OBJECTIVE: To describe persistence patterns in the use of statin therapy in a U.S. managed care population. METHODS: Three years of pharmacy and eligibility claims data from a managed care health plan with over two million members were utilized. Patients with at least one paid statin prescription claim in 2002 were identified. Those with continuous eligibility for six-month pre- and two-year post-index statin prescription and no statin claims in a six-month washout period were included. Patients with statin prescriptions filled at mail order pharmacies were excluded. Individuals were followed for 2 years and proportion of days covered (PDC) was calculated at 6, 12, 18, and 24 months to assess medication persistence. Days supplied for overlapping refills and last censored fill were adjusted to account for changes in statin therapy, early refill, and days supplied beyond the study period. RESULTS: A total of 14,047 patients met the study criteria. Twenty percent were greater than 65 years of age, 56% were male, 20.5% had at least one diabetes-related prescription, 63.5% had atorvastatin as index drug, and median age was 55. Mean PDC at 6, 12, 18, and 24 months were 0.63, 0.54, 0.49, and 0.47 respectively. At 6 months, only 42.1% of the study population remained adherent with their statin therapy, with PDC of at least 80%. By 24-months, only 26% were adherent. Patients taking diabetes related medications had higher prevalence of adherence than their non-diabetic counterparts after 6 months and this trend continued for all subsequent time intervals over two years (p < 0.002). CONCLUSIONS: Adherence rate of statin therapy remains suboptimal in this managed care population. Programs to maintain patients on statin therapy are essential to improve health outcomes and reduce drug wastage costs due to therapy non-compliance.

PCV51
OUTPATIENT DISCONTINUATION AND RESTARTING OF POST-MYOCARDIAL INFARCTION BETA-BLOCKER THERAPY
Do TP, Gardner JS, Johnson ES, Blough DK, Heckbert SR
University of Washington, Seattle, WA, USA

OBJECTIVE: To estimate the one-year cumulative incidence of discontinuation of post-MI beta-blocker therapy after hospital discharge and the one-year cumulative incidence of restarting therapy following discontinuation. METHODS: We conducted a retrospective, population-based, inception cohort study among all enrollees (n = 1334) of Group Health Cooperative (GHC, a health maintenance organization) aged 30–79 years who survived a first hospitalized MI during 1986–1996 (mean follow up 1.4 years) and were discharged from the hospital on beta-blocker therapy. Using the GHC computerized pharmacy database, we calculated the duration of therapy by assuming subjects were on therapy in a U.S. managed care population.

PCV52
MEDICATION ADHERENCE: PREDICTORS AND IMPACT ON HOSPITALIZATION RISK
Agarwal S, Hansen JE
Wolters Kluwer Health, Phoenix, AZ, USA

OBJECTIVES: The objectives of this study were to investigate factors associated with adherence to medications for diabetes and hyperlipidemia, and to assess the impact of adherence on hospitalization risk. METHODS: Administrative claims and cash prescriptions data from Wolters Kluwer Health’s IHR database were utilized. This extensive database provides longitudinal prescription history on about 157 million patients, prescription and physician services’ history on about 35 million, and prescription, physician services’ and hospitalization history on about 6 million patients. Adult patients initiating therapy for either condition between July 2003 and June 2004 and having claims activity in the 12 months period prior to and following the index prescription were identified. A Medication Possession Ratio (MPR) 80% was considered to be indicative of adherence. Hospitalization risk was defined as the probability of being admitted to a hospital in post-index period. Logistic regression was employed to identify predictors of adherence including: age, gender, payer type, charlson index, chronic disease score, presence of disease conditions and pill burden. Relationship between hospitalization risk and adherence was also modeled using logistic regression after adjusting for the same covariates described previously. RESULTS: About 48.4% of the 116,607 diabetes patients and 38.5% of the 285,853 hyperlipidemia patients were adherent. Predictors of improved adherence in both disease groups were male gender, being a Medicaid beneficiary, a higher chronic disease score and lower pill burden. Comorbid diseases including AML, CAD, CHF, stroke and hyperlipidemia were associated with higher adherence in the diabetes group. For both disease conditions, hospitalization risk was significantly higher in non-adherent patients [Diabetes OR: 1.47 (p < 0.0001), Hyperlipidemia OR: 1.24 (p < 0.0001)]. CONCLUSIONS: Adherence to therapy is suboptimal for diabetes and hyperlipidemia, two chronic diseases that are major drivers of health care spending. Furthermore, non-adherent patients faced a significantly higher risk of hospitalization compared to adherent patients.

