

Dietary Guidelines for Americans. Additionally, the Healthy Eating Index-2015 score of the SFSP menus will be lower than that of the National School Lunch Program menus. Aim 3. Consistent SFSP participation will have a positive effect on reducing food insecurity, but not on increasing diet quality and reducing body mass index and percent body fat in children. DISCUSSION/SIGNIFICANCE OF FINDINGS: Program user information will determine if the program is reaching the target audience. Program managers will utilize menu analysis results to improve their menu nutritional quality. Changes in food insecurity, diet quality and anthropometric measures will inform whether the program needs to be improved to prevent any untoward excess weight gain.

71016

Defining “rurality”: Rural-urban disparities among COPD patients in national VA data

Ariane Baldomero^{1,2}, Ken M. Kunisaki^{1,2}, Patrick Hammett¹, David Nelson¹, Carrie Henning-Smith³, Ann Bangerter³, Chris H. Wendt¹ and R. Adams Dudley¹

¹Minneapolis VA Health Care System; ²University of Minnesota; ³University of Minnesota

ABSTRACT IMPACT: Our research focuses on determining rural-urban disparities in chronic obstructive pulmonary disease (COPD) management to improve COPD health outcomes in rural areas. OBJECTIVES/GOALS: Several methods exist to distinguish rural from urban areas, but it is not clear which method relates most directly to rural-urban health care disparities. To address this, we compared different measures of rurality to measures of chronic obstructive pulmonary disease (COPD) processes of care among a national sample of veterans. METHODS/STUDY POPULATION: Retrospective analysis of patients with COPD (2016-2019 by ICD-10 codes) using national Veterans Affairs (VA) data. We assessed rurality by: 1) patient’s residential address, 2) assigned primary care clinic address, and 3) drive time from the patient’s residence to closest primary care clinic. Rurality designations of the residential address and primary care clinic address into urban, rural, and highly rural areas are based on the Rural Urban Commuting Area (RUCA) codes. The dependent variables were binary outcomes of: 1) documentation of a pulmonary clinic encounter and 2) evidence of spirometry to confirm the diagnosis of COPD. RESULTS/ANTICIPATED RESULTS: Of 6,765,951 veterans, 1,157,002 (17%) had COPD (Table 1). Although approximately 40% of patients with COPD reside in addresses that are rural and highly rural, a large majority are assigned to primary care clinics in urban areas (82.8%) and reside within 30 minutes to the closest primary care clinic (76.7%) (Table 2). Compared to defining rurality based on patient’s residential address or drive time to closest primary care, defining rurality based on the assigned primary care clinic address was associated with a larger disparity in rates of pulmonary encounter. In contrast, the drive time from the patient’s residence to the closest primary care was the strongest predictor of receipt of spirometry (Figure 1 and Table 3). DISCUSSION/SIGNIFICANCE OF FINDINGS: Estimates of the severity of rural-urban disparities varied based on the definition of rurality used. For two process measures, definitions of rurality based on where the patient received primary care generated more evidence of disparities than definitions based solely on the patient’s residential address.

81941

Evaluating race, socioeconomic status, and the effect of radiation treatment in patients undergoing autologous breast reconstruction

Edgar Soto, Grant Bond, Jeremy Botwsorth, Hua A. Fang, Rene P. Myers, Timothy W. King
University of Alabama School of Medicine

