0.52 (95% CI = 0.40–0.69), 0.53 (95% CI = 0.41–0.68), 0.30 (95% CI = 0.13–0.68), respectively, $p < 0.05$). DISCUSSION/SIGNIFICANCE OF IMPACT: Our study showed that minority (AA and Hispanics), foreign born and uninsured with depression were less likely to use mental health services and/or antidepressant drug relative to other groups. Culturally and linguistically adapted intervention that involves community and providers to increase awareness about depression and the available services/treatment among minority, immigrant, and uninsured population are needed.

2520

Participant recruitment program at the University of Michigan CTSA

Meghan Spiroff, Lisa Connally, Anita Johnson, Aalap Doshi and Patricia Piechowski
University of Michigan School of Medicine, Ann Arbor, MI, USA

OBJECTIVES/SPECIFIC AIMS: Across the Clinical and Translational Science Award (CTSA) Consortium, participant recruitment into clinical trials is essential to advance science. Without proper participant recruitment, clinical trials do not result in gains in scientific knowledge, wastes time, funds, and other resources (Mahon et al., 2015). METHODS/STUDY POPULATION: Participant recruitment programs across the consortium are inconsistent in staffing, program services, and program goals. The participant recruitment program at the University of Michigan's (U-M) Michigan Institute for Clinical & Health Research (MICHR) provides expertise, tools, and resources to facilitate participant recruitment in clinical and health research studies. RESULTS/ANTICIPATED RESULTS: We will explain our program infrastructure, staffing, services, and discuss how we maintain an engaged registry with over 27,000 participants interested in research studies at U-M. DISCUSSION/SIGNIFICANCE OF IMPACT: Proper recruitment into clinical trials results in findings that are relevant for genetic, cultural, linguistic, racial/ethnic, gender, and age differences (Cottler et al., 2013). We hope to share our best practices that aid in the development and success of participant recruitment across the CTSA Consortium.

2526

Using the multiphase optimization strategy to engineer an optimized STI preventive intervention among college students

Kari Christine Kugler, Amanda E. Tanner, David L. Wyrick, Jeffrey J. Milroy, Brittany D. Chambers, Alice Ma and Linda M. Collins
Penn State Clinical and Translational Science Institute, Hershey, PA, USA

OBJECTIVES/SPECIFIC AIMS: The goal of this study is to develop an effective and efficient STI preventive intervention among college students following the principles and phases of MOST. METHODS/STUDY POPULATION As part of the preparation phase, an explicit conceptual model, drawing heavily on theory and prior research, was used to translate the existing science into 5 candidate intervention components (ie, descriptive norms, injunctive norms, expectancies, perceived benefits of protective behavioral strategies, and self-efficacy). For the optimization phase, in Fall 2016 all first-year students (n = 3547) from 4 universities were recruited to participate. Students were randomized to 1 of 32 different experimental conditions that included a combination of the candidate intervention components. Component effectiveness was evaluated using data from an immediate post-intervention survey on respective component mediators (eg, alcohol and sex-related descriptive norms). After a second factorial experiment (Fall 2017), only those intervention components that meet the pre-specified criteria of day ≥0.15 will be included in the optimized intervention. The evaluation phase will evaluate the effectiveness of the optimized STI preventive intervention via a randomized-control trial (Fall 2018). RESULTS/ANTICIPATED RESULTS: Preliminary results from the first factorial experiment suggest that descriptive norms and injunctive norms intervention components were significantly effective in reducing post-intervention perceived alcohol prevalence ($\beta = -0.28$, $p < 0.001$) and approval of alcohol ($\beta = -0.33$, $p < 0.001$), and sex-related norms ($\beta = -0.23$, $p < .001$). These results, in combination with process data, are being used to inform revisions of the intervention components to be included in a second factorial screening experiment. DISCUSSION/SIGNIFICANCE OF IMPACT: This study demonstrates how an iterative approach to engineering an STI preventive intervention using MOST can affect the behaviors of college students and serve as a foundation for other translational science.

