who suffered a VTE event and those that did not. Risk adjustment was done using propensity score matching (using the PropChoice algorithm) controlling for baseline demographic and clinical characteristics between patients with and without VTE. RESULTS: In patients who underwent total knee replacement surgery and suffered a VTE event in patients who underwent knee replacement surgery (n = 104,952), 1.9% had post-operative VTE events during their initial hospitalization. Almost 69% (n = 1,377) of these patients had deep vein thrombosis (DVT), 25% (n = 501) had pulmonary embolism (PE), and 6% (n = 119) had both DVT and PE. After multivariate adjustment for pre-specified covariates, mortality was almost 50% higher for patients with VTE compared to those without VTE. Differences in mortality rate were more pronounced for PE patients, whom the event was associated with almost two-fold. The VTE group was more likely to be re-hospitalized in one year (odds ratio: 1.44, p = 0.02). Bleeding was 2.26 times higher (p = 0.000). CONCLUSIONS: VTE events during initial hospitalization for hip fracture surgery increased the mortality, rehospitalization and bleeding compared with no VTE events.

PCV4 COMPARISON OF MORTALITY, RE-HOSPITALIZATION AND BLEEDING RATES OF MEDICARE PATIENTS WHO UNDERWENT KNEE REPLACEMENT SURGERY AND SUFFERED VENOUS THROMBOEMBOLISM VERSUS NO VENOUS THROMBOEMBOLISM Wang L1, Dysinger A1, Basar O2
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OBJECTIVES: To estimate re-hospitalization and bleeding rates during the 90 days after a venous thromboembolism (VTE) event in patients who underwent knee replacement surgery and compare the outcomes to those in patients who did not suffer a VTE. METHODS: Based on 2005–2007 national Medicare claims, all patients who underwent knee replacement surgery were identified. The 90 days follow-up event rates for patients who had a VTE event during their initial hospitalization were calculated. Events were compared between patients who suffered a VTE event and those that did not. Risk adjustment was done using propensity score matching (using the PropChoice algorithm) controlling for baseline demographic and clinical characteristics between patients with and without VTE. RESULTS: In patients who underwent total knee replacement surgery (n = 104,952), 1.9% had post-operative VTE events during their initial hospitalization. Almost 69% (n = 1,377) of these patients had deep vein thrombosis (DVT), 25% (n = 501) had pulmonary embolism (PE), and 6% (n = 119) had both DVT and PE. The overall likelihood of mortality was four times higher for VTE patients versus those without VTE (1.35% vs. 0.35%). Patients with VTE during their initial hospitalization were more likely to be hospitalized in 90 days (compared to patients without an event during the same hospital stay (16.62% vs. 8.00%). In 90 days after the event, patients with VTE were more likely to have bleeding (10.17% vs. 2.68%). CONCLUSIONS: VTE events during initial hospitalization for total knee replacement surgery increased the adverse events compared with no VTE events.

ADVERSE EVENT ANALYSIS FOR MEDICARE PATIENTS WHO UNDERWENT HIP FRACTURE SURGERY AND SUFFERED VENOUS THROMBOEMBOLISM Wang L1, Basar O2
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OBJECTIVES: To estimate re-hospitalization and bleeding during the 30 days after a venous thromboembolism (VTE) event in patients following hip fracture surgery and to compare the outcomes with patients without VTE. METHODS: Based on 2005–2007 national Medicare claims, all patients who underwent hip fracture surgery were identified. The 30 days follow-up event rates for patients who had a VTE event during their initial hospitalization were calculated. Events were compared between patients who suffered a VTE event and those that did not. Risk adjustment was done using propensity score matching controlling for baseline demographic and clinical characteristics between patients with and without VTE. RESULTS: In patients who underwent hip fracture surgery (n = 50,245), 1.3% had post-operative VTE during their initial hospitalization. Almost 77% (n = 573) of these patients had deep vein thrombosis (DVT), 20% (n = 141) had pulmonary embolism (PE), and 3% (n = 34) had both DVT and PE. Patients with VTE during their initial hospitalization were more likely to be hospitalized in 30 days (compared to patients without an event during the same hospital stay (32% vs. 6.82%). In 30 days after the event, patients with VTE were 5.4 times more likely to have bleeding (10.65% vs. 0.68%). CONCLUSIONS: VTE events during initial hospitalization for hip fracture surgery patients increased the adverse events compared with no VTE events.