PCV53
STATIN NONCOMPLIANCE AFTER CHD HOSPITALIZATION AND SUBSEQUENT HOSPITALIZATION AMONG NEW STATIN USERS
Ye X, St.Peter WL, Gross CR, Xuan J
13 Magrify, An Ingenix Company, Eden Prairie, MN, USA, 2University of Minnesota, Minneapolis, MN, USA, 3Pfizer Inc, New York, NY, USA

OBJECTIVES: Examine the relationship of statin noncompliance to subsequent hospitalization among new statin users after coronary heart disease (CHD) hospitalization. METHODS: Medstat Marketscan 1999–2002 databases including inpatient, outpatient and pharmacy claims were utilized for this study. The first statin prescription fill date within six months of CHD hospitalization was identified as the index date. The sample consisted of adults who had no statin use during the year prior to the CHD hospitalization and had at least 2-years continuous
enrollment after the index date. Medication possession ratio (MPR) was calculated as the ratio of total days supply of statins to the total days during the first year after the index date (initial use period). Statin noncompliance was defined as having a MPR less than 80%. The outcome was hospitalization during the year following the initial use period. Association of statin noncompliance in the initial use period to subsequent hospitalization was examined by multiple logistic regression, controlling for age, gender, region, comorbidity, prior hospital admission and number of drug therapeutic classes in the initial use period.

RESULTS: A total of 3063 subjects met the inclusion criteria and were included in the analysis. A total of 1170 (38.2%) had a MPR less than 80% in the initial use period. Compared with patients who were compliant to statins, noncompliant patients were about 40% more likely to have a subsequent hospitalization (OR: 1.37; 95% CI, 1.13–1.65). Other factors associated with significantly higher risk of subsequent hospitalization included female gender, older age, higher Charlson comorbidity index score, higher number of drug therapeutic classes, and prior hospitalization in the use period. CONCLUSIONS: Statin noncompliance in the year after CHD hospitalization was common among new statin users and associated with higher risk of subsequent hospitalization. These findings suggest that interventions to improve compliance could reduce risk for hospitalization.

**PCV54**

**DETERMINANTS OF TREATMENT PERSISTENCE IN A GERMAN HYPERTENSIVE POPULATION**

Annemans L1, Spaepen E1, Nash C1, Vincze G1, Khan ZM1

1HEDM-IMS Health, Brussels, Belgium, 2IMS Health, Brussels, Belgium, 3IMS Health, London, UK, 4Novartis Pharma AG, Basel, Switzerland, 5Novartis Pharma AG, Basel, Switzerland

OBJECTIVE: To identify key drivers of non-persistence on therapy, using multivariate regression techniques, based on IMS Disease Analyzer Germany (DA) data. METHODS: DA is a longitudinal patient database containing de-identified patient records collected from 400 practices (290 GPs and 110 Internal Specialists) treating currently active hypertensive patients. We identified a cohort of hypertensive patients being prescribed valsartan, metoprolol, ramipril, enalapril, lisonopril, amiodipine or hydrochlorothiazide (HCTZ), within the period 2003–2004. Patients had at least 12 months of data prior to, and following their index date (date of first prescription of the study drug within the window). History of hypertension was defined as the difference between diagnosis date and index date. Patients who start on monotherapy of study drugs and those who start on combination therapy involving at least one of the study drugs were analyzed separately. Medication persistence was defined as the total time on a drug, from initiation of therapy to the end of the last supplied prescription for that drug without intervening discontinuation. RESULTS: A total of 42,991 patients were analyzed, of whom 61.7% discontinued study medication within 12 months post-index. Cox-regression showed that heart failure (Hazard Rate to discontinue therapy; HR = 1.04), renal disease (HR = 1.072), and not being treated with valsartan (HR = 1.07 to 1.359) independently and significantly increased the probability of being non-persistent. Older age (HR = 0.999 per year), male gender (HR = 0.948), >6 mo history of hypertension (HR = 0.87), dyslipidemia (HR = 0.96), recent stroke (HR = 0.891), and receiving combination therapy (HR = 0.92) were significantly associated with improved persistence. CONCLUSION: Different demographic and clinical factors are independently associated with persistence to antihypertensive therapy. Patients on valsartan were 7 to 36% more likely to persist compared to patients taking other frequently used antihypertensive medications. Considering such factors is important to identify patients most likely to discontinue therapy and to avoid achieving suboptimal therapeutic outcomes.

