

patients have a higher rate of heart failure than non-Hispanic whites. Current guidelines recommend that proper screening tools must be used to identify and manage major depression disorder in HF patients, however many of these patients go unrecognized in the medical setting. The prevalence, management, and outcomes of depression among Puerto Rican Hispanics living with heart failure is unknown. Objective: The purpose of this study is to evaluate the relationship between heart failure and depression in Hispanics with heart failure METHODS/STUDY POPULATION: To this end, we will perform a secondary analysis of data from the PR Cardiovascular Surveillance Study (PRCSS). We will extract personal data from 4,461 medical records of patients admitted with heart failure (ICD-9 Codes 428) at 21 hospitals in Puerto Rico, during the years 2007, 2009 and 2011. For statistical methods, we will implement chi-square and t-tests at a significance level of 0.05 RESULTS/ANTICIPATED RESULTS: We expect to see older aged women with higher NYHA and pro-BNP levels to be associated with diagnosis of major depression disorder and worse in-hospital outcomes DISCUSSION/SIGNIFICANCE OF IMPACT: With this study, we would like to raise awareness about depression in patients with heart failure, and its role in improving patient outcomes. Moreover, we would like to determine if there are gender-specific health disparities among Puerto Rican Hispanics with heart failure

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Assessment of differential access to patient online portal (POP) by socioeconomic status (SES) and its impact on asthma care and research

Young J Juhn¹, Chung-il Wi, Euijung Ryu, Sunghwan Sohn, Miguel Park, Joy Fladager Muth, Hee Yun Seol, Katherine King, and Hongfang Liu

¹Mayo Clinic

OBJECTIVES/GOALS: Patient online portal (POP) allows patients to access electronic health records (EHRs) and have efficient communication with their clinicians. We assessed disparities in access to POP by families with different SES and its impact on asthma research which is little known in the literature. METHODS/STUDY POPULATION: A randomized controlled trial testing the efficacy of an EHRs-based clinical decision support (CDS) system was conducted at a pediatric primary care setting of Mayo Clinic. Asthma Control Test (ACT) questionnaire was administered to parents every 3 months through phone or email for this study after consenting, and reminders were sent to unanswered subjects through the POP. SES was measured by HOUSES (in quartiles), a validated individual-level SES index based on housing features (the higher HOUSES, the higher SES). The association of HOUSES with availability of POP access and missing ACT score rate was assessed. RESULTS/ANTICIPATED RESULTS: The mean age of 184 participants was 9.0 years (57% male) and parents of 152 (83%) children had POP. Only 68% of children from lowest HOUSES (Q1) had access to POP (vs. 74% (Q2), 88% (Q3), and 92% (Q4; highest SES); $p = .02$). ACT score was completed by 144 (78%), 150 (82%), 171 (94%), and 164 (95%) at each intervention conducted every 3 months with a total of 61 (33%) missing at least once. Overall, children whose parents had access to POP had a lower missing rate in ACT score at all interventions during the study; 16% (those with access to POP) vs. 47% (those without), 13% vs. 44%, 3% vs. 16%, and 1% vs. 23% for 1st, 2nd, 3rd, and 4th intervention, respectively ($p < .007$ for all). DISCUSSION/SIGNIFICANCE OF IMPACT: There are significant disparities in access to POP by

SES defined by HOUSES which impact availability of ACT score resulting in a systematic bias in asthma research and potentially widening disparities in asthma care. CONFLICT OF INTEREST DESCRIPTION: NA.

