study using electronic health records and administrative claims. We included individuals with diabetes from a network of 11 U.S. managed care organizations (SUPREME-DM datalink) from 2005 to 20110. Uncontrolled cholesterol was defined as LDL = 100 mg/dL or HDL = 40 (M)/<50 mg/dL (F), uncontrolled glucose as A1c = 8%, and elevated blood pressure as = 140/90 mmHg. Major CVD hospitalization events were identified based on primary discharge diagnoses from inpatient encounters for myocardial infarction (MI) or acute coronary syndrome (ACS), or congestive heart failure (CHF). Mortality data were derived from State Death Records and National Death Index. Five-year incidence rates and rate ratios were estimated using Poisson regression in multivariable models for individuals with and without diagnoses of CVD. Average attributable fractions were estimated for uncontrolled clinical factors and smoking. **Results:** The study cohort included more than 800,000 patients with diabetes. Mean age was 59 years (SD = 14), 48% were female, and 46% were White. Thirty-one percent had CVD diagnoses at cohort entry. Five-year event rates (per 100 person years) were 5.1 (MI/ACS), 4.5 (stroke), 7.1 (CHF) and 24.4 for all-cause mortality in patients with CVD; rates were 1.4 (MI/ACS), 1.2 (stroke), 1.0 (CHF) and 5.2 in patients without CVD. Twenty four percent of major CVD hospitalizations and 19% of deaths were attributable to uncontrolled clinical factors and smoking in patients with CVD; for individuals without CVD; 36% of major CVD hospitalizations events and 20% of deaths were similarly attributable to uncontrolled factors. **Conclusions:** Despite improvements in diabetes care, uncontrolled levels of clinical risk factors and smoking still account for more than 30% of CVD events in a population with diabetes. Additional attention to CVD risk factor control may importantly decrease adverse outcomes.

Keywords: Cardiovascular disease; Retrospective cohort

doi:10.3121/cmr.2014.1250.ps1-40

PS2-12:

Opportunities to Improve Aspirin Utilization for the Primary Prevention of Cardiovascular Disease in a Regional Healthcare System

Jeffrey VanWormer[1]; Aaron Miller[1]; Shereif Rezkalla[2]

[1]Marshfield Clinic Research Foundation; [2]Marshfield Clinic

Background/Aims: Aspirin is a cornerstone of primary cardiovascular disease prevention, but little is known about aspirin use patterns in primary care populations. Aspirin pharmacoepidemiology research presents some particular challenges within the HMO Research Network because aspirin is typically obtained over-the-counter and does not routinely appear in pharmacy claims data. This study leveraged electronic health records from the Marshfield Clinic to identify demographic, clinical, and geographic predictors of aspirin use in adults without cardiovascular disease. **Methods:** A cross-sectional study was used with years 2010-2012 data from 45-79 year old adults in the Marshfield Epidemiologic Study Area. Individuals who reported regular use (daily or every other day) of aspirin-containing medications during their most recent ambulatory encounter, or had an aspirin contraindication, were considered adherent to aspirin therapy. **Results:** Per national guideline, there were 6,950 adults in the target population who were clinically indicated for aspirin therapy for primary cardiovascular disease prevention. Aspirin was underutilized in this population overall, with less than half of all clinically indicated adults adherent to aspirin therapy. Statistically adjusted models found that individuals who were younger, female, not covered by health insurance, did not visit a medical provider regularly, were not obese, or did not have diabetes were least likely to use aspirin. In addition, aspirin use was less common in northeastern communities within the Marshfield Clinic service area. **Conclusions:** Demographic patterns of aspirin use in this study were largely consistent with previous findings, noting several aspirin use disparities in central Wisconsin adults without cardiovascular disease. Aspirin use was particularly low in those without diabetes and/or without regular physician contact. The methods outlined here on using electronic health records to conduct aspirin pharmacosurveillance can be adopted and refined by other HMO Research Network partners to optimize future cardiovascular disease (primary) prevention initiatives.

