

needs; lack of communication between multiple providers; distress at having providers release children to full activities before caregivers were comfortable. At 6 months, approximately 24% of parents reported children had ongoing cognitive limitations, 29% reported emotional problems, 19% reported physical limitations, 33.3% reported difficulty in school, and 15% reported play/social difficulties. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Evidence suggests families face significant barriers in accessing follow-up care, despite nearly universal health insurance coverage for children. Further, a large percentage of parents report ongoing health needs, despite the majority of the cohort having only mild or moderate severity injuries. Making follow-up care more patient-centered for families of traumatically injured children may improve compliance with medical regimens and reduce the likelihood of future disability. Examples of this may be coordinating care among multiple specialty providers, so that patients with multiple injuries can schedule multiple follow-up appointments on the same day. Additionally, more caregiver education on administering pain medication, caring for wounds, and safe practices for returning to full activities would be beneficial for families.

3234

Cell Proliferation and Differentiation in 3D printed Polycarbonate Urethane Porous Scaffolds

Bijan Abar¹, Alejandro Aalleja, Cambre Kelly, Natalia Von Windheim, Jennifer West and Kenneth Gall

¹Duke University

OBJECTIVES/SPECIFIC AIMS: The aim of this study is to understand how porosity and collagen filling impact cell proliferation and differentiation in 3D printed scaffolds. **METHODS/STUDY POPULATION:** 3 groups of scaffolds will be 3D printed using FDM: solid scaffold, porous scaffold and porous scaffold with collagen gel (n=10 for each group) Internal geometries and surface structure will be analyzed using micro CT and Scanning Electron Microscopy. **RESULTS/ANTICIPATED RESULTS:** We hypothesize that porosity and collagen filler will increase signal from Picogreen assay and ALP assay when normalized to scaffold surface area, indicating enhanced cell proliferation and differentiation. **DISCUSSION/SIGNIFICANCE OF IMPACT:** 3D printing PCU is a relatively new technique with very little published in the literature. Previous work has focused on the mechanical properties and not the biological response to the polymer. Understanding how to optimize cellular proliferation and differentiation can lead to the development of better implants that will integrate into the host's structure and facilitate tissue regeneration.

3283

Comparative Effectiveness of Levetiracetam versus Phenobarbital for Infants Aged One Month to One Year, using US Medicaid Claims

Michelle Yun¹, Manyao Zhang¹, Alan Wu¹, Natasha Basma¹ and Zachary Grinspan¹

¹Weill Cornell

OBJECTIVES/SPECIFIC AIMS: Using national Medicaid claims, this retrospective cohort study aims to compare the outcomes of levetiracetam (LEV) versus phenobarbital (PHB) as initial

