

follicles were subsequently crosslinked in a calcium sulfate solution. Follicles were then cultured for 8 days with light microscopy imaging taken every other day along with media exchanges. Follicles were then examined using immunofluorescence. Growth and survival curves were constructed and all statistical analyses were performed using Graph Pad Prism 9. RESULTS/ANTICIPATED RESULTS: A total of 372 follicles were encapsulated across 32 beads (16 in 1% alginate and 16 in 5% alginate). There were no differences in initial follicle size between the two conditions (33.53 μm vs. 32.45 μm , $p=0.47$). At the end of 8 days, there was no difference between follicle size (59.55 vs. 56.06, $p=0.48$). Additionally, there was no difference in survival between 1% and 5% alginate encapsulation (57.75% vs. 52.43%, $p=0.40$). Immunofluorescence is being performed on encapsulated follicles to confirm the presence of DDX4, a molecular marker of oocytes, after 8 days in culture. Additional encapsulated follicles have also been submitted for histologic sectioning and hematoxylin and eosin staining to better characterize the viability and health of these follicles after 8 days in culture. DISCUSSION/SIGNIFICANCE: There was no significant difference in growth or survival between primordial follicles cultured in 1% or 5% alginate gels. Immunofluorescent analysis confirmed the presence of viable follicles at the end of 8 days of culture. Future work needs to further explore how factors in the ovarian extracellular matrix impact follicle maintenance and growth.

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Predictors of Autologous Fat Grafting in Immediate, Implant-Based Breast Reconstruction

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OBJECTIVES/GOALS: Patients frequently need or desire fat grafting to improve common issues such as implant visibility and contour deformity, often done as a second, staged procedure following immediate reconstruction. This study aimed to identify which patient factors and reconstructive techniques predict the need for revision with AFG after IBBR METHODS/STUDY POPULATION: Patients who underwent IBBR with either tissue expanders or implants following mastectomy from 2017 to 2021 were identified. Demographics, comorbidities, and the postoperative course were reviewed. The primary outcome variable was AFG after the initial reconstruction. Univariate and regression analyses were performed to identify factors predictive of AFG. RESULTS/ANTICIPATED RESULTS: Five-hundred twenty-nine patients were included in our analysis, with 43% having AFG. Univariate regression displayed single-stage reconstruction (OR=0.53, 95% 0.37-0.75) and previous radiation (OR 0.59, 95% 0.35-0.99) negatively predicted the need for AFG, while bilateral breast reconstruction (BBR) was a predictor (OR 2.32, 95% 1.58-3.4). On multivariate analysis, decreasing age and BBR remained predictive of AFG. The odds of AFG decreased by 3% for every one-unit increase in age (95% CI [0.96, 0.99]). Interestingly, neither pre-pectoral breast reconstruction nor specimen weight:implant ratio was associated with increased need for AFG on univariate/multivariate analysis. DISCUSSION/SIGNIFICANCE: Patients requiring AFG were likely younger and had undergone BBR with tissue expanders. Plane of implant did not appear to affect need for AFG. Knowledge of these predictive factors may help plastic surgeons in preoperative counseling before implant-based breast reconstruction.

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Visiting endowed chair: a new model to support Hispanics junior investigators

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OBJECTIVES/GOALS: Analyze how the Endowment HIREC's Mentoring and Career Coach Model A productive mentoring relationship is essential to advance researchers into being independent and bring extramural funds. METHODS/STUDY POPULATION: Provide Hispanic researchers mentoring and career coaching to strengthen their pathway as researcher. The HiREC's Career Coach and Mentoring Component (CCMC) is an innovated approach to support long-lasting research mentoring relationships in our institution. This approach was developed to advance research to eliminate health disparities, promote multidisciplinary translational research in a Minority Institution and sustain research infrastructure and services, career, and workforce development initiatives. Promising Faculty are target and early and mid-career investigators interested in pursuing a research career. To implement the CCMC with the Visiting Endowed Chair a HiREC Advisory Leadership Group in Mentoring will be established, with researchers from Puerto Rico, and US mainland. RESULTS/ANTICIPATED RESULTS: Three Hispanic mid-career women from the School of Medicine and one from the School of Health Professions from the University of Puerto Rico received a HiREC Advanced Research Award of \$50,000. The awardees achieved their goals; completed their research plan, research infrastructure needs, peer-reviewed publications, and submission of a competitive grant. They also provided successful perspectives on mentoring relationships in a Minority institution. Each one showed the mentor's and mentee's experiences as fundamental for their research advancements, productivity, leadership, and successful results. HiREC's mentoring component with the Visiting Endowed Chairs improves a healthy work environment and expands the research agenda for each awardee sustaining the institutional research culture. DISCUSSION/SIGNIFICANCE: A productive mentoring relationship is essential to advance researchers into being independent and bring extramural funds. Four mentees received formal, long-term guidance and endowment funds for their research infrastructure requirements with successful outcomes. HiREC contributes to building up an institutional mentoring program.