Keywords: Aspirin; Primary prevention

doi:10.3121/cmr.2014.1250.ps2-12

PS2-13:

Personalized Physician Learning Intervention to Improve Hypertension Control: Randomized Trial Comparing Two Methods of Physician Profiling

JoAnn Sperl-Hillen[1]; Patrick O'Connor[1]; David Magid[2]; David Price[2]; Stephen Asche[1]; William Rush[1]; Heidi Ekstrom[1]; David Brand[2]; Paul Johnson[3]; Karen Margolis[1]

[1]HealthPartners; [2]Kaiser Permanente Colorado; [3]University of Minnesota

Background/Aims: To assess the impact of personalized physician learning (PPL) interventions using simulated learning cases on control of hypertension and dyslipidemias in primary care settings. **Methods:** One hundred thirty-two primary care physicians (PCP) with their 6307 patients with uncontrolled HT and their 20,030 patients with uncontrolled dyslipidemia were cluster randomized to one of three conditions: (a) no intervention, (b) PPL-EMR intervention in which 12 personalized learning cases were assigned to each PCP based on observed patterns of care in the electronic medical record (EMR) in the prior 1-year period, or (c) PPL-ASSESS intervention in which 12 personalized learning cases were assigned based on PCP performance on 4 standardized assessment cases. General and generalized linear mixed models were used to account for clustering and to model differences in actual patient outcomes across study arms. **Results:** Among those with uncontrolled HT at baseline, 49.1%, 46.6% and 47.3% ($P = 0.43$) achieved BP targets at follow-up, and among those with uncontrolled dyslipidemia at baseline, 37.5%, 37.3% and 38.1% ($P = 0.72$) achieved LDL targets at follow-up in PPL-EMR, PPL-ASSESS, and the control group, respectively. Although both SBP ($P < .001$) and lipid ($P < .001$) values significantly improved during the study period, the group x time interaction term showed no significant differential change in SBP values ($P = 0.51$) or lipid values ($P = 0.61$) across the 3 study arms. No difference in intervention effect was noted when comparing the PPL-EMR and the PPL-ASSESS interventions ($P = 0.47$). **Conclusions:** The two personalized physician learning interventions tested in this study did not lead to improved control of hypertension or dyslipidemia in primary care clinics during a mean 14-month follow-up period. This null result may have been due in part to substantial improvement in BP and lipid control in all study site patients during the study period.

Keywords: Hypertension; Quality improvement

doi:10.3121/cmr.2014.1250.ps2-13

PS2-14:

The Electronic Communications and Home Blood Pressure Monitoring Trial - Long Term Results

Beverly Green[1]; Melissa Anderson[1]; Andrea Cook[1]; Sheryl Catz[1]; Ron Johnson[1]

[1]Group Health Research Institute

Background/Aims: In the Electronic Communications and Home Blood Pressure Trial (e-BP) patients with uncontrolled blood pressure (BP) were registered to use an existing patient shared electronic health record (EHR) and secure e-mail and randomly assigned to: (1) usual care (UC); (2) home BP monitoring (BPM) and website training; or (3) this plus pharmacist team-care delivered via the web (Pharm). At the end of intervention and one year later (1 and 2 years after randomization) Pharm patients were more likely to have controlled BP. The objective here was to determine if BP control improvements persisted longer term. **Methods:** The primary outcomes were change in systolic and diastolic BP and percent with BP control based on BP measures from the 4.5 year study visit. Modified Poisson regression estimated adjusted RR of BP control. Adjusted spline curves were used to evaluate blood pressures in the EHR. **Results:** BP control was 67%, 60%, and 65% in the UC, BPM, and Pharm groups respectively (adjusted RR 0.98; 95% CI (0.85, 1.13), Pharm vs. UC) at 4.5 years. For those with more severe systolic HTN (>160 mmHg) at baseline, BP control was 52%, 46%, and 55% (adjusted RR 1.05(0.70, 1.57), Pharm vs. UC) Analysis of BPs from the EHR showed similar results. **Conclusions:** Almost two thirds of patients with uncontrolled BP at baseline had controlled hypertension at 4.5 years. Group differences seen after the 1-year intervention did not persist long-term, with all groups improving. Longer-term or booster interventions may be needed.