"being too busy (2.5% Medicare; 17.2% commercial and "other reasons" (21.9% Medicare; 8.1% commercial) which included travel, being hospitalized or sick, disruption of daily events and unable to get to the pharmacy. Prescription copay was a barrier for <5% of respondents. Taking medications as part of a daily routine (46.4% Medicare; 52.2% commercial) helped improve adherence. Low non adherence (0–59%) was associated with higher cardiovascular related expenditures ($11,800) compared to moderate (60–79%) non adherence ($8467). **CONCLUSIONS:** Despite elaborate models explaining non adherence, forgetfulness was the primary reason for self reported non-adherence in this study. Events interfering with daily routine also had significant impact on non-adherence. Novel interventions should address medication taking competency and promote a medication routine.

PCV106

PREDICTORS OF CLOPIDOGREL USE AND ADHERENCE FOR PATIENTS WITH ACUTE CORONARY SYNDROMES IN A LARGE EMPLOYER-BASED CLAIMS DATABASE

Zhu B, Zhao Z, McCollam P, Anderson J, Bae J, Zettler M, LeNarz L

Eli Lilly and Company, Indianapolis, IN, USA

OBJECTIVES: Dual-antiplatelet therapy with aspirin and thienopyridines is considered as the cornerstone in the treatment of acute coronary syndromes (ACS) undergoing percutaneous coronary intervention (PCI). Recent ACC/AHA/SCAI guidelines on PCI recommend the use of clopidogrel or prasugrel for the treatment of ACS patients undergoing PCI with drug eluting or bare metal stents for at least a year. However, little is known about the factors that predict the use and adherence of clopidogrel in ACS-PCI patients. This study examined the predictors of clopidogrel use and adherence in the employer-based MarketScan claims database. **METHODS:** Patients (N = 10,456), aged 18–65 years, hospitalized with a primary diagnosis of ACS and underwent PCI between January 1, 2005 and December 31, 2006, and had a prior 1-year insurance eligibility and drug information were identified. Adherence was defined as medication possession ratio (MPR) of ≥80%. Multivariate logistic regression analyses were conducted to identify the predictors of clopidogrel use and adherence. **RESULTS:** Overall, 92.8% of ACS-PCI patients received a prescription of clopidogrel and 66.8% of the clopidogrel users were adherent. Receiving PCI without stenting (OR = 3.3), comorbid hypertension (OR = 1.50), diabetes (OR = 1.49), atrial fibrillation (OR = 1.87), and older age (OR = 1.01) were associated with decreased use of clopidogrel while prior use of clopidogrel (OR = 0.54) or other BASI (Beta-blocker, Antiplatelet agents, Statin, and ACE Inhibitor) (OR = 0.43) were associated with increased use of clopidogrel (all p-values <0.05). Factors significantly associated with non-adherence of clopidogrel were: prior use of clopidogrel (OR = 1.41), prior hospitalization (OR = 1.34), chronic pulmonary disease (OR = 1.33), PCI without stenting (OR = 1.33), and diabetes (OR = 1.18). Older age (OR = 0.98) and prior use of other BASI medications (OR = 0.84) increased the adherence of clopidogrel. **CONCLUSIONS:** Prior use of clopidogrel and other heart medications, stenting, diabetes and other comorbidities affected the use and adherence of clopidogrel by ACS patients undergoing PCI. These findings may help programs that aim to improve thienopyridines adherence for increased effectiveness.