A META-ANALYSIS OF Efficacy of ATORVASTATIN in COMPARISON to PRavastatin, SIMVASTATIN and ROSUVASTATIN for the CONTROL of DysLipIDEmIA and CARDIOvascular Events PREvention Banahan III BF, Mendonca CM, Athavale A, Bentley JP
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OBJECTIVES: To identify the effectiveness and safety of atorvastatin, simvastatin and rosuvastatin. METHODS: A systematic review was performed including RCTs in primary and secondary prevention where total cholesterol, LDL-C, HDL-C, major cardiovascular events, as well as adverse events frequency were analyzed. RCTs were searched in March 2009 in Medline, EMBASE and the Cochrane Collaboration. Two independent reviewers identified all articles, selected the abstracts, and extracted the data. Odds ratios (OR) and weighted means differences were calculated with 95% confidence intervals (95%CI). Random effects models were employed in the Meta-analyses using RevMan v.5.30 software. RESULTS: From 7539 studies, 66 RCT were selected. Atorvastatin showed statistically a higher improvement in LDL-C, total cholesterol, HDL-C and triglycerides in comparison to pravastatin and simvastatin (5%-15%). Rosuvastatin was statistically superior against atorvastatin in LDL-C and total cholesterol, however not in HDL-C and triglycerides (p < 0.01). Atorvastatin obtained higher reductions in arterial myocardial infarctions, unstable angina and mortality, while no comparison to pravastatin and simvastatin (p < 0.05). Rosuvastatin 80 mg showed in comparison to pravastatin 40 mg a higher reduction of major cardiovascular events (OR 0.87; 95%CI 0.77–0.97, p = 0.01), revascularization (OR 0.86; IC95% 0.76–0.98, p = 0.02) and unstable angina (OR 0.74; 95%CI 0.57–0.95, p = 0.02); nevertheless no statistical differences were found for AMI or cardiovascular death. Rosuvastatin requires data on cardiovascular events prevention in order to be compare appropriately against atorvastatin. The frequency of adverse events resulted similar among all the statins considered in the assessed review. CONCLUSIONS: Atorvastatin in comparison to pravastatin and simvastatin showed a control of dyslipidemia and a better reduction of major cardiovascular events, without increasing the frequency of adverse events.

PCV7 INCIDENCE AND OUTCOMES of POTENTIAL DRUG-DRUG INTERACTIONS BETWEEN ACE/ARBS and POTASSIUM Sparing DIuretics Fernandez FP, Mendoza CM, Athavala A, Bentley JP
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OBJECTIVES: To examine incidence of and the health outcomes associated with potential drug-drug interactions (DDIs) between ACE/ARBs and potassium sparing diuretics among Medicare patients. METHODS: A retrospective matched cohort study was conducted of beneficiaries in the Mississippi Medicaid program from January 2002 to December 2004. Potential DDIs were defined as medication possession data indicating an object drug (ACE/ARB) and a precipitant drug (potassium sparing diuretics) were taken with overlapping dates. The first day of overlap was designated as the DDI index date. A 6-month washout period was used for exposures. Exposed patients were matched 1:1 to controls taking ACE/ARBs and assigned the same index date. Exact matching was done on sex, race, CHF comorbidity, and cerebrovascular disease comorbidity and close matching was done for age (±50) and for the date for ACE/ARB (±45). Outcomes included hospitalizations and ER visits within 30 days of the index date and payments associated with these services. RESULTS: A total of 68,289 patients were identified as taking ACE/ARBs during the observation period with 5372 (8.4%) exposed to a potential DDI. A total of 3599 exposed patients were matched. The effect of DDI exposure on hospitalization and ER visit rates was tested using SAS fixed effects logistical regression while controlling for sex, age, race and overall Charlson comorbidity index. The point-specific odds ratio for DDI exposure was 1.41 (95% CI = 1.29 – 1.54) for hospitalization and 1.21 (95% CI = 1.11 – 1.31) for ER visits. A paired t-test was used to examine differences in Medicaid payments during the 30 days after the index date. Total payments were significantly higher (p < 0.001) for the exposed patients ($2289) than for the control patients ($1,614). CONCLUSIONS: Potential ACE/ARB DDIs were a significant problem among the Mississippi Medicaid patients and during the study period; potentially contributing more than $3.7M in additional health care costs.

PCV8 CLINICAL RELEVANCE of PHARMACOLOGICAL INTERACTIONS Endl G1, Neumann K2
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OBJECTIVES: Adverse events —Aes—due to medication errors are numerous. One type of error is the combination of substances with a known unwanted pharmacological interaction. In the years 2001 to 2006 a total of 39521 AEs with ICD10 codes indicating drugs as reasons where documented in Austria's hospitals. There is no reporting system for adverse events in ambulatory care. So the rate within AEs in the outpatient setting is unknown. One of the main projects in Austria's e-health roadmap is an e-medication system. Due to the foreseeable costs an estimation and evaluation of AEs in the outpatient setting is unknown. Of the one main projects in Austria's e-health roadmap is an e-medication system. Due to the foreseeable costs an estimation and evaluation of AEs in the outpatient setting is unknown. One of the main projects in Austria's e-health roadmap is an e-medication system. Due to the foreseeable costs an estimation and evaluation of AEs in the outpatient setting is unknown. One of the main projects in Austria's e-health roadmap is an e-medication system.
mated. Therefore prescriptions causing interaction coming from one office should be prevented. But prescriptions from different offices cannot be avoided by the use of this isolated solution. Only a comprehensive e-health solution summing up medication of a patient from different sources has the potential to improve patient safety. There are pharmacologic interactions with different clinical relevance.

