outcomes at individual and upstream levels. It will inform food distribution and models of care for improved patient outcomes, including social determinants of health and will establish new protocols for community-based provision of health care to our most vulnerable.

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Diversity Among Research Coordinators in a Pediatric Emergency Medicine Collaborative Research Network

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OBJECTIVES/GOALS: Our primary objective was to determine the demographic and linguistic characteristics of research coordinators (RCs) in a large pediatric emergency medicine research collaborative network. Our secondary objective was to determine if the RCs perceived any impact of those characteristics on their duties. METHODS/STUDY POPULATION: We conducted a 15-question electronic survey of RCs at the member institutions of the Pediatric Emergency Care Applied Research Network (PECARN). A total of 74 potential respondents were identified and received the survey. RESULTS/ANTICIPATED RESULTS: Fifty-three surveys (71.6%) were completed. Most respondents identified as female; white; and not Hispanic or Latino. Fourteen respondents (26.4%) identified as underrepresented minorities in medicine (UIM), which is similar to the percentage of UIM among the general population (30%). Twenty-eight respondents (52%) felt that their race/ethnicity positively impacted recruitment efforts. Twenty-three respondents (43%) felt that their ability to speak a language other than English positively impacted recruitment efforts. Four female respondents felt that their gender hindered their recruitment activities and impacted their sense of belonging within the research team. DISCUSSION/SIGNIFICANCE: RCs felt that their backgrounds and attributes positively impacted subject recruitment. However, some female coordinators felt negatively impacted by their gender. Increasing diversity amongst clinical research professionals and incorporating team cultural humility practices, may help increase diversity among clinical research subjects.

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Benefits and Challenges of Human-Centered Design: Perspectives from Research Teams

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OBJECTIVES/GOALS: The use of Human Centered Design (HCD) to improve the quality of team science is a recent application, and HCDs benefits and challenges have not been rigorously evaluated. We conducted a qualitative study with health sciences researchers trained in HCD methods to determine how they applied HCD methods and perceived its benefits and challenges. METHODS/STUDY POPULATION: The University of Pittsburgh offered HCD training to three cohorts of research scientists (staff as well as faculty) over a three-year period. The training was provided by the LUMA Institute, a premier HCD design firm with a highly regarded training program. We then evaluated this training by conducting 1-hour, semi-structured interviews with trainees from three training cohorts. Interviews focused on perceptions of the training, subsequent uses of HCD, barriers and facilitators, and perceptions of the utility of HCD to science teams. Data analysis was conducted using Braun and Clarkes process for thematic analysis. RESULTS/ANTICIPATED RESULTS: We interviewed 18 researchers (nine faculty and nine staff) trained in HCD methods and identified distinct themes regarding HCD use and its perceived benefits and challenges. Trainees found HCD relevant to research teams for stakeholder engagement, research design, project planning, meeting facilitation, and team management. They also described benefits of HCD in five distinct areas: creativity, egalitarianism, structure, efficiency, and visibility. We also identified challenges, including tensions between HCD approaches and academic culture. DISCUSSION/SIGNIFICANCE: Our data suggest that HCD has the potential to help researchers work more inclusively and collaboratively on interdisciplinary teams and generate more innovative and impactful science. The application of HCD methods is not without challenges; however, we believe these challenges can be overcome with institutional investment.

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Effects of GLP-1 on Glucose and Islet-Cell Secretory Responses to Protein Ingestion After Gastric Bypass or Sleeve Gastrectomy

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OBJECTIVES/GOALS: In this study we sought to determine the role of glucagon-like peptide-1 (GLP-1), one of the main gut hormones in regulating glucose metabolism, after protein ingestion in patients with a history of Roux-en-Y gastric bypass (GB) and sleeve gastrectomy (SG). METHODS/STUDY POPULATION: We examined the glucose and islet-cell secretory responses to 50 g protein ingestion with and without a potent GLP-1 receptor antagonist, exendin-(9-39) [Ex-9], in 10 GB-treated subjects, 9 SG-treated, and 7 non-operated controls (CN). The groups were matched for age, BMI, fat-free mass, fasting glucose and insulin, and HbA1c. The surgical groups also were matched for weight loss and time post-surgery. No subjects had diabetes. RESULTS/ANTICIPATED RESULTS: Protein ingestion resulted in an early rise in glycemia (AUCGlucose1hr) in GB and SG, whereas CN had minimal change in glucose ($p<0.05$). Protein ingestion enhanced C-peptide responses in all groups, but to a larger extent in GB and SG when compared to CN ($p<0.05$). Early glucagon response to protein ingestion (AUCGlucagon1hr) tended to be larger in GB and SG subjects when compared to CN ($p=0.07$). Ex-9 increased premeal and prandial glycemia in all groups ($p<0.05$), but increase in early glycemia (AUCGlucose1hr) was most notable in GB ($p=0.1$, interaction). This glycemic effect of Ex-9 was associated with a ~25% reduction in prandial C-peptide secretion in GB and SG and ~8% increase in CN ($p<0.05$, interaction). Early prandial glucagon responses were larger during studies with Ex-9 compared to those without ($p<0.05$). DISCUSSION/SIGNIFICANCE: Our findings indicate that glucose metabolism after protein ingestion is altered after GB and SG. To our knowledge, this is the first report to demonstrate that endogenous GLP-1 contributes to glucose and islet-cell secretory response to protein ingestion, and that GB and SG exaggerate GLP-1 contribution to insulin secretion after protein ingestion.

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