PCV107

PATIENT ADHERENCE TO CHRONIC DISEASE MEDICATIONS IN A MEDICATION THERAPY MANAGEMENT PROGRAM

Ramasamy A[1], Pinto S[2], Holiday-Goodman M[2], Black CD[2]

[1]Forest Research Institute, Jersey City, NJ, USA, [2]University of Toledo, Toledo, OH, USA

OBJECTIVES: 1) To evaluate adherence to chronic disease (Diabetes, Hypertension, and Hyperlipidemia) medications of patients enrolled in an employer sponsored Medication Therapy Management (MTM) program. 2) To determine the effect of adherence on the clinical outcomes of patients with diabetes and hypertension in the MTM program. **METHODS:** This was a retrospective, longitudinal study. Adherence data was obtained from an independent pharmacy participating in an employer sponsored MTM program in the form of pharmacy refill records for 272 patients. Clinical data was obtained through patient chart reviews. Medication adherence was calculated using Medication Possession Ratio (MPR) and weighted average adherence was calculated for each class of medications. Pearson correlation was used to determine the relationship between medication adherence and desired clinical outcomes-HbA1c for diabetic patients and mean arterial pressure for hypertension patients. Multiple linear regression was used to determine if medication adherence was a predictor of clinical outcomes. Data analysis was performed using SPSS version16.0 and Microsoft Excel. **RESULTS:** Pearson correlation results indicated that MPR to diabetic medications was significantly correlated with age ($r = 0.387$, $p = 0.000$) and gender ($r = -0.167$, $p = 0.021$). Further, age was significantly correlated with number of diseases ($r = 0.278$, $p = 0.000$) among diabetic patients. However, there were no significant predictors of change in A1c among diabetic patients. Among hypertension patients, change in mean arterial pressure was significantly correlated with gender ($r = 0.123$ $p = 0.037$) and MPR ($r = -0.146$, $p = 0.013$). MPR was also found to be significantly correlated with gender ($r = -0.148$, $p = 0.012$, co-pay ($r = 0.142$, $p = 0.016$), and number of diseases ($r = 0.142$, $p = 0.016$). Regression model for hypertension patients indicated that MPR ($\beta = -0.136$, $p = 0.024$) was a significant predictor of change in mean arterial pressure. **CONCLUSIONS:** Patients enrolled in an employer sponsored MTM program showed high weighted average adherence to most of the classes of diabetes, hypertension, and hyperlipidemia medications. This study also identified predictors of clinical outcomes associated with diabetes and hypertension.

PCV108

PATTERNS AND PREDICTORS OF PERSISTENCE OF WARFARIN AND OTHER COMMONLY-UTILIZED CHRONIC MEDICATIONS AMONG PATIENTS WITH ATRIAL FIBRILLATION

Song X[1], Sander S[2], Varker H[1], Amin A[3]

[1]Thomson Reuters, Cambridge, MA, USA, [2]Boehringer Ingelheim Pharmaceuticals, Inc, Ridgefield, CT, USA, [3]University of California, Irvine, Irvine, CA, USA

OBJECTIVES: We examined the patterns of persistence among warfarin and other common chronic medications in patients with atrial fibrillation (AF) and identified predictors of warfarin non-persistence. **METHODS:** We used a national, managed care claims dataset (January 1, 2005-December 31, 2007) to evaluate patterns of persistence in patients with AF. We examined those that filled a prescription for warfarin within 3 months following AF hospitalization discharge and had at least 12-month continuous data prior to and following the first fill. For comparison, we also evaluated patterns of persistence for other selected, chronically-prescribed medications, including branded, generic, once-, twice-, and thrice-daily medications. Non-persistence was defined as failure to refill the medication within 60 days from the run-out date of the prior prescription. Survival models were used to identify predictors of warfarin non-persistency. **RESULTS:** A total of 28,384 patients with AF were identified; 16,036 (56.5%) filled a warfarin prescription shortly following hospitalization for AF. A total of 53.5% of warfarin users were persistent on warfarin for at least 1 year. Among non-persistent patients, average time to non-persistence was 122 (SD 83) days from the first warfarin prescription. Persistence with pioglitazone, sitagliptin, amlodipine, and once- and twice-daily carvedilol were similar to warfarin. While persistence with twice-daily carvedilol was similar to once-daily carvedilol phosphase (60.1% vs. 61.3%, $p = 0.680$), persistence of thrice-daily captopril was significantly worse than that of once-daily amlodipine (27.7% vs. 51.9%, $p < 0.001$). Factors significantly associated with time to non-persistence with warfarin included age, gender, residence in the south and west region, ischemic stroke, urinary tract infection, and warfarin out-of-pocket expense. **CONCLUSIONS:** Persistence with warfarin among patients with AF is consistent with other chronic medications. Persistence with thrice-daily, but not twice-daily therapy was worse than once-daily medication. Factors associated with non-persistence can be used to identify patients and target adherence programs.