PCV10

A META-ANALYSIS OF CARDIOVASCULAR RISK FACTORS: WHICH IS THE DIFFERENCE BETWEEN MEN AND WOMEN?

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OBJECTIVES: The aim of this study was to conduct a meta-analysis to identify the potential differences of cardiovascular risk factors between men and women in primary prevention. METHODS: A systematic review was performed identifying prospective cohorts studies in which cardiovascular risk factors were analyzed (tobacco use, hypertension, diabetes, obesity and dyslipidemia) associated to the development of acute myocardial infarction, angina pectoris or cardiovascular death, and in which results were segmented between men and women. The search was done in October 2009 in Medline, EMBASE and the Cochrane Collaboration. Two independent reviewers identified the abstracts, selected full articles and extracted the data. Relative risk (RR) with 95% confidence intervals (95%CI) were calculated. Random effects models were employed in the meta-analyses using Meta-Analyzer v.2.0 software. A meta-regression was also conducted. RESULTS: From 3,712 studies, 21 cohort studies were selected. The number of participants among the trials varied between 5,000 and 600,000 per study with a follow-up from 5 to 40 years. The meta-analyses showed that premenopausal women in comparison to men had a higher risk of having cardiovascular event when they have diabetes mellitus (RR 2.79 vs. 2.03), obesity (1.62 vs. 1.41), hypercholesterolemia (1.91 vs. 1.49), increase in LDL levels (2.08 vs. 1.72) or increase in HDL levels (2.22 vs. 1.61); however, men showed higher risk of cardiovascular event when they have diabetes mellitus (RR 2.79 vs. 2.03), obesity (1.62 vs. 1.41), hypercholesterolemia (1.91 vs. 1.49), increase in LDL levels (2.08 vs. 1.72) than women.

PCV11

IDENTIFYING RISK FACTORS ASSOCIATED WITH CARDIOVASCULAR DISEASES IN PATIENTS WITH TYPE II DIABETES AND COMORBID OBESITY

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OBJECTIVES: To evaluate 1) use of diabetes and cardiovascular medications; 2) the associations of medication compliance with disease burden. METHODS: California Medicaid administrative data (2002-2004) were used to identify patients 240 years of age with a diagnosis of type II diabetes concurrent with any combination of the following cardiovascular diseases (CVD): hypertension (HYPT), coronary artery disease (CAD), and heart failure (HF). We assessed patients use of any appropriate diabetes or cardiovascular medication. Proportion of days covered 20.8 was used to evaluate medication compliance. Disease burden was defined as any emergency or inpatient visit. Logistic regressions were used to identify factors associated with disease burden. RESULTS: We identified 21,740 patients. Fifty-six percent of patients had HYPT, 37.80% had ever received prophylactic antithrombotic agents after surgery and all of them used aspirin, but only 22 patients used aspirin for more than 10 days. Twelve patients presented DVT symptoms after surgery but only one is from prophylactic group. Independent relative risk of DVT for patients without prophylaxis is 8.23 (folds of patients with prophylaxis (95% confidence interval: 1.48, 154.91). DVT symptoms mainly (91.67%) occurred within 15 days after THR and the median duration to symptoms presentation is 12 days. CONCLUSIONS: Antithrombotic therapy is not commonly used to prevent DVT after THR in this medical center. Aspirin alone seems effectively reduce the risk of DVT-related symptoms. It is necessary to further investigate the effectiveness of prophylactic antithrombotic agents after THR from Taiwanese population-based database and explore the potential genetic factors influencing the effectiveness of antithrombotic therapy.