2528

A community-academic partnership to understand the correlates of successful aging in place

Rhonda G. Kost, Rhonda G. Kost, Kimberly Vasquez, Dozene Guishard, William Dionne, Caroline Jiang, Cameron Coffran, Andrea Ronning, Glenis George-Alexander, Barry S. Coller and Jonathan N. Tobin
Rockefeller University, New York, NY, USA

OBJECTIVES/SPECIFIC AIMS: The Rockefeller University-Center for Clinical and Translational Science and Clinical Directors Network (RU-CCTS/CDN) community-academic-partnership engaged with Carter Burden Center for the Aging (CBCA), a multisite senior community services organization serving Upper Eastside and East Harlem, NY, to develop community-engaged research. Many seniors served by CBCA are racial/ethnic minorities, live in poverty, suffer from multiple chronic conditions, depression, and food insecurity; there is no simple measure routinely used to characterize the health/health risks of program participants. Multiple biological, musculoskeletal, psychosocial and nutritional factors collectively contribute to frailty a construct that is variously defined, and has been used as a surrogate or predictor for health outcomes. Aim 1: We will engage seniors, CBCA leadership, New York City Department for the Aging, staff and other stakeholders in research priority-setting, joint protocol writing, research conduct, analysis and dissemination to cultivate a population of elder stakeholders interested in designing and participating in this and future research. Aim 2: We will characterize the health status of the resident and nonresident populations by collecting data across 3 sessions to include validated cardio-metabolic, musculoskeletal, chronic condition pre-valence, quality of life, psychosocial, and nutritional assessments. METHODS/STUDY POPULATION: Stakeholders will be engaged through the process of Community Engaged Research Navigation and a series of meetings and exercises to refine priorities and research design, co-write the protocol, provide feedback on conduct, analyze and disseminate results of the project. RESULTS/ANTICIPATED RESULTS: Outcomes will include rates of participation and retention in assessments and engagement activities, themes from qualitative research, contributions to study design, placement of aims on the T0-T48 spectrum, social network analysis, classification of engagement on the spectrum of Community-based Participatory Research (CBPR) and partnership assessment. The primary outcome is frailty (6-minute walk test); We will examine associations among these measures with services utilization data captured electronically by CBCA. A key deliverable of this project will be a REDCap data capture platform that integrates and displays these measures that will be sustainable for CBCA. DISCUSSION/SIGNIFICANCE OF IMPACT: This practice-based research partnership will allow us to extract, replicate and extend the lessons learned about engaging stakeholders in generating hypotheses, operationalizing research, collecting and analyzing data, and disseminating results. The collaboration is built around generating and testing rigorous clinical an health services hypotheses that are derived from real-world practice-based needs and also incorporate basic science measures to embed and examine mechanistic hypotheses. Testing a simple to implement validated surrogate frailty measure will accelerate progress on evidence-based practices to test interventions that enhance healthy aging and serve as a model for future similar partnerships to form a network for community-based senior research. This work aligns with the RU-CCTS grant Hub Research goal to engage populations across the life span, including hard-to-reach and underserved populations, such as minority seniors.

2532

Predictive metabolism studies of varenicline and implications of its metabolites in nicotine addiction

Keeshaloy Thompson and Milton Brown
Georgetown - Howard Universities, Washington, DC, USA

OBJECTIVES/SPECIFIC AIMS: The central goal is to predict the metabolites of varenicline and predictively evaluate their propensities for eliciting an increased binding effect in the brain. METHODS/STUDY POPULATION: Molecular modeling computational software and other cheminformatic tools present a strategic in silico strategy to predict a complete metabolic transformation for the varenicline molecule. Molecular docking tools help to highlight key interactions of the varenicline with key metabolizing enzymes that are differentially expressed across a population. This will assist in validating clinical models for smoking cessation. RESULTS/ANTICIPATED RESULTS: Differentialized binding results depending on whatever metabolite is produced. DISCUSSION/SIGNIFICANCE OF IMPACT: Products of metabolism of

varenicline may differ in individuals and across groups, thus, binding effects and the propensity for adverse effects may differ in individuals.

2538

Artificial urinary sphincter (AUS) placement after failed urethral sling: Impact of sling removal and proximal cuff placement

