development based on their neonatal characteristics. METHODS/ STUDY POPULATION: Retrospective cohort study including full term (â‰¥ 37 weeks) and late preterm (34-36 weeks) infants admitted to the CW NICU between 1/1/2013-12/31/2015 with a developmental assessment by a general practitioner or neuropsychology evaluation between 3-6 years of age. Data extraction will include maternal history, neonatal and delivery factors, and developmental evaluation results. Descriptive statistics will be used to determine the proportion of patients with abnormal preschool development stratified by NICU diagnoses, surgical procedures, subspecialty involvement, and patient demographics. Decision tree analysis will be performed to generate a prediction model identifying those infants at higher risk than their peers for an abnormal developmental assessment at 3-6 years of age. RESULTS/ANTICIPATED RESULTS: Analysis to date reveals 1360 patients â‰¥ 34 weeks gestation admitted to the CW NICU between 1/1/2013-12/31/2015. 80 patients received neuropsychology evaluations and the remaining 1280 patients had general practitioner developmental assessments. We anticipate that those infants referred for neuropsychology evaluation will have a higher proportion of abnormal developmental assessments when compared to those patients with routine general practitioner assessments. In addition, we hypothesize that common neonatal factors among the infants who received neuropsychology assessments will best predict abnormal preschool development within the decision tree analysis. DISCUSSION/SIGNIFICANCE: This study is one of the first to define risk factors in full term and late preterm infants cared for in the NICU associated with abnormal preschool age development. Identifying these infants at high-risk early on will allow providers to initiate early developmental interventions, schedule close NICU follow-up care, and provide parental counseling.

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Sociodemographic and clinical variation in rates of hospitalization for diabetic ketoacidosis

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OBJECTIVES/GOALS: Diabetic ketoacidosis (DKA) is a life-threatening complication of diabetes. Though largely preventable, DKA is one of the most common acute complications of diabetes. In the US, rates of DKA hospitalization and associated costs have been increasing over the past two decades. METHODS/STUDY POPULATION: In this study, we used the Kentucky Statewide Inpatient Database (2010-2019) and the Nationwide Readmission Database (2010-2018) to explore variation in rates of DKA hospitalization across key sociodemographic subgroups (age, sex, race/ethnicity, rural/urban, insurance coverage, and county-level poverty index) and identify clinical predictors of DKA hospitalization. The primary outcome was hospitalization with a first diagnosis of DKA identified using ICD-9 and -10 codes. Crude rates were calculated using state- and county-level population estimates obtained from the US Census Bureau and are presented as the total number of events per 10,000 people. Regression models will be used to examine the associations between DKA hospitalization and clinical predictors. RESULTS/ ANTICIPATED RESULTS: In Kentucky, from 2010-2019, rates of DKA hospitalization increased by 45% (from 65.5 to 94.8 per 100,000). The largest variation was observed by age, race/ethnicity, and insurance. In those aged 15-44, rates of DKA hospitalization were three times higher than rates in the youngest (<15) and oldest (>75) groups (>130 vs <45 per 100,000). Non-Hispanic Blacks experienced rates of DKA hospitalization that were 2x higher than rates observed in non-Hispanic Whites (183.9 vs 92.6 per 100,000). Those covered by Medicaid had the highest rates of DKA hospitalization (171.3 vs 32.4 per 100,000 in commercially insured). Small, but consistent, disparities were observed in rural vs urban counties and higher poverty rates. Predictors of DKA hospitalization are being examined in the Nationwide Readmission Database. DISCUSSION/SIGNIFICANCE: Our findings underscore significant variation in DKA risk across key sociodemographic subgroups and will examine and confirm previously identified clinical predictors of DKA. Because DKA is largely preventable, identifying individuals at higher risk and targeting interventions and services to these individuals may help reduce DKA rates.

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Physical activity patterns in adolescents and young adults with intellectual and developmental disabilities*,†

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OBJECTIVES/GOALS: Individuals with intellectual and developmental disabilities (IDD) have lower levels of moderate-to-vigorous physical activity (MVPA) and a greater risk for sedentary-related comorbidities compared to their typically developing peers. Understanding activity patterns may provide opportunities for targeted physical activity interventions. METHODS/STUDY POPULATION: Secondary analyses were performed on baseline accelerometer data pooled from 2 clinical trials and a pilot study in adolescents (11-17 years) and young adults (18-21 years) with IDD. MVPA was assessed using accelerometers worn on the non-dominant hip during waking hours over 7 consecutive days. Data were collected at 60 hertz and activity counts were aggregated over 60 second epochs. Wear time was determined with the Choi algorithm and MVPA was classified using the Troiano adult or Freedson age-specific child cut-points. Mixed effects linear regressions were used to determine the effects of day of the week, time of the day, and season on MVPA. Diagnosis, gender, and age were used as fixed effect covariates with random intercepts varying among the participants and days of observation within each participant. RESULTS/ANTICIPATED RESULTS: There were 231 individuals (15.6 Â± 2.8 years, 51.5% female) who had IDD (36.8% Autism, 48.1% Down syndrome) with 22,498 minutes of MVPA. Individuals with IDD wore the accelerometers an average of 592 Â± 254 min./day and completed 13.5 Â± 17.9 min./day of MVPA. Average MVPA was lowest in individuals with Autism (12.6 Â± 11.4 min./day) and Down syndrome (13.2 Â± 9.3 min./day) when compared to those with other IDDs (16.8 Â± 10.8 min./day). Participation in MVPA was similar in males (13.4 Â± 10.7 min./day) and females (13.7 Â± 9.9 min./day). Mixed effects linear regressions showed that individuals participated in fewer minutes of MVPA on the weekend ($\hat{I}^2$ = -0.75, p < 0.001) and from 12-3 pm (reference) when compared to before 12 pm ($\hat{I}^2$ = 0.87, p < 0.001) and 3-7 pm ($\hat{I}^2$ = 0.66, p=0.007). No significant seasonal effects were found. DISCUSSION/SIGNIFICANCE: Individuals with IDD were significantly less active on the weekend, but they did participate in more minutes of MVPA in the morning and late afternoon/early evening. Physical activity interventions aiming to increase MVPA on the weekend and during the early afternoon may increase the number of weekly minutes of MVPA in individuals with IDD.