4537

Association between Geographic Socioeconomic Disadvantage and Incidence of Total Hip Replacement Surgery

Rafa Rahman¹, Joseph K. Canner¹, Elliot R. Haut, MD, PhD¹, and Casey J. Humbyrd¹

¹Johns Hopkins University School of Medicine

OBJECTIVES/GOALS: Total hip replacement (THR) improves function for those with arthritis, but not all patients have equal access to this elective procedure. To better geographically target healthcare resources, we explored whether geographic socioeconomic disadvantage is associated with incidence of elective THR. METHODS/STUDY POPULATION: We performed a cross-sectional analysis of data in the state of Maryland from 2013-2019. We categorized 5-digit zipcodes into national quartiles of socioeconomic disadvantage using the Area Deprivation Index (ADI). For each zipcode, we calculated the THR incidence rate using Maryland Health Services Cost Review Commission (HSCRC) inpatient and outpatient data in those age 65 years and older. We included only elective THRs. We analyzed the association between a zipcode's disadvantage quartile and THR incidence rate using multivariate linear regression, correcting for differences across zipcodes in gender, race, and ethnicity distributions, and distance to the nearest hospital performing THRs. RESULTS/ANTICIPATED RESULTS: We analyzed 414 zipcodes with overall average THR rate of 370.8 per 100,000 persons >65yo per year. Relative to zipcodes in the least socioeconomically disadvantaged quartile, those in the second-least disadvantaged had 82.2 fewer THRs per 100,000 persons >65yo per year, those in the second-most disadvantaged had 144.2 fewer, and those in the most disadvantaged had 207.4 fewer (all $p < .05$ per year, those in the second-most disadvantaged had 136.2 fewer, and those in the most disadvantaged had 182.9 fewer (all $p < .05$). DISCUSSION/SIGNIFICANCE OF IMPACT: More socioeconomically disadvantaged areas have significantly lower rates of elective THR, independent of differences in demographics and hospital proximity. These findings show how disparities can affect access and outcomes, and should inform targeting of community-level education and intervention.

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Association of Interpersonal Processes of Care and Health Outcomes in Patients with Type II Diabetes

Hadley Reid¹, Olivia M Lin¹, Rebecca L Fabbro¹, Kimberly S Johnson¹, Laura P. Svetkey, MD¹, and Bryan C Batch¹

¹Duke University

OBJECTIVES/GOALS: 1. Understand the association between patient perceptions of care measured by the Interpersonal Processes of Care (IPC) Survey and glycemic control, appointment no-shows/cancellations and medication adherence in patients with type II diabetes. 2. Determine how these relationships differ by race for non-Hispanic White and Black patients. METHODS/STUDY POPULATION: This is a cross-sectional study of a random sample of 100 White and 100 Black Type II diabetic patients followed in

Duke primary care clinics and prescribed antihyperglycemic medication. We will recruit through email and phone calls. Enrolled patients will complete the Interpersonal Processes of Care Short Form and Extent of Medication Adherence survey to measure patient perceptions of care (predictor) and medication adherence (secondary outcome). No show appointments and cancellations (secondary outcomes) and most recent hemoglobin A1c (primary outcome) will be collected from the Electronic Medical Record. We will also collect basic demographic information, insurance status, financial security, significant co-morbidities, and number and type (subcutaneous vs oral) of antihyperglycemic medications. RESULTS/ANTICIPATED RESULTS: -The study is powered to detect a 0.6% difference in HbA1c, our primary outcome, between high and low scorers on the Interpersonal Processes of Care subdomains. -We expect that higher patient scores in the positive domains of the IPC survey and lower DISCUSSION/SIGNIFICANCE OF IMPACT: This study will provide information to develop and implement targeted interventions to reduce racial and ethnic disparities in patients with Type II diabetes. We hope to gain information on potentially modifiable factors in patient-provider interactions that can be intervened upon to improve prevention and long-term outcomes in these populations.