ABSTRACT IMPACT: Disparities are multifactorial in etiology we seek to elucidate the effects of social determinants of health such as race on the outcomes of autologous flap reconstruction. OBJECTIVES/GOALS: Immediate breast reconstruction has increased in recent years yet, racial and socioeconomic disparities in the receipt of postmastectomy breast reconstruction persist. We review the usage of autologous flaps for immediate breast reconstruction in a single institution with a diverse population to determine the effect of radiation on flap survival. METHODS/STUDY POPULATION: The database of a Southeastern tertiary referral center was queried for patients who received autologous flaps for immediate reconstruction following mastectomy. Patients were stratified based on whether they received no radiation (TRAM), neoadjuvant radiation (TRAM + Pre-XRT), or post-reconstruction radiation (TRAM + PMRT). So far, we have identified 91 patients (157 breasts) meeting inclusion criteria from 2006 to 2017. Patient demographics and outcomes were compared based on radiation status. The primary outcome (reconstructive success) was defined as breast reconstruction without flap loss. Comorbidities, socioeconomic status, and method of reconstruction were collected. Statistical analysis included t-tests, chi-square tests and logistic regression were appropriate using R. RESULTS/ANTICIPATED RESULTS: At the moment, we focus on outcomes of transverse rectus abdominus flaps and are adding information on 4 other flap-based methods. There were 68 in the solely TRAM group, 33 in TRAM+Pre-XRT and 56 in TRAM+PMRT with equivalent demographics between all groups for Age, Race and BMI (Table 1). In terms of race most patients self-identified as White (68%), followed by Black (24%) and Other (8%), $p=0.172$. There was a statistically significant difference in the incidence of tobacco use with the type of radiation used ($p=0.007$) with the PTRAM+ PMRT group having the highest percentage. When analyzing major and minor complications based on radiation received or reconstructive success there was no significant difference regardless of radiation treatment with the group overall achieving a 97.4% success rate ($p=0.229$). DISCUSSION/SIGNIFICANCE OF FINDINGS: Despite the known racial disparities in healthcare and the deleterious effects of radiation therapy on wound healing, there was no significant difference found in the incidence of major or minor complications in patients receiving neoadjuvant or post-reconstruction radiation therapy regardless of patient demographics.

91756

A participatory approach to develop regional health priorities for clinical and translational research

Shinobu Watanabe-Galloway, Paul Estabrooks, David Palm, Sean Navarrette, Heidi Keeler; Keyonna King and Emily Frankel
University of Nebraska Medical Center - UNMC

ABSTRACT IMPACT: Regional health issues can be best addressed at the population-level and input from the communities is vital for prioritization of health issues. OBJECTIVES/GOALS: The Great Plains IDEACTR (GP IDEACTR) was developed to increase clinical and translational research (CTR) that can address regional health priorities. Here we describe a collaborative process used to identify regional health

priorities using existing surveillance data and community input. METHODS/STUDY POPULATION: We used a participatory approach that included a partnership between the GP IDeA CTR Community-Engagement and Biostatistics, Epidemiology, and Research Design Cores to ensure priorities were data driven and also aligned with community-based perceptions of need. First, aggregated surveillance data across Nebraska, North Dakota, and South Dakota was presented to the GP IDeA CTR Community Advisory Board (CAB). Second, CAB members formed small groups and considered the information and generated priority health area lists. Third, small group lists were considered and discussed by the full CAB to finalize priority areas. Finally, the CAB reviewed the priorities annually thereafter. RESULTS/ANTICIPATED RESULTS: We identified priority areas for CTR that included (1) behavioral health, (2) injury prevention, (3) obesity, (4) technology to improve health care access, (5) connecting clinical/community services, and (5) addressing health disparities. These priorities align with population-based surveillance data that show lack of mental health care access, high prevalence of obesity, higher incidence of accidents, and existing racial, ethnic, and geographic health disparities. The CAB highlighted that research was also needed to improve how people can access the health innovations developed through CTR to address the other priority health issues with a goal to have an impact on population health. DISCUSSION/SIGNIFICANCE OF FINDINGS: By integrating data- and community-driven approaches we identified regional health priority areas that if addressed, can have significant impact in the GP IDeA CTR region. The priorities are listed on all GP IDeA-CTR funding announcements to encourage CTR in these areas.

93132

Relationship between Level of Response to Alcohol and Body Weight Status in Individuals across the Spectrum of Alcohol Use and Misuse

Rhianna R. Vergeer^{1,2,3}, Bethany L. Stangl^{1,2,3}, Melanie L. Schwandt^{1,3}, Nancy Diazgranados^{2,3} and Vijay A. Ramchandani¹

¹Laboratory on Human Psychopharmacology; ²Division of Intramural Clinical and Biological Research; ³National Institute on Alcohol Abuse and Alcoholism (NIAAA)