Arnav Srivastava, Gregory Joice, Madeline Manka, Nikolai Sopko and Edward Wright

Johns Hopkins University School of Medicine, Baltimore, MD, USA

OBJECTIVES/SPECIFIC AIMS: Perineal urethral sling placement is an option for men with mild to moderate post-prostatectomy stress urinary incontinence (SUI). However, men with persistent incontinence after sling placement often require secondary artificial urinary sphincter (AUS) placement, made difficult by the sling occupying the proximal bulbar urethra. This proximal section has a thicker corpus spongiosum which may mitigate cuff-induced ischemia and subsequent urethral atrophy. The authors report a series of AUS placements after failed sling, using sling revision or removal to access the proximal urethra. METHODS/STUDY POPULATION: Cutting the sling arms during urethral cuff placement increased urethral exposure and mobility. If feasible, completely removing the sling allowed the most proximal cuff site; but if dissection was felt unsafe, the mesh was left in situ and the cuff placed distally. This study is a retrospective cohort design of patients with SUI who underwent AUS placement after failed sling from 2010 to 2016. Variables included baseline patient characteristics, SUI severity, intraoperative variables, and postoperative outcomes. AUS failure, defined as infection, erosion or urethral atrophy, was analyzed at 12 and 96 months using univariate and multivariable logistic regression. RESULTS/ANTICIPATED RESULTS: Over the study period, 29 patients underwent AUS placement after failed sling. At the time of AUS placement, mean urethral circumference was 6.2 cm and 68% of patients had a 4.5 cm cuff placed; no cases required a 3.5 cm cuff. Seventy-three percent of cases were after transobturator sling placement (27% bone-anchored) and 45% of slings were explanted. AUS failure rate at 12 and 96 months was 17.8% and 45%, respectively; atrophy was the most common indication. Prior transobturator sling placement had lower rates of both 12 month (9.1% vs. 57%, $p = 0.006$) and 96 month (36% vs. 71%, $p = 0.11$) failure, though the latter was not statistically significant. Sling explant was not a significant predictor of 12 month ($p = 0.12$) or 96 month failure ($p = 0.17$). DISCUSSION/SIGNIFICANCE OF IMPACT: Sling revision during AUS placement helps expose the wider proximal urethra, allowing larger cuff size placement. This procedure appears safe, with low rates of erosion and short-term failure—albeit with high rates of long-term urethral atrophy possibly due to more significant dissection causing devascularization. However, sling removal was not a significant predictor of failure. The transobturator sling's smaller profile may result in less trauma to urethra—possibly explaining the improved outcomes.

2542

Incidence of T3a up-staging and survival after partial nephrectomy: Size-stratified rates and implications for prognosis

Arnav Srivastava, Hiten Patel, Max Kates, Zeyad Schwen, Gregory Joice, Alice Semerjian, Michael Gorin, Phillip Pierorazio and Mohammad E. Allaf

Johns Hopkins University School of Medicine, Baltimore, MD, USA

OBJECTIVES/SPECIFIC AIMS: Due to increased experience and favorable outcomes, the use of partial nephrectomy (PN) to treat renal cell carcinoma has grown in the past decade, with expansion to larger tumors. Performing PN for larger tumors could potentially increase the number of patients up-staged to pT3a after surgery, who may have instead been treated with radical nephrectomy (RN), if known preoperatively. We aimed to estimate the proportion of patients up-staged to T3a disease after PN stratified by size. We also compared size-stratified survival outcomes of up-staged patients to those with T1a, T1b, or T2 kidney cancer. METHODS/STUDY POPULATION: From 1998 to 2013, patients undergoing PN or RN were identified from Surveillance Epidemiology and End Results registries. The proportion of patients receiving PN found to have pT3a disease was quantified by size. Cox proportional hazards models compared cancer-specific (CSS) and overall survival (OS) for PN patients with pT1a, pT1b, and pT2 disease with appropriately size-stratified pT3a patients. Also, PN patients with pT3a disease were compared to size-stratified RN patients with pT3a disease. Comparisons by size were performed within pT3a patients receiving PN. RESULTS/ANTICIPATED RESULTS: From a total of 28,854 patients undergoing PN, the estimated proportion up-staged to pT3a increased along with increasing tumor size: 4.2% for T1a, 9.5% for T1b, and 19.5% for T2. Among patients receiving PN, adjusted survival analysis demonstrated worse CSS for up-staged pT3a patients Versus appropriately stratified pT1a (CSS: HR = 1.87, $p = 0.02$), pT1b (CSS: HR = 1.91, $p = 0.01$), and pT2 (CSS: HR = 2.33, $p = 0.01$) patients. However, when assessing OS, only the size-stratified comparison of up-staged pT3a Versus pT1a disease demonstrated worse OS for the up-staged cohort (OS: HR = 1.25, $p = 0.04$). Comparing PN and RN for pT3a disease, size-adjusted analysis revealed no statistical difference in CSS or OS. Lastly, among patients undergoing PN with pT3a disease, patients with larger tumors, measuring 4–7 cm (CSS: HR = 2.83, $p < 0.01$; OS: HR = 1.44, $p = 0.04$) or 7–16 cm (CSS: HR = 8.22, $p < 0.01$; OS: HR = 2.64, $p < 0.01$), experienced worse survival than those with smaller pT3a tumors, <4 cm. DISCUSSION/SIGNIFICANCE OF IMPACT: A greater proportion of patients appear to experience T3a up-staging after PN with increasing initial T stage. Up-staged pT3a patients have worse cancer specific survival after PN compared to those with similarly sized localized tumors. Furthermore, the up-staged pT3a patients after PN appear to experience similar survival to pT3a patients undergoing RN. However, pT3a patients undergoing PN had worse survival with increasing tumor size, reinforcing the need for improvements in preoperative staging and identifying patients at risk of up-staging.