qPCR. Body composition was assessed via skinfold measurements and compared and correlated between cohorts. Feeding outcomes were recorded. RESULTS/ANTICIPATED RESULTS: 23 infants were recruited in each cohort. POMC and AMPK were expressed by 71% and 88% of infants respectively in both cohorts. NPY2R was expressed by 79% and 83% of the diabetic cohort and normoglycemia cohort respectively, while GHRL was expressed by 75% and 79% of the diabetic cohort and normoglycemia cohort, respectively. LEP and ADIPOQ were not reliably expressed in either cohort. Infants with a higher body fat percentage were less likely to express NPY2R (OR= 0.76). There was no significant association between body fat percentage and expression of AMPK, POMC, or GHRL. Only 3 IDMs were noted by providers to exhibit poor oral intake, limiting our ability to correlate gene expression and body composition with feeding outcomes. DISCUSSION/SIGNIFICANCE: Non-invasive assessment of hunger signaling gene expression is possible through salivary analysis of AMPK, POMC, NPY2R, and GHRL. Given the paucity of IDMs with poor feeding in our study, future studies should target IDMs requiring feeding support to understand mechanisms driving aberrant feeding behavior.

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An Example for Establishing a Clinically Translational Innovation Lab at a University Setting

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OBJECTIVES/GOALS: This poster shares a case study on how a group at The Johns Hopkins University formed a translational lab missioned to reinvent currently existing treatments for acute spinal cord injuries, implanting in humans within a five-year window. The poster showcases how a project funded by the Defense Advanced Research Projects Agency has been implemented. METHODS/STUDY POPULATION: The translational team; Holistic Electrical; ultrasonic and Physiological Interventions Unburdening those with Spinal cord injury• (HEPIUS) Lab is composed of many parts as listed below: neurosurgeons; engineers; radiologists; public health specialists; statisticians; patient advocates; ethicists; sonographers; researchers; academic collaborators; and specialized industry partners. Sometimes physically separated; the team has videoconferencing carts across locations to stay connected at every step in the process. The lab facilities were organized with several key facets in mind: research and development (R&D); prototyping; fabrication; verification; and validation (V&V); animal model testing; cadaveric testing accessibility; mock operating room for simulations; and collaboration hubs. RESULTS/ANTICIPATED RESULTS: Due to communications with the US Food and Drug Administration (FDA), DARPA, patient advocates, ethicists, internal review boards, and other bodies, the team has a clear path towards clinical translation. The team has the following stages in progress or scheduled: manufacturing devices, benchtop testing, rat and pig models, biocompatibility testing, cadaveric testing, and clinical use. The lab space was designed to achieve these core functions. For rapid, in-house manufacturing, the lab has unique capabilities including 3D metal printing. For experiments, industry collaborations and equipment acquisitions enable the highest quality research. These technologies are assembled into diagnostic, therapeutic, testing, and manufacturing hubs to drive real change in the lives of many; the patient comes first. DISCUSSION/SIGNIFICANCE: This laboratory, team, and system of operation is aimed to enable novel practices for the clinical translation of spinal cord medical solutions. For researchers interested in launching their own translational work, this poster may serve as a reference, example, and inspiration for similar hopeful university-centered hubs.

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The Team Science Landscape within the National COVID Cohort Collaborative (N3C)

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OBJECTIVES/GOALS: As question complexity in science and medicine increase, the need for teams with diverse skill sets grows as well. We identify essential roles and barriers that define the team environment within the National COVID Cohort Collaborative (N3C), an initiative grounded in interdisciplinary team science. METHODS/STUDY POPULATION: This work was compiled through a combination of observations, interviews, and survey responses involving members of the N3C research community, specifically those involved in N3C workstreams and clinical domain teams. Observational data was obtained through participation in N3C workstream activities and domain team research and meetings. The survey included five questions related to team science elements and barriers, as well as contrasting science-based teams and non-science-based teams, such as "What elements are common between both Team-Science and non-Team-Science teams?", and was sent to members of two domain teams: Immunosuppressed and Compromised and Social Determinants of Health. RESULTS/ANTICIPATED RESULTS: Team science within N3C has a unique structure of roles and barriers that define the team environment of each project. Within each group, team and role management within team science is an ongoing process that occurs even after a team is formed. We obtained 8 survey responses that indicated communication, attribution, team management, collaboration, interdisciplinary diversity, and problem solving were key aspects to successful team science. Additionally, survey respondents identified prominent barriers to successful team science that included bandwidth constraints, lack of a shared scientific language, learning curves, funding, and lack of communication. DISCUSSION/SIGNIFICANCE: Communication was identified as a key component of team science and a prominent barrier, which indicates that successful team science relies on communication between team members. Thus, it is vital that teams identify and commit to using predefined methods of communication to function effectively.

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Reframing the JTF Clinical Trial Competencies from a CRP Team Science Perspective

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OBJECTIVES/GOALS: Our goal is to explore and collaboratively identify the team science competencies essential for Clinical Research Professionals at all experience levels and how these

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