monotherapy in infants with epilepsy aged one month to one year. We primarily analyzed health services outcomes, as follows: (1) Emergency Department (ED) visits: proportion of those with at least 1 ED visit, time to first ED visit, total number of ED visits, proportion leading to inpatient admission (2) Inpatient Admissions: proportion of those with at least 1 admission, time to first admission, total number of inpatient admissions, total length of stay (3) Treatment discontinuation: proportion of those who discontinued medication, time to discontinuation, proportion of those with prescription of second antiepileptic drug (AED) (4) Cost: total cost at 1 year from first prescription. **METHODS/STUDY POPULATION:** The project is a retrospective cohort study utilizing Medicaid claims from 2009-2012 from all states and DC. Inclusion criteria were: (1) Epilepsy diagnosis (ICD9 345.x) at age 1 month to 1 year (2) 1 year of continuous Medicaid enrollment Exclusion criteria were: (1) Neither LEV nor PHB monotherapy as initial treatment (2) Neither LEV nor PHB prescription within 45 days of epilepsy diagnosis (3) Less than 1 year of follow-up after first LEV or PHB prescription (4) Infantile Spasms diagnosis (5) Brain Surgery (6) Death within 1 year of follow-up Using R for statistical analysis, we analyzed outcomes including ED visits, inpatient admissions, treatment discontinuation, and total cost. In this abstract, we present our preliminary bivariate analysis. **RESULTS/ANTICIPATED RESULTS:** Demographics and Etiology: Compared to infants prescribed PHB (n = 1954), infants prescribed LEV (n = 1248) were older (median 6 months [IQR 3-9] vs 3[2-6]; p < 0.001), more likely to be white (44.2% vs 38.9%; p < 0.05) and not Hispanic (63.5% vs 58.9%; p < 0.05). There were also important differences in epilepsy etiologies (p < 0.05). For example, infants prescribed LEV were more likely to have a diagnosis of tuberous sclerosis (1% vs 0.15%) or traumatic brain injury (12.8% vs 0.56%). Health Services Outcomes: After 1 year, infants prescribed LEV had more ED visits (2 [0-4] vs 1 [0-3]; p < 0.001) but shorter inpatient length of stay when admitted (3 days [2-5] vs 3 [2-6]; p < 0.001). They were less likely to discontinue the medication (46.6% vs 64.3%; p < 0.001) but more likely to have a second AED prescription (53.3% vs 43.4%; p < 0.001). Other outcomes, including total cost, were similar. **DISCUSSION/SIGNIFICANCE OF IMPACT:** This preliminary analysis suggests that the healthcare trajectory of infants treated with LEV and PHB differ in complex ways. In ongoing work, we are conducting a multivariable comparative effectiveness analysis of LEV versus PHB using propensity score weighting to account for observable selection bias and multiple imputation to account for missing data.

3245

Comparison of Health Outcomes in Adolescent and Young Adult (AYA) Oncology Patients Treated at a Pediatric versus Adult Institute

Amy Moskop¹, Julie Panepinto and Sadie Dobrozsi

¹Medical College of Wisconsin

OBJECTIVES/SPECIFIC AIMS: Objectives: To examine the differences in health outcomes of adolescents and young adults treated for malignancy at a pediatric cancer center compared to an adult cancer center. To determine the differences in receipt of supportive care for adolescents and young adults with malignancy who are treated at a pediatric cancer center compared to an adult cancer center. **METHODS/STUDY POPULATION:** Methods: This will be a retrospective cohort study of patients from the ages of 15 to

39 years who are diagnosed with a malignancy common between adult and pediatric facilities within 2013-2017. Data will be abstracted from an existing database at MCW containing patient information at the adult and pediatric centers. Study population: Patients ages 15-39 years of age who are categorized as young adolescent and adult patients (AYAs). Patients are eligible for the cohort if they have a diagnosis that is common between adult and pediatric oncology centers and that is made within the years 2013-2017. These diagnoses will include ALL, AML, Hodgkin Lymphoma, Non-Hodgkin Lymphoma, Germ cell tumors, Osteosarcoma, Ewing Sarcoma, other sarcomas, and CNS tumors. RESULTS/ANTICIPATED RESULTS: There will be a difference in health care utilization, clinical trial enrollment and toxicity of therapy in AYAs with malignancies treated at an adult facility than AYAs treated for similar malignancy at pediatric facility. DISCUSSION/SIGNIFICANCE OF IMPACT: There will be a difference in receipt of supportive care referrals, including psychology, social work, sperm banking, initiation of palliative care, in AYAs treated at a pediatric facility compared to AYAs treated at adult facility.

3262

Determining the association of acculturation, community identity and discrimination on cancer screening rates and quality of life among underserved populations

Maria D Rodriguez Berrios¹, Amy LeClair¹, Janis Breeze¹, Sarah Reisenger², Evelyn Gonzalez³, Jill Oliveri², Electra Paskett² and Karen Freund¹

