

to predicted disease prognosis. **METHODS/STUDY POPULATION:** This will be a case-control study, analyzing data from previously created biorepositories from four cohorts of recipients across multiple centers which have undergone liver transplant. First, a GWAS will be performed to identify genetic variant(s). Second, pre-transplant MRI's will be evaluated using CAVASS software to assess liver quantitative and qualitative traits, including visceral adiposity. Lastly, these findings will be implemented into risk stratification models to assess each individual's level of risk for development of HCC and for recurrence of HCC after transplant. **RESULTS/ANTICIPATED RESULTS:** We hypothesize that genetic variant(s) are associated with positive HCV status and the development of HCC. Additionally, we hypothesize that increased visceral adiposity measured by MRI will have an association with recurrence of HCC after transplant. Lastly, we hypothesize that possession of these aforementioned features will be associated with an increased risk of HCC development and recurrence after transplant. **DISCUSSION/SIGNIFICANCE OF IMPACT:** As more is learned about the nature and reliability of these biomarkers, their potential clinical applications will be revealed. Ideally these proposed risk score models will ultimately be used by clinicians to provide personalized disease management while optimizing the allocation of health care resources. For instance, this may lead to changes in the MRI screening frequency of patients considered to be at high risk for HCC. The ability to diagnose patients early and provide personalized therapies may ultimately result in fewer disease related mortalities in the future.

3031

### Facilitators and Barriers in Screening Sexually Active Female Adolescents for Chlamydia Infection in the Suburban Practice Setting

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**OBJECTIVES/SPECIFIC AIMS:** 1) Describe strategies pediatric providers perceive improve chlamydia screening of sexually active female adolescents (SA), and 2) describe barriers to regular screening of SA for chlamydia **METHODS/STUDY POPULATION:** Using qualitative methods, 14 general pediatric providers across 7 clinical sites in Vermont were interviewed to ascertain best practices and remaining challenges. Semi-structured interviews lasting 30-45 minutes were audiotaped and transcribed. Chlamydia screening rates provided by BCBS-VT were used to categorize participant responses across three performance tiers, data were coded, and themes identified within these tiers. **RESULTS/ANTICIPATED RESULTS:** Facilitators: When asked to describe facilitators of chlamydia screening, providers in the top tier of chlamydia screening emphasized the importance of adequate insurance to cover the cost of testing. Providers in the middle performance tier cited use of pre-visit questionnaires, and those in the bottom performance tier identified no best practices. Other strategies included improving physician confidence and awareness, establishing practice- and individual-level routines, and providing strong leadership and communication of local screening rates. Barriers: Across the 3 performance tiers, the most common challenges to consistent chlamydia screening were threats to patient confidentiality, cost of the screening test, and requirement for patient disclosure of sexual activity. Less commonly, providers were concerned that adolescent patients were not reliable to obtain screens off-site, or fill treatment

prescriptions without the help of a parent. **DISCUSSION/SIGNIFICANCE OF IMPACT:** The need for systematic, confidential, and inexpensive means for screening SA for chlamydia was highlighted in both the best practices and challenges described by providers of pediatric care in the suburban practice setting. Policy and practice interventions may target these needs to improve the reproductive health of female adolescents.

3485

### Frailty Associated with Increased Rates of Acute Cellular Rejection Within 3 Months After Liver Transplantation

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**OBJECTIVES/SPECIFIC AIMS:** There is currently a gap in the literature regarding the relationship between acute cellular rejection and frailty in LT patients. We aimed to evaluate the association between frailty and acute cellular rejection in LT patients. **METHODS/STUDY POPULATION:** Included were LT recipients from 2014-16 at a single center who had a frailty assessment prior to LT using the Liver Frailty index consisting of grip strength, chair stands, and balance. Frailty was defined by a Liver Frailty Index > 4.5. Data on acute cellular rejection at 3 months (primary outcome) and immunosuppression regimens were collected from medical chart review. Univariable and multivariable logistic regression assessed the associations between frailty and acute cellular rejection. **RESULTS/ANTICIPATED RESULTS:** A total of 241 LT recipients were included. Of these, 37% were female, 55% had Hepatitis C, and the median (IQR) age was 60 (54-65); 46 (19%) were classified as frail. 98% of patients were on a combination of mycophenolate, corticosteroids and tacrolimus on discharge compared to 80% by 3 months. Within the first 3 months post-LT, 7 (15%) of frail patients versus 10 (5%) (p = 0.02) of non-frail patients experienced acute cellular rejection. In univariable logistic regression, frailty was associated with a 3.3 times higher odds of acute cellular rejection at 3 months (95%CI 1.19, 9.26, p = 0.02); age (OR 0.91), Black race (OR 3.2), autoimmune disease (OR 2.3), and diabetes (OR 0.3) were also associated with acute cellular rejection at 3 months with a p-value < 0.20. In a multivariate analysis, after adjusting for age, frailty remained significantly associated with rejection (OR 3.06, 95%CI 1.04, 9.01, p = 0.043). There were no significant differences in immunosuppression regimens or rates of mycophenolate dose reduction in the first 3 months between frail and non-frail patients. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Frailty is associated with an increased rate of acute cellular rejection within 3 months post-LT, despite similar immunosuppression regimens and doses. Future studies should evaluate whether frailty should be considered in the management of immunosuppression in the early post-transplant period.

3345

### Group Concept Mapping of Stakeholder's Ideas to Increase the Quantity and Quality of Clinical and Translational Research in Rhode Island

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**OBJECTIVES/SPECIFIC AIMS:** We sought to solicit and synthesize stakeholders' ideas for how the Advance-CTR program can best