

Hounsfield Units after exclusion of other causes of liver fat (alcohol/hepatitis/medications). Latent mixture modeling was used to identify 25-year trajectories in HOMA-IR over time. Multivariable logistic regression models were used to assess associations between HOMA-IR trajectory groups and prevalent NAFLD with adjustment for baseline or Y25 HOMA-IR. RESULTS/ANTICIPATED RESULTS: Among 3060 participants, we identified 3 distinct trajectory groups for HOMA-IR for individuals free from diabetes in middle adulthood: qualitatively low-stable (46.7% of the cohort), moderate-increasing (42.0%), and high-increasing (11.3%) with a NAFLD prevalence at Y25 of: 8.3%, 33.4%, and 63.5%, respectively ( $p$ -trend < 0.0001). After adjustment for confounders (baseline smoking status, alcohol use, body mass index, physical activity score, systolic blood pressure, antihypertensive medication use, and total/HDL cholesterol ratio) and baseline HOMA-IR, increasing HOMA-IR trajectories were associated with greater NAFLD prevalence compared with the low-stable trajectory group [odds ratio (95% CI): 5.8 (4.3–7.9) and 22.3 (14.2–34.9) for moderate and high, respectively]. These associations were attenuated, but remained significant, even after controlling for current Y25 HOMA-IR [OR = 3.6 (2.6–5.0) for moderate and 5.9 (3.4–10.3) for high (referent: low)]. Among participants with NAFLD ( $n = 511$ ), high-increasing HOMA-IR trajectory was associated with greater prevalent [OR = 6.5 (1.6–25.7)] and incident [OR = 8.7 (2.2–34.4)] T2DM at Y25 independent of confounders and Y25 HOMA-IR (referent: low-stable). DISCUSSION/SIGNIFICANCE OF IMPACT: In this community-based sample of individuals free from diabetes at baseline, an increasing HOMA-IR trajectory through young adulthood was associated with greater NAFLD prevalence in midlife. Knowledge of changes in IR throughout adulthood provides new information on the risk of T2DM among persons with NAFLD in midlife independent of current level of IR. These findings highlight early identification of increasing IR as a potential target for primary prevention of T2DM in the setting of NAFLD.

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### Post-traumatic stress disorder associated with Hurricane Katrina predicts cardiovascular disease events among elderly adults

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OBJECTIVES/SPECIFIC AIMS: Cardiovascular disease (CVD) is the leading cause of death among US adults and its prevalence is increasing, despite efforts to identify, and address risk factors. Post-traumatic stress disorder (PTSD) has been identified as a potential risk factor for CVD, though the results to date have focused on male veterans with combat-related PTSD. To our knowledge, there are no prospective analyses/reports among older community-dwelling adults following Hurricane Katrina. The purpose of this study was to explore the link between PTSD associated with Hurricane Katrina and incident CVD among elderly adults using data from the Cohort Study of Medication Adherence among Older Adults (CoSMO). METHODS/STUDY POPULATION: PTSD associated with Katrina and incident CVD events were assessed among 2075 hypertensive participants age  $\geq 65$  who were enrolled in a managed care organization in southeastern Louisiana. Baseline surveys were conducted between August 2006 and September 2007. Baseline surveys were conducted between August 2006 and September 2007. PTSD was assessed using the civilian PTSD Checklist (PCL-17) and 2 cut-off points,  $\geq 37$  and  $\geq 44$ , for primary and secondary analyses, respectively. Participants were followed through February 2011 for a composite CVD outcome of MI, stroke, CHF, or CVD death. Multivariable logistic regression was performed with 13 covariates identified in bivariate analysis: age, sex, race, marital status, education, hypertension knowledge, comorbidities, number of antihypertensive medication classes, dissatisfaction with healthcare, reduced medications due to cost, number of visits to healthcare provider in last year, depression, and coping. RESULTS/ANTICIPATED RESULTS: Participants were 59.8% female and 30.4% black, with a mean age of 75 years. The prevalence of PTSD using the primary and secondary cut points was 6.1% and 4.2%, respectively. In total, 240 (11.5%) participants had a CVD event during a median 3.8 year follow-up. After multivariable adjustment, the odds ratios and 95% confidence intervals (CI) for CVD event for the primary and secondary analyses were 1.90 (95% CI: 1.17, 3.09) and 3.74 (95% CI: 2.05, 6.81), respectively. DISCUSSION/SIGNIFICANCE OF IMPACT: PTSD was associated with an increased risk of incident CVD events among elderly adults. This finding from a prospective cohort study supports earlier reports suggesting PTSD is an independent risk factor for CVD. To our knowledge, this association has not been previously reported among a cohort of elderly community-dwelling adults. This study included hypertensive, elderly, insured participants living in southeastern Louisiana following Hurricane Katrina and may not be generalizable to all people with PTSD. Strengths of this study include its longitudinal design, the identification of incident CVD, the diversity of the study population with respect to gender, race and CV risk, and

reduced confounding due to access to care and insurance status. Future research is needed to confirm this finding in other populations and to assess if efforts to minimize the impact of PTSD following disasters reduce CVD risk and premature CVD events among older adults.