**PCV55**

**ADHERENCE MEASURES: SO MANY TO CHOOSE FROM, WHAT IS THE DIFFERENCE?**

Hutchins DS, Lewis M, Young C

Caremark, Scottsdale, AZ, USA

OBJECTIVES: To compare several adherence metrics across different therapeutic conditions, which might complicate these associations. METHODS: Plan participants dispensed lipid lowering, antihypertensive, or selective serotonin reuptake inhibitor between January 1, and June 30, 2004, had their same class prescriptions extracted for six months before and one year after their first prescription from a large deidentified US prescription database. Lipid-lowering (n = 102,067), antihypertensive (n = 139,333), and SSRIs (n = 59,439) plan participants without a same-class prescription in the pre-period had: number of prescriptions—prescription count adjusting 3–1 for mail-retail; persistent period—first minus last fill date; length of exposure—persistent period plus days supply on last prescription; total days—sum of all days supply; unique days—sum of days with exposure to drug; medication possession ratio—sum of days supply divided by length of exposure (variable) or study period (fixed); proportion of unique days—sum of days with exposure divided by length of exposure (variable) or study period (fixed); and continuous days—days spanned before a break in therapy calculated over the post-period. Results for these adherence metrics were divided into equal parts for comparisons. RESULTS: The measures were grouped into: 1) MPR variable and PUD variable, 2) unique days 3) MPR fixed, PUD fixed, total days, length of exposure, and number of prescriptions; 4) persistent period; 5) continuous days. Differences among the groups started within the first 30 days, with group 1 having values less than 1 percent and the continuous group having more than 20%. Groups 1 and 2 remained lower than the other groups ending at about 50% while the others ended at about 70%. CONCLUSIONS: Differences in how adherence is calculated needs to be considered when estimating benefits. Other metrics that account for dose changes, concomitance, and other complex regimens may need further exploration.

**PCV56**

**PERSISTENCE WITH NEWLY-INITIATED EXTENDED-RELEASE NIACIN VERSUS OTHER LIPID MODIFYING DRUG CLASSES IN CLINICAL PRACTICE**

Kamal-Bahl S1, Burke T1, Watson D1, Wentworth C2, Ma L1

1Merck & Co., Inc, West Point, PA, USA, 2Analytic Consulting Solutions, Wakefield, RI, USA

OBJECTIVE: Niacin is highly effective in raising HDL-C, while lowering LDL-C and triglycerides. However, niacin induced cutaneous flushing may limit patient acceptance. We compared the persistence with newly-initiated ER niacin versus other lipid modifying drug (LMD) classes in recent clinical practice. METHODS: Administrative claims from the Ingenix Lab/Rx Database were used to identify patients aged >20 years who were new users (i.e. no prescription from the same LMD class in the pervious 1-year) of statins, ER niacin, fibrates, bile acid sequestrants (BAS), or ezetimibe between January 1, 2001 and June 30, 2003 and were continuously enrolled for 1 year after LMD initiation. The proportion of days covered (PDC) with each LMD class was calculated in each quarter (1Q–4Q) and over the 1-year period after therapy initiation. Patients were defined as persistent if PDC >= 80%. Generalized linear models