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Participant Recruitment at OHSU: Equipping Researchers to Overcome Recruitment Challenges

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OBJECTIVES/GOALS: Under enrollment of trials is a continued challenge in clinical research. In response, the Oregon Clinical and Translational Research Institute (OCTRI), the CTSA at Oregon Health & Science University (OHSU), launched a central resource, OCTRI Recruitment, to equip researchers with the knowledge and tools needed for recruitment success. METHODS/STUDY POPULATION: OCTRI Recruitment focused programmatic development in response to the voice of OHSU researchers. In 2018, a

qualitative assessment project, “Clinical Research Recruitment Methods at OHSU”, was launched, which included a survey (N=100) and optional interview (N=24), to determine recruitment method utilization and experience, along with opinions on the needs and culture of recruitment at OHSU. In 2022, as part of the same protocol project, a second survey was deployed (N=31), to determine changes in recruitment method use and to identify further recruitment challenges. OCTRI Recruitment also obtains continual informal input on perceived recruitment challenges and opportunities through engagement within the OHSU research team community. RESULTS/ANTICIPATED RESULTS: 2018 survey and interviews showed: many researchers relied on their clinic’s patient population for recruitment (74%); were unaware of available tools to recruit OHSU patients, especially informatics tools (5-22%); and were not aware of and minimally use methods to recruit outside OHSU (<40%). In response, OCTRI Recruitment developed and began recruitment consultations, guidance materials, and educational seminars. In 2022, survey results showed an increase in the use of informatics-based recruitment tools (2-14%+) and increased use of methods focused on individuals outside of OHSU (1-7%+). Additionally, a review of studies post OCTRI Recruitment consultation over three years (N=51) showed that of those studies, 40% increased enrollment numbers and 61% increased team’s confidence level post consult. DISCUSSION/SIGNIFICANCE: This approach to program creation allowed for a uniquely targeted development of services in response to the voice of OHSU researchers and recruitment challenges. Based on additional data, efforts have begun to address the recruitment challenges of a study opportunity website, participant compensation methods, and community-based recruitment.

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Use of Probabilistic Linkage to Create a Novel Database to Study the Care of Bronchiolitis in Pediatric Intensive Care Units (PICU)

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OBJECTIVES/GOALS: Bronchiolitis is a major cause of PICU admission, yet identifying best practices is limited by the lack of existing databases containing the needed demographic and clinical variables. We used probabilistic linkage to join the Virtual Pediatric System (VPS) and Pediatric Health Information Systems (PHIS) databases to overcome this data barrier. METHODS/STUDY POPULATION: We performed a single site study joining VPS and PHIS data. These national databases contain clinical (VPS) and billing and resource use (PHIS) data. Limits on the use of patient identifiers (PI) for multi-center research, makes direct linkage techniques impossible. To demonstrate that probabilistic linkage can accurately link VPS and PHIS records, we obtained our single site VPS and PHIS records and linked them using probabilistic linkage without PI and compared this to a gold standard linkage created with PI. We also compared demographic features of linked and unlinked records to assess the ability of probabilistic linkage to create a representative sample. RESULTS/ANTICIPATED RESULTS: We obtained 920 VPS records of patients with bronchiolitis and linked 91% (839/920) to a PHIS record with 4 (0.5%)

false-positive matches. Characteristics of linked and unlinked records are compared in Table 1. Comparison of probabilistically linked and unlinked records showed no difference in median age in years (0.7 [Interquartile range (IQR) 0.3-1.5] v 0.7 [IQR 0.2-1.5], p = 0.76), median number of complex chronic conditions (0 [IQR 0-1] v 0 [IQR 0-1], p = 0.16), median Pediatric Index of Mortality 3 severity of illness scores (-4.6 [IQR -4.7 - 4.4] v -4.6 [IQR -4.7 - 4.4], p = 0.44), median days of PICU stay (4 [IQR 3-6] v 4 [IQR 2-6], p = 0.36), proportion female (44% v 46%, p = 0.82), or proportion of patients intubated (28% v 24%, p = 0.41). DISCUSSION/SIGNIFICANCE: Probabilistic linkage creates an accurate combined VPS-PHIS database. Extending our methodology to join data from all 38 hospitals contributing to VPS and PHIS will allow creation of a large database containing the demographic, treatment, and outcome data needed to enable Comparative Effectiveness Research of bronchiolitis care.

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Trial-CARE: Centralized Support Services for Investigator-Initiated Multi-Site Clinical Trials

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OBJECTIVES/GOALS: To describe the impact of Trial-CARE (Coordination, Acceleration, and Recruitment Enhancement), a centralized service core at Washington University (WU), aimed at enhancing the capability of investigator-initiated multi-site clinical trials at WU and partner CTSA institutions. METHODS/STUDY POPULATION: Through review of our marketing materials and service tracking system we defined the following Trial-CARE offerings: Infrastructure: Trial-CARE is a centralized service core at WU. Whereby, a team member is sourced to an investigator-initiated multi-site clinical trial (II-MCT) to ensure the achievement of study milestones across any phase of the clinical trial life cycle. Team: Our team consists of research professionals with expertise in II-MCT project management, data management, and administrative/regulatory management. Services: * One free 60-minute case consultation * Tiers of Service * Academic Research Organization (ARO) support * Clinical Coordinating Center * Data Coordinating Center * II-MCT project management support * Time-limited targeted support RESULTS/ANTICIPATED RESULTS: Trial-CARE has completed 94 consultations in support of WU and partner CTSA institutions enabling the streamlining of study start-up; guidance for study recruitment, implementation, and operations; and offering resources to foster career development. Consultations can be completed at any phase in the clinical trial lifecycle, with Trial-CARE completing: * 12% in the idea phase * 45% in the grant development and submission stage * 28% after funding has been awarded Top reasons researchers connect with Trial-CARE about II-MCTs: * regulatory guidance (40%) * general information about Trial-CARE Services and II-MCTs (35%) * protocol development (21%) * data management (20%) * study budgeting (20%) DISCUSSION/SIGNIFICANCE: In response to a WU wide survey, Trial-CARE plans to generate informational webinars and is creating a clinical trial tracking dashboard, to pro-actively offer support services to researchers prior to grant funding. The goal is also to increase the percentage of consultations completed in the idea phase and the grant development and submission stage.