ABSTRACT IMPACT: Improved understanding of the relationship between level of response to alcohol and body weight in the context of other contributing factors will help inform prevention and intervention efforts regarding obesity. OBJECTIVES/GOALS: We evaluated the association between level of response to alcohol and weight status across the spectrum of alcohol misuse. We hypothesized that lower level of response to alcohol would be associated with heavier weight, after controlling for obesity risk factors like food addiction, impulsivity, and low socioeconomic status. METHODS/STUDY POPULATION: Adult participants (N=587) enrolled in NIAAA's natural history study completed Self-Rating of the Effects of Alcohol (SRE), a retrospective measure of level of response to alcohol, along with Lifetime Drinking History (LDH); Yale Food Addiction (FA) Scale; Barratt Impulsiveness Scale (BIS); Delayed Discounting Task (DDT). Structured Clinical Interviews for DSM disorders were conducted to identify individuals with current alcohol use disorder (AUD). Body mass index (BMI), computed from height and weight measured during the study, and used to stratify participants into 3 groups: normal weight (N=222), overweight (N=219), or obese (N=146). RESULTS/ANTICIPATED RESULTS: SRE scores during heaviest drinking period were lowest in the heavier weight group, after accounting for FA, impulsivity, alcohol-related, and demographic variables ($\hat{\beta}=238.5$, $p=0.002$, Cox and Snell Pseudo

$R^2=0.43$). Compared to the obese group, normal weight and overweight groups had fewer FA symptoms and higher BIS cognitive complexity (p values <0.01) but similar rates of current AUD. Relative to the obese group, the normal weight group was more likely to be White, and to have lower household incomes but more education, more years of heavy drinking (LDH), and steeper delayed discounting, p values ≤ 0.03 . The overweight group had a higher proportion of males than did the obese group, $p<0.001$. DISCUSSION/SIGNIFICANCE OF FINDINGS: Lower level of response during heaviest drinking period was significantly associated with current weight status, suggesting a relationship between alcohol sensitivity and BMI. Future work will explore pharmacokinetic-pharmacodynamic and additional risk factors underlying this relationship.

Mechanistic Basic to Clinical

10271

How The Kidney Reacts to Nutritional Changes?

Dana Bielopolski¹, Andrea Ronning¹, Jonathan.N Tobin² and Rhonda.G Kost¹

¹Rockefeller University; ²Clinical Directors Network

ABSTRACT IMPACT: Understanding the mechanism underlying the DASH diet may shed light on the physiologic process by which nutrition influences blood pressure and potentially lead the way to new therapeutics that target ion channels. OBJECTIVES/GOALS: Hypertension is a disease of the westernized world, as it stems from lifestyle habits. Lower salt consumption reduces blood pressure, yet DASH diet is much more effective, lowering blood pressure as efficiently as one anti-hypertensive drug. The precise mechanism through which DASH achieves its effect is not understood, and this is the project goal. METHODS/STUDY POPULATION: We hypothesize that exposing hypertensive volunteers to a high potassium and low sodium DASH diet will change the composition of renal ion channel in an aldosterone-dependent manner, leading to excretion of both sodium and potassium and a reduction in blood pressure. To assess how the nutritional change changes ion channel composition in the kidneys' epithelium in aldosterone-induced manner, we will monitor urine exosomes, which contain epithelial cell membranes. We designed an in-hospital nutritional studies recruiting 20 volunteers. Patients will consume carefully designed menu, and measurements will be collected daily: blood pressure, biologic samples including blood and urine electrolytes, aldosterone, and urine for exosomes. RESULTS/ANTICIPATED RESULTS: We have collected data from 5 research volunteers so far. following exposure to the high potassium diet, Aldosterone blood levels increased while blood level of both potassium and sodium was maintained within normal limits. Urinary ratio of electrolytes, sodium:potassium was reversed 5-7 days following nutritional change from 6 to 1. Both manual and automated 24-hour blood pressure measurements confirmed blood pressure reduction following nutritional change. The following illustrates the impact the diet had on a participant's 24-hour ambulatory blood pressure. Daily mean blood pressure was reduced from 120/76 mmHG to 112/68, mean awake blood pressure was reduced from 125/80 mmHG to 117/72 mmHG, and mean sleep blood pressure was reduced from 112/69 to 103/60 mmHG. DISCUSSION/SIGNIFICANCE OF FINDINGS: Understanding the mechanism underlying the DASH diet may shed light on the physiologic process by which nutrition influences blood pressure and potentially lead the way to new therapeutics that target ion channels. By introducing