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### Factors associated with unintended pregnancy in cancer survivors after cancer

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OBJECTIVES/SPECIFIC AIMS: In the United States, it is estimated that approximately half of all pregnancies are unintended. This study examines the prevalence of unintended pregnancy in a cohort of cancer survivors and identifies factors associated with unintended pregnancy after cancer. METHODS/STUDY POPULATION: The FUCHSIA Women's Study is a population-based study of female cancer survivors at a reproductive age of 22–45 years. Cancer survivors diagnosed between the ages of 20 and 35 years and at least 2 years postdiagnosis were recruited in collaboration with the Georgia Cancer Registry. Participants were interviewed about their reproductive histories. The prediagnosis analysis included all women who completed the interview; the postdiagnosis analysis excluded those who had a hysterectomy, bilateral oophorectomy, or tubal ligation by cancer diagnosis. RESULTS/ANTICIPATED RESULTS: Of the 1282 survivors interviewed, 57.5% reported at least 1 pregnancy before cancer diagnosis; of which, 44.5% were unintended. Of the 1088 survivors included in the postdiagnosis analysis, 36.9% reported a post-cancer pregnancy. Among those who had a pregnancy after cancer diagnosis, 38.6% reported at least 1 pregnancy was unintended. Of the 80 breast cancer survivors who had a pregnancy after diagnosis, 52.5% of them were unintended. Predictors of unintended pregnancy in cancer survivors included being younger than 30 years at diagnosis [odds ratio (OR) 2.1; 95% confidence interval (CI) 1.4, 2.9], identifying as Black (OR 1.6, 95% CI 1.1, 2.3, comparison: White), and having resumption of menses after cancer treatment (OR 8.1, 95% CI 2.0, 33.0). Compared with being <4 years from cancer diagnosis, those who were farther from diagnosis at the time of the interview also had increased odds of unintended pregnancy (4–7 years: OR 1.5, 95% CI 0.9, 2.7; 8–10 years: OR 1.3, 95% CI 0.7, 2.4; >10 years: OR 2.7, 95% CI 1.6, 4.7). DISCUSSION/SIGNIFICANCE OF IMPACT: Despite being at higher risk of infertility, cancer survivors may still be at considerable risk of unintended pregnancy. Women with certain types of cancer that are more likely to be hormone responsive, such as some types of breast cancer, may be hesitant to use hormonal birth control and thus be at higher risk of unintended pregnancy. Counseling for cancer survivors should include a discussion of the risk of unintended pregnancy and contraceptive options.

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### A confounder assessment of patient frailty in the relationship between antidiabetic medication and heart failure

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OBJECTIVES/SPECIFIC AIMS: This study is part of a parent grant evaluating antidiabetic medications and risk for heart failure in an observational cohort of Veterans with type 2 diabetes (T2DM). Confounding by indication remains a concern in many observational studies of medications because difficult to measure confounders such as frailty may influence prescribing of different medications based on patient characteristics. Frailty is a multidimensional syndrome of loss of reserves (energy, physical ability, cognition, health) that gives rise to vulnerability to adverse outcomes. The objective of this study is to determine if frailty is a potential confounder in Veterans with T2DM, that is, independently associated with exposure to a specific antidiabetic medications and hospitalization for decompensated heart failure. METHODS/STUDY POPULATION: We conducted a cross-sectional study of patients with diabetes who were hospitalized within the Veterans Health Administration (VHA) Tennessee Valley Healthcare System from 2002 to 2012. Inclusion criteria were: age 18 years or older, receive regular VHA care (prescription fill or visit at least once every 180 d), a diagnosis of T2DM. A probability sample of HF and non-HF hospitalizations was collected. HF hospitalizations were selected on the basis of meeting either a primary diagnosis code (ICD-9) and/or disease related group (DRG) code for HF. For each hospitalization using a standardized chart abstraction tool, data was abstracted on: antidiabetic medication(s), patient