OBJECTIVES: To investigate the usefulness of National Health and Nutrition Examination Survey (NHANES) data for exposure estimates. To illustrate its utility, the exposure variable was serum cotinine concentration and the outcome variables were serum levels of the biomarkers listed above. Weighted survey linear regression was used to estimate the association between cotinine concentration and biomarkers levels. We also tested the models for different levels of covariates: age, sex, race, and body mass index (BMI). RESULTS: The levels of WBC (F-value: 38.78; P-value: <.0001) and HDL (F-value: 26.43; P-value: <.0001) showed higher association with cotinine levels than rest of the biomarkers. The R^2 for the models ranged from 0.039-0.261. Higher levels of WBC and lower levels of HDL were association with cotinine levels than rest of the biomarkers. The R^2 for the models ranged from 0.039-0.261.

RESULTS: 

The levels of WBC (F-value: 38.78; P-value: <.0001) and HDL (F-value: 26.43; P-value: <.0001) showed higher association with cotinine levels than rest of the biomarkers. The R^2 for the models ranged from 0.039-0.261.

OBJECTIVES: Administrative claims data are used to study CRC treatment patterns and outcomes. We critically review existing algorithms for identifying incident BC cases and disease stage at diagnosis within claims data. METHODS: A literature search (1989-2012) using the terms: cancer [ti] AND (administrative OR claims) AND (assess [ti] or assessment [ti] or predict [ti] or prediction [ti] or identify[ti] or validation [ti]) and identified 76 articles with 27 testing algorithms. Of the 27, three provided algorithms for identifying incident BC cases and four algorithms classified BC disease stage at diagnosis. We examine the positive predictive value (PPV) of each algorithm and suggest revisions for improving the PPV.

RESULTS: To identify incident BC, Warren used ICD-9 and treatment codes across inpatient and outpatient settings (PPV=80%). Freeman used a logistic regression model with 36 diagnostic and procedural diagnoses and identified metastatic disease at any site (PPV=93%). The PPV for Setoguchi's algorithm varied from 45% to 80% among different ICD-9 codes, but no studies examined algorithms for identifying CRC stages I-III. We applied the Nordstrom's algorithm to the data and identified metastatic disease using three components: a diagnosis code for secondary neoplasm OR any metastatic chemotherapy agent OR NO g-code for non-metastatic disease AND g-code for metastatic disease (PPV=81%). CONCLUSIONS: For identifying incident BC, we recommend updating the Setoguchi algorithm with newer codes and fewer criteria for older patients likely to receive less aggressive care. For disease stage, we recommend updating the Nordstrom's algorithm with additional codes from Nordstrom and testing higher cut-points to maximize PPV.

OBJECTIVES: Osteoarthritis and atherosclerosis are both chronic inflammatory diseases. However, the association between osteoarthritis and the rate of major adverse cardiovascular events has never been reported (check literature). METHODS: Using the retrospective, observational, longitudinal study design, we evaluate the association between osteoarthritis and the rate of MACEs in the Medicare essential health plan. RESULTS: We evaluated a cohort of 16,607 hypertensive patients. The crude MACE rates were significantly higher in hypertensive patients with OA than those without OA (MI: 2.37% vs. 1.64 %, p<0.0001; stroke: 3.90% vs. 2.87%, p<0.0001; heart failure: 1.88% vs. 1.32%, p<0.0001). We adjusted for age, sex, and obesity and found that the association between OA and MACEs persisted in both hypertensive and non-hypertensive patients (OA: MI: HR=1.93, 95%CI: 1.49-2.49, p<0.0001; stroke: HR=1.70, 95%CI: 1.42-2.02, p<0.0001; heart failure: HR=1.64, 95%CI: 1.37-1.95, p<0.0001). CONCLUSIONS: This study highlights the MACE (MI, stroke, CHF, ESRD and PVD) rate among hypertensive patients with OA. The MACE rates were significantly higher in hypertensive patients with OA than those without OA.