centers that provide CAR-T cell therapy and allow for the harmonization of follow-up protocols. METHODS/STUDY POPULATION: Literature review and semi-structured interviews with patients, clinical coordinators, and other experts in the field will be used to determine what parameters must be included in the mobile application prototype to effectively monitor the side effects of CD19-directed CAR T-cell therapy. The mobile phone application will be designed using process mapping to integrate data from self-reporting and wearable technologies, including the Garmin smart watch. Figma will then be used to develop new screens based on an existing patient monitoring app for Allogeneic Stem Cell Transplant follow-up. Finally, a preliminary feasibility study will be conducted to collect feedback on the app prototype from CAR T-cell therapy patients, providers, and stakeholders. RESULTS/ANTICIPATED RESULTS: The anticipated results of this study include an app prototype that will include the functionalities required to monitor patients for adverse effects of CD19-directed CAR T-cell therapy. This will include the parameters that will be recorded or measured using a combination of self-reporting, a reliable body temperature sensor, and the Garmin watch which monitors basic vitals, activity, and sleep. Additional parameters may be added during the stakeholder co-design process. The app prototype will include a physician interface where doctors can monitor their patients and will be alerted if they require further physician assessment. It is expected that the app will provide standardized monitoring of patients when they are discharged from the hospital after receiving CAR T-cell therapy. DISCUSSION/SIGNIFICANCE: This app will allow physicians to monitor patients for general follow-up and adverse effects, including cytokine release syndrome and neurotoxicity. Future studies may utilize this app to develop best practices for harmonizing CAR-T follow-up protocols across Canada.

389

Impaired Coronary Endothelial Response to Exercise among Postpartum Women with Preeclampsia

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OBJECTIVES/GOALS: Preeclampsia increases cardiovascular (CV) risk, likely via persistent endothelial dysfunction and angiotensin II type 1 receptor autoantibodies (AT1R-Ab). We aim to assess coronary endothelial function (CEF) and AT1R-Ab levels in postpartum preeclampsia with a hypothesis this mediates CV risk. METHODS/STUDY POPULATION: We prospectively enrolled age and CV risk factor matched postpartum women. Coronary MRI was performed at rest and with isometric handgrip stress, an endothelial dependent stressor. CEF was quantified as % stress-induced change in coronary cross-sectional area (%CSA) and in coronary blood flow (%CBF). AT1R-Ab was measured using a novel antigen capture enzyme-linked immunosorbent assay. RESULTS/ANTICIPATED RESULTS: Women with and without preeclampsia were similar in age (mean 32.7+5.0 years), BMI (mean 28.0+6.3 kg/m2) and race/ethnicity (58% White, 35% Black and 4% Hispanic). %CSA was lower with (-2.1+13.6) vs without preeclampsia (8.8+17.1), p=0.023. %CBF was also lower with (11.3 [-11.8, 25.2]) vs without preeclampsia (25.7 [-0.7, 62.9]), p=0.039. AT1R-Ab was higher among women with preeclampsia (p=0.029) and was inversely associated with %CBF (beta coefficient -4.6 [-8.9, -0.3], p=0.037) but not with %CSA. DISCUSSION/SIGNIFICANCE: Women with preeclampsia have elevated AT1R-Ab and impaired CEF demonstrated by insufficient coronary reserve with exercise. Coronary endothelial dysfunction and dysregulation of the renin-angiotensin pathway likely contribute to long-term CV risk and should be considered for targeted risk reduction.

391

Value estimation of the Diabetes Prevention Program: How well does clinical trial-based cost-effectiveness apply to the real world?

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OBJECTIVES/GOALS: Many economic evaluations rely on clinical trial data that may not represent real world populations and intervention effectiveness. We compare risk and cost-effectiveness for the Diabetes Prevention Program (DPP) clinical trial cohort and a real world population eligible for the national DPP to assess the impact of using real world data. METHODS/STUDY POPULATION: To produce real world (US population) representative results, we identified National Health and Nutrition Examination Survey (NHANES) subjects eligible for the national DPP and adjusted projections using survey weights. We used clinical predictive models to estimate individual diabetes risk, and microsimulation to estimate lifetime costs, benefits, and net monetary benefits (NMB) for lifestyle intervention and metformin. We compared results across the DPP clinical trial and NHANES populations. RESULTS/ANTICIPATED RESULTS: Three-year risk of diabetes onset for the DPP trial population (mean of 19.7%, median of 10.3%) exceeded corresponding risk for the NHANES population (mean of 14.6%, median of 4.8%). The proportion of individuals with a three-year diabetes risk < 10% for the DPP trial population (49%) was less than the corresponding proportion for NHANES (67%). Mean NMB for metformin for the DPP trial population ($9,749) exceeded the corresponding value for NHANES ($5,391). The proportion of subjects with negative NMB was 49% for the DPP trial population and 67% for NHANES. Lifestyle intervention had a mean NMB of $34,889 for the DPP trial population and $28,652 for NHANES. Only 20% of the NHANES population eligible for national DPP met inclusion/exclusion criteria for the DPP trial. DISCUSSION/SIGNIFICANCE: Real world populations eligible for the national DPP include a greater proportion of low-risk individuals, and for these people, prevention programs may confer smaller benefits. Technology assessments based on clinical trial data should be revised using real world population and treatment effect data.

392

Targeting One-Carbon Metabolism in Brain Cancer†

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OBJECTIVES/GOALS: Glioblastoma (GBM) is the most malignant brain tumor in adults and remains incurable with an average survival of 15 months after diagnosis. There is great need for treatment options without side effects that are devastating to the quality of life for patients. GBM tumors can circumvent cellular damage by

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