PCV110

DISCRIMINATORY POWER OF THE KCCQ IN ESTIMATING HEALTH UTILITIES IN HEART FAILURE PATIENTS

Li Y[1], Whellan DJ[2], Samsa GP[3], Schulman K[1], Reed SD[1]

[1]Duke Clinical Research Institute, Durham, NC, USA, [2]Jefferson Medical College, Philadelphia, PA, USA, [3]Duke Univeristy, Durham, NC, USA

OBJECTIVES: Most economic models in heart failure have been structured using New York Heart Association (NYHA) class to define mutually exclusive health states. With this structure, no utility (i.e. effectiveness) gains are measured in patients who experience important changes in health status but remain in the same NYHA class. We sought to evaluate whether the Kansas City Cardiomyopathy Questionnaire (KCCQ) summary score can further discriminate between patients with lower and higher health utilities within a given NYHA class. **METHODS:** Repeated measures of NYHA class, KCCQ, and EQ-5D utility scores were available from patients enrolled in HF-ACTION, a randomized trial evaluating the effectiveness and safety of exercise training in addition to usual care compared to usual care alone in patients with chronic heart failure. We used generalized estimating equations to regress utility scores on NYHA class and demographic characteristics and to evaluate the impact of adding the KCCQ summary score in the regression models.**RESULTS:** A total of 12,649 sets of assessments were available from 2331 patients. The mean age of the study cohort was 59 years at baseline, 72% were male, 61% were white, and 32% were black. When controlling for age, gender and race, estimated utilities were 0.84 (95% CI: 0.81–0.87) for NYHA class I, 0.80 (95% CI: 0.78–0.83) for class II, 0.75 (95% CI: 0.72–0.78) for class III, and 0.65 (95% CI: 0.61–0.69) for class IV. A one-unit increase in the KCCQ summary score was associated with a 0.0044 (95% CI: 0.0042, 0.0045) increase in the utility weight, and its impact did not significantly vary across NYHA classes. **CONCLUSIONS:** Use of KCCQ summary score in addition to, or instead of, NYHA class may provide more discriminatory power in terms of estimating incremental gains in quality-adjusted life-years afforded by interventions for heart failure.

PCV111

ANALYZING THE RELATIONSHIP BETWEEN CHANGES IN PROS AND CLINICAL ENDPOINTS

Weinfurt K, Lin L, Flynn K

Duke University Medical Center, Durham, NC, USA

OBJECTIVES: To demonstrate a simple, powerful, and flexible approach to modeling the relationships between patient-reported outcomes and clinical measures over time. **METHODS:** Data were from 2,331 patients enrolled in the HF-ACTION (Heart Failure and A Controlled Trial Investigating Outcomes of Exercise TraiNing) trial. The patient-reported endpoint was the Kansas City Cardiomyopathy Questionnaire (KCCQ) overall score and the clinical endpoint was peak VO2. We compared three different ways of measuring the association between changes in the KCCQ and peak VO2. The first method (SIMPLE) computes change-from-baseline scores for each outcome. The second method (BLUP-1) used a linear mixed-effects model for each outcome to derive the best linear unbiased predictions (BLUP) of changes from baseline. The third method (BLUP-2) added 28 baseline covariates and their interactions with time to the mixed model and then obtained BLUPs. For all three methods