describe CTSI processes, participation, products, and outcomes. Program components responded differently to the collaborative approach implemented. The M&E technical assistance was implemented in 3 different ways: components either did the M&E RPPR template themselves, with minimal M&E team assistance; responded to comments and information provided by the M&E team as a first step; or requested a significant level of assistance from M&E. Participants/partners in developing and using RPPR include CTSI program leadership and staff, administration, communication staff, M&E team, and our collaborators. RESULTS/ANTICIPATED RESULTS: The proposed comprehensive approach to the annual program performance reporting shows sound promise to enhance program staff engagement, report utilization, learning, strategic management, self-evaluation capacity, and continuous improvement within a clinical and translational science organization. DISCUSSION/SIGNIFICANCE OF IMPACT: This structured approach's impact is significant in that it fills the current gap in the practice, literature, and methodology and offers a practical example of a "practice that works" for CTR (and other) organizations and programs striving to improve their reporting practices, staff engagement, learning, and program impact. Leveraging and synergizing the RPPR requirements and other complex, data-demanding obligations and needs can help the CTS programs move beyond the once-a-year compilation of project accomplishments and challenges to developing and sharing a thoughtful translational science program success story. References: National Center for Advancing Translational Sciences. (2016). NCATS Strategic Plan. NIH. Available at: https://ncats.nih.gov/strategicplan Smith, C., Baveja, R., Grieb, T., & Mashour, G. (2017). Toward a science of translational science. Journal of Clinical and Translational Science, 1(4), 253-255. doi:10.1017/cts.2017.14

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Adopting a learning health system architecture: a scoping review and pre-implementation framework to reduce readmissions within academic hospitals

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OBJECTIVES/SPECIFIC AIMS: Of the six Centers for Medicare and Medicaid Services (CMS) monitored diagnoses targeted for readmissions reductions, reasons for readmissions within academic hospitals are poorly understood and reflect complex interactions between the patient, provider and organizational-level responses to initial hospitalization. Learning health systems (the organizational and orchestrated integration of research into evidence-based practice) can address the complexities of readmissions through an innovative approach to knowledge translation and patient-centered outcomes research. The objective of this review is to define and optimize the architecture of learning health systems to produce a dynamic pre-implementation framework of knowledge translation and patient-centered outcomes research, leveraging two engines (research and learning) within the academic and clinical settings for reducing readmissions. METHODS/STUDY POPULATION: Three databases were utilized for this scoping review (PubMed, Academic Search Premier, and Scopus) focusing on 1.) learning health systems and the methods of defining and building these systems within an academic hospital setting and 2.) the use of learning health systems in reducing readmissions within academic hospitals. Empirical articles and reviews pertaining to the architecture, development, conceptualization, definition, and translation of learning health systems were identified and compiled into a scoping review and proposed framework. RESULTS/ANTICIPATED RESULTS: The scoping review yielded 139 articles; from which 28 articles were retained. No articles were found utilizing learning health systems to address readmissions. Thus, a new architectural framework was developed incorporating common architectural themes from the literature with adaptations to fit the interests of patients, providers, and researchers in reducing readmissions within academic hospitals (Figure 1). DISCUSSION/SIGNIFICANCE OF IMPACT: Given the dearth of information applying learning health systems to readmissions, the proposed architecture for an integrative learning health system can be utilized as a dynamic foundation for adoption and pre-implementation planning for reducing readmissions within academic hospital settings. Additionally, the authors expect this model to be tested and continually refined to address historical and emerging issues for clinically-relevant and clinically-effective approaches to patient-centered practice and research.

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Association between dopaminergic genetic variants, COMTrs4680 and DRD2rs1076560, and alcohol consumption and reward behaviors in non-dependent drinkers

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OBJECTIVES/SPECIFIC AIMS: The objective of this exploratory study is to evaluate the relationship between the individual genetic variants in COMTrs4680 and DRDrs1076560 and relevant alcohol use behaviors (i.e. alcohol consumption and reward processing behaviors) in non-dependent drinkers within experimentally controlled IV-ASA CAIS sessions. The overall goal of this study is to begin gathering data on the influence of individual genetic variants on alcohol consumption and other drinking-related behaviors. This will aid in the creation of a polygenic model of risk for AUD which will provide more insight into how the mesolimbic pathway is affected by alcohol use. METHODS/STUDY POPULATION: Study population: The sample included male and female non-dependent drinkers (N=149). Genotypes for functional polymorphisms in COMT (rs4680) and DRD2 (rs1076560) genes were determined for all subjects from blood samples obtained during screening. Alcohol consumption was assessed using the 90-day Timeline Followback Interviews (TLFB). Study population demographics: Self-reported gender (53.5% identified as male); Self-reported race (61.2% identified as white); Age ranged from 21-46 years old, with 22 years being the mode. Experiment: Free access (open-bar) intravenous alcohol self-administration (IV-ASA) using the computer-assisted alcohol infusion system (CAIS) paradigm; Subjects had the choice of pressing a button ad libitum for IV alcohol infusions during the session, neurobehavioral questionnaires were collected throughout the 2.5-hr alcohol infusion session. Primary outcome measures included: Total Rewards, Peak breath alcohol concentration (BrAC) achieved, and Total Ethanol consumed. Statistical Analyses: Conducted using SPSS IBM Statistics Versions 1.0.0-2482; non-dependent drinkers were organized into two groups based on their genotypes, minor allele carriers and major allele homozygotes. Outcome measures were compared between genotype groups using analysis of variance or non-parametric Mann-Whitney U-test as appropriate. RESULTS/ANTICIPATED RESULTS: -We expect the genetic makeup of the

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