PCV12

TRENDS IN C-REACTIVE PROTEIN SCREENING PRIOR TO STATIN USE IN THE UNITED STATES

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OBJECTIVES: The objective of this study was to explore trends in high sensitivity C-reactive protein (hs-CRP) screening prior to statin use, as compared to current lipid screening practices. METHODS: The PharMetrics Integrated Outcomes Database was used to obtain medical claims records for continuously enrolled adult (≥18 years) first-time statin users. Patients were followed for one year. Both hs-CRP and lipid tests were identified by CPT-4 procedure codes. Descriptive statistics were used to characterize the population and estimate unadjusted associations between patient characteristics and hs-CRP testing. Multivariable logistic regression was used to estimate the odds of testing, controlling for age, gender, diabetes, statin intensity, prescribing physician specialty, geographic region and health plan type. RESULTS: Between January 1997 and March 31, 2007, 33,666 new statin users received lipid tests within 90 days prior to the index statin prescription. One thousand (3%) also received hs-CRP tests during this time. Over 80% of these individuals received the tests in 2004 or later. Those receiving hs-CRP tests were more likely to have a Medicare, Medicaid or other public type of plan, as compared to private insurance (P < 0.05) and were less likely to reside in the South, Midwest or West, as compared to the Northeast (P < 0.01). Individuals who received hs-CRP tests had higher adjusted odds of receiving a high potency statin (OR = 1.37, P < 0.01) and lower odds of having diabetes (OR = 0.56, P < 0.01). The rate of receiving hs-CRP tests were more likely to have a cardiologist as their statin-prescribing physician, rather than a family or general practitioner (OR = 1.31, P = 0.02). CONCLUSIONS: Rates of hs-CRP testing are very low, but higher among those seeing a cardiologist or having private insurance. Those who received a high potency statin had higher rates of testing, suggesting that those with higher cardiovascular risk may be more likely to receive an hs-CRP test.

PCV13

THE UTILIZATION AND EFFECTIVENESS OF ANTITHROMBOTIC AGENTS FOR PREVENTING DEEP VEIN THROMBOSIS AFTER TOTAL HIP REPLACEMENT—A CASE STUDY IN SOUTHERN TAIWAN

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OBJECTIVES: Antithrombotic therapy is effective in preventing thromboembolic diseases, and it has been recommended by several international guidelines to prevent deep vein or orthopedic surgery patients undergoing bleeding risks. To establish Taiwanese local guidance, this case study aims to evaluate the current utilization and effectiveness of antithrombotic agents for preventing DVT after total hip replacement (THR). METHODS: This one-year retrospective cohort study was conducted at a medical center in Southern Taiwan from May 2008 to April 2009. Adult patients (above 18 years) who had undergone primary THR were identified by inpatient electronic database. Their medical records were reviewed from surgery date to three months post-operation for collecting demographic details and DVT-related clinical symptoms as the surrogate of effectiveness. Descriptive statistics and time-to-event analysis were then conducted. RESULTS: Medical records of 82 patients (57.32% women) were reviewed. The average age is 59.15 ± 13.43 years and the mean body mass index is 25.20 ± 4.86 kg/m². Only 31 out of the 82 patients (37.80%) had ever received prophylactic antithrombotic agents after surgery and all of them used aspirin, but only 22 patients used aspirin for more than 10 days. Twelve patients presented DVT symptoms after surgery but only one is from prophylactic group. Independent relative risk of DVT for patients without prophylaxis is 8.23 (folds of patients with prophylaxis (95% confidence interval: 1.48, 154.91). DVT symptoms mainly (91.67%) occurred within 15 days after THR and the median duration to symptoms presentation is 12 days. CONCLUSIONS: Antithrombotic therapy is not commonly used to prevent DVT after THR in this medical center. Aspirin alone seems effectively reduce the risk of DVT-related symptoms. It is necessary to further investigate the effectiveness of prophylactic antithrombotic agents after THR from Taiwanese population-based database and explore the potential genetic factors influencing the effectiveness of antithrombotic therapy.

PCV14

COMPARATIVE EFFECTIVENESS ANALYSIS IDENTIFIES A SUPERIOR POINT OF CARE DEVICE FOR ASSESSING THE INTERNATIONAL NORMALIZED RATIO

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OBJECTIVES: Comparative effectiveness research identifies superior clinical devices or treatments through head-to-head comparisons. This study describes the use of an innovative framework to assess the quality and safety of two INR Point of Care devices. METHODS: Patients enrolled in the hematology Anticoagulation Management Service provided three INR measures: one venous sample analyzed by our lab (standard measure), one fingertip analyzed by the Hemochron Signature Elite POC device and another fingertick by the Coaguchek XS Plus. Agreement between INR values from each device and the lab was assessed. Agreement was achieved when the INR measures were predicted by a novel, validated method to lead to the same clinical decision. Differences in agreement between the POC devices and the lab were assessed using McNemar’s test of paired proportions. RESULTS: Nineteen subjects were enrolled into the study. There was significantly less difference between INR values from the Coaguchek XS device and the ‘true’ INR measures (considered the standard measure), one fingertick analyzed by the Hemochron Signature Elite POC device and another fingertick by the Coaguchek XS Plus. Agreement between INR values from each device and the lab was assessed. Agreement was achieved when the INR measures were predicted by a novel, validated method to lead to the same clinical decision. Differences in agreement between the POC devices and the lab were assessed using McNemar’s test of paired proportions. CONCLUSIONS: Comparative effectiveness analysis can provide essential information to make informed decisions when selecting medical devices to