associated with Hospital-Onset Bacteremia in the Neonatal Intensive Care Unit

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OBJECTIVES/GOALS: The primary objective is to measure the independent association of hospital-level and sociodemographic variables on the rate of hospital-onset bacteremia among infants admitted to the neonatal intensive care unit in a United States of America retrospective cohort. The secondary outcome will be relative blood culture collection rate. METHODS/STUDY POPULATION: The study is an analysis of a retrospective cohort comprised of infants admitted to 322 neonatal intensive care units (NICUs) in the United States of America between 2016-2021. The primary outcome will be hospital-onset bacteremia (HOB), defined as a positive blood culture with a bacteria or fungi after day 3 of admission. Independent risk factors will include birthweight, postnatal age, central venous catheter presence, sociodemographic variables (race, ethnicity, insurance status and ZIP code-level demographic data from the US Census American Community Survey (ACS), and hospital-level variables. Infants will be stratified by sociodemographic groups and a Poisson model will be utilized to measure the adjusted association between risk of HOB and clinical and hospital-level variables. RESULTS/ANTICIPATED RESULTS: I anticipate that infants in sociodemographic groups with a history of socioeconomic marginalization will have a higher unadjusted rate of HOB; however, sociodemographic variables will not be independently associated with HOB risk after adjusting for markers of hospital quality and acuity, such as quartiles of the following: mean admissions per year, percentage of infants born <1500g, annual blood culture contamination rate, and percentage infants born at another facility. DISCUSSION/SIGNIFICANCE: Neonatal bacteremia has high morbidity and mortality; however, its contribution to known infant mortality inequities is unknown. This study will estimate the burden of infant HOB stratified by sociodemographic groups and measure the independent association of sociodemographic and hospital-level variables on the adjusted rate of HOB.

18

Clinical, Socioeconomic, and Facility Factors Influencing Receipt of Autologous Breast Reconstruction: Analysis of the National Cancer Database

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OBJECTIVES/GOALS: The goal of this study is to leverage a national database to see if autologous reconstruction rates differ in patient and clinical characteristics, readmission rates, and overall survival (OS) compared to other forms of reconstruction. Autologous reconstruction has not been looked at in this way before. METHODS/STUDY POPULATION: • Aim 1: Use the National Cancer Data Base to construct three patient cohorts for women under 70 and above 18 treated surgically for breast cancer with A) mastectomy only, B) implant-based reconstruction, and C) autologous breast reconstruction. • Aim 2: Examine receipt rates of surgical intervention in Cohorts A vs. B vs. C based on clinical and patient demographic/socioeconomic characteristics. • Aim 3: Compare readmission and overall survival (OS) rates for Cohorts A vs. B vs. C while controlling for age and other key variables. RESULTS/ANTICIPATED RESULTS: Based on the literature, we expect rates of autologous reconstruction (Cohort C) to be lower for patients of minority backgrounds compared to white individuals. In addition, we do not expect overall survival to differ between implant-based (Cohort B) and Cohort C reconstruction. Still, we expect mastectomy-only (Cohort A) survival to vary from the two cohorts even when adjusting for different clinical factors, as similar but smaller studies have shown. Finally, we expect readmission rates to be higher for Cohort C, compared to Cohorts A & B, as it is a more complicated procedure typically done in academic institutions with skilled surgeons. DISCUSSION/SIGNIFICANCE: Autologous reconstruction is now considered the gold standard due to its ability to restore the breast shape with higher patient satisfaction and superior long-term outcomes. Multiple studies have documented ongoing racial disparities in post-mastectomy breast reconstruction and autologous reconstruction, with lower rates and referrals.

20

Characteristics of Medicare patients receiving peripheral vascular interventions for peripheral artery disease differ by outpatient site of service

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OBJECTIVES/GOALS: Endovascular peripheral vascular interventions (PVIs) are increasingly utilized for the treatment of peripheral artery disease (PAD). We aimed to assess characteristics of patients

https://doi.org/10.1017/cts.2024.36 Published online by Cambridge University Press