¹Tufts Medical Center; ²Ohio State University and ³Fox Chase Cancer Center

OBJECTIVES/SPECIFIC AIMS: To determine the association of participant's characteristics and socio-cultural factors including acculturation, community identity and discrimination with the adherence to cancer screening guidelines and participants' quality of life. METHODS/STUDY POPULATION: As part of the Cancer Disparities Research Network pilot cohort, the study recruited 333 participants across four sites: Boston Chinatown, African American communities in Philadelphia, and Hispanic communities in Columbus, and rural white communities in Appalachia, Ohio. Enrolled participants were eligible if they were 40 to 74 years old, did not live in a nursing home or other facility, and had no prior invasive cancer diagnosis. Additionally, each participant met at least one of the following criteria: living in a medically underserved area, having low literacy, low income (defined as 100% of the 2015 Federal Poverty Level FPL according to 2015 FPL Guidelines), or being uninsured or receiving subsidized health insurance coverage. Participants completed a baseline survey of demographic data, health status, including health behaviors and risk factors to cancer, Primary Care Physician (PCP) status and most recent breast, cervical, prostate, skin and colorectal cancer screenings. Information related to discrimination, acculturation or adaptation, and sense of belonging to their community was collected using validated instruments. RESULTS/ANTICIPATED RESULTS: Of the 333 participants enrolled in the study, 65.5% were women, 14.1% were 40-50 years of age, 59.8% were 51-64 years, and 26.1% were 65-74. The cohort was racially and ethnically diverse: 8.4% of participants identified as Hispanic, 30.3% as non-Hispanic White, 31.2% as non-Hispanic

Black, 29.4% as non-Hispanic Asian, and 0.6% as Other. 62.2% spoke English, 8.1% Spanish, and 29.7% Chinese as their primary language. Low incomes were common: 33.6% reported incomes \$15,000 or less, and 25.8% reported incomes between \$15,000 and \$24,999. Overall adherence to USPSTF guidelines on cancer screening rates was 77.9% for breast cancer, 71.1% for cervical cancer, and 67.7% for colorectal cancer. Analyses will present the association of acculturation, community identity, and discrimination with cancer screening and quality of life measures. DISCUSSION/SIGNIFICANCE OF IMPACT: This study will promote the increase of cancer disparities research, and reinforce the importance of inclusion and increased recruitment of diverse populations in future studies. By determining the potential factors associated with cancer disparities among minority populations, it may provide new information for clinicians to have more cultural sensitivity addressing potential disparities in the clinical setting. It will also promote the creation of more tailored interventions and programs to deliver adequate healthcare among these populations.

3342

Developing a population health learning system

Tony Kuo and Moira Inkelas, PhD¹

¹UCLA Clinical and Translational Science Institute

OBJECTIVES/SPECIFIC AIMS: Population health research seeks to identify and address variation in needs, care experiences, and outcomes for a defined geography or subgroup. Solutions often require collective actions of complex interdependent health and social service systems in communities. System sciences focused on implementation and dissemination are vital for developing interventions that work at the intended scale in these "real world" environments; yet these approaches are often underutilized. METHODS/STUDY POPULATION: The UCLA Clinical Translational Science Institute (CTSI) co-developed a Population Health Program with the local health department to advance the practice and use of these system science methods. The vision is integrated training, methodological innovation, and real-world application in the region. One specific aim of the program is preparing investigators to apply suitable translational methods to solve population health problems in both health systems and in public health. Investigators from different parts of the university partnered with health services and public health leadership to develop and team-teach new curriculum in system sciences that integrates their disciplines (epidemiology, education, psychology, health policy and management). RESULTS/ANTICIPATED RESULTS: New curriculum in population and implementation/improvement sciences offers junior investigators effective modules and training opportunities that can support their career awards. The program is also increasing the receptivity and readiness of population health delivery systems to apply system science methods to pressing problems. Program metrics include total participants, research yielded by the collaboration, and skills and system science mindset acquisition among trainees, investigators, and health personnel. DISCUSSION/SIGNIFICANCE OF IMPACT: CTAs can partner with health and public health agencies to develop shared infrastructure, developing capacity in the university and in the partnered local agencies so that investigators and the agencies that are responsible for population health can work together to apply suitable