4481

Better Together Harrisburg: Community-Driven Research Day

Andrea Murray¹, Dr. Martha Wadsworth, Dr. Jennifer Kraschnewski, Kathleen Best, and Carmen Henry-Harris

¹Penn State Clinical and Translational Science Institute

OBJECTIVES/GOALS: The overall goal of the Community-Engaged Research Core, supported by the Penn State Clinical and Translational Science Institute, is to invest in opportunities that promote collaboration between researchers and communities. Research in which community members are participating in the research process will more likely lead to reducing health disparities when compared to more traditional approaches. This abstract describes a community research day that brought researchers and community-based organizational leaders together to discuss critical areas of research. We aim to highlight a successful approach for how to work with a community, particularly one that has been distrustful of research, to facilitate and support collaborations between academic researchers and community-based organizational leaders (CBOs). Community-based organizational leaders are often the most knowledgeable individuals when it comes to identifying and discerning the needs and research priorities of their communities and they are generally in the best positions to help build greater trust between academic researchers and communities. METHODS/STUDY POPULATION: A Community Research Day Steering Committee was formed in the spring of 2018 and consisted of 10 community-based organizational leaders from Harrisburg, Pennsylvania, two Penn State University staff, and one Penn State University faculty member. The Steering Committee's purpose was to design, plan, and execute an event (Better Together: Community Driven Awareness) in which community-organizational leaders and faculty researchers came together to discuss possible research collaborations to improve community health. The Steering Committee participated in bi-monthly planning meetings leading up to the event, Better Together: Community-Driven Awareness. During these planning

meetings, members determined that mental health and nutrition were two critical areas deserving of more attention from research within their geographical community. Organizations were asked to identify sub-categories within mental health and nutrition that they saw as most relevant to their communities. The sub-categories that they selected became the theme topics for round table discussions at the main event. This information was also used to determine which academic researchers to invite to the event, based on scientific expertise. In addition to selecting these topics for table discussions, the Steering Committee provided advice on the agenda and program materials. The agenda for Better Together: Community-Driven Awareness featured a presentation from a successful collaboration between a faculty member and a community-based organization whose project was centered around suicide prevention in the school system. After the presentation, researchers and CBOs sat at round tables for facilitated discussions about their table's theme. The facilitated discussions fostered new relationships and led to collaborations outside of the event. Following the round-table discussions, there was a presentation about funding and next steps. Lastly, feedback forms were given to each attendee to assess their experience of the event and to better understand what to improve upon for the future. RESULTS/ANTICIPATED RESULTS: Following the Community-Driven Awareness event, the Community-Engaged Research Core at Penn State released a call for proposals for planning grants to be awarded to faculty/community-based organization teams. These grants were intended to build capacity for externally-funded research that seeks to address important community-identified research questions. The internal grants support meetings to discuss mutual interests, develop research questions, identify leaders, conduct literature reviews, and collect pilot data. A team must have included, at a minimum, one Penn State faculty researcher and one community-based organizational leader as co-principal investigators. In the proposal, the team was asked to describe its preliminary research question, the work to be accomplished during the planning period, anticipated outcome(s) and deliverables, and preliminary ideas for seeking future external funding. A two-page narrative briefly described how the team members' expertise/experience/constituencies would address the specified research question. In addition, the team provided a budget and budget justification. Planning grants ranged from \$500-\$5,000. Funds were allocated for a 6-12 month period. After the call was sent out, seven proposals were submitted and three were selected for external funding. Proposal topics included: * Exploring the Mechanism of Engagement in HIV Testing, Prevention, and Care Among African American and Hispanic/Latino Men who Have Sex with Men * Educator Translation of a Universal Social-Emotional Learning Program in School Practice * Growing Nutritious Communities: Gardening to increase access to and knowledge about fresh fruits and vegetables among residents in South Harrisburg, Hall Manor community. DISCUSSION/SIGNIFICANCE OF IMPACT: There are several academic institutions that have implemented similar events whose goal is to bring together academic researchers and community-based organizational leaders. To our knowledge, this is one of a few examples of an event that was developed from the ground up by a committee comprised mostly of community organization leaders. The community leaders guided the decisions made in all phases of the event design from determining the research themes to providing input on program materials. Additionally, our Steering Committee garnered the interest and attendance from over 20 community participating organizations, which attests to their commitment and dedication to seeing