between the compliant/persistent and non-compliant/non-persistent groups for other cardiovascular risk factors (age, diabetes, smoking status, cholesterol, and alcohol).

RESULTS: Compliant patients (those with medication-possession ratios >80%) had 12-month average systolic and diastolic BP values 3.5 mmHg (p < 0.0005) and 0.5 mmHg (non-significant) lower, respectively, than those of non-compliant patients. Assuming these differences remain over time, the Glynn algorithms predict a 4.6% decrease (95% confidence interval 2.4%, 6.9%) in the relative risk of adverse cardiovascular outcomes for men and a 16.3% decrease (95% CI 12.2%, 20.6%) for women. Persistent patients (those remaining on valsartan therapy for 12 months) had final systolic and diastolic BP values 4.1 mmHg and 2.5 mmHg (both p < 0.05) lower than those for non-persistent patients, projecting an 8.4% decrease (95% CI 3.1%, 13.9%) in relative risk of adverse cardiovascular outcomes for men and a 26.6% decrease (95% CI 19.8%, 33.9%) for women. CONCLUSIONS: Compliance with and persistence to hypertension therapy predicted substantial decreases in adverse cardiovascular outcomes. These impacts may also lead to improved patient-reported outcomes and decreased costs, and can be used to assess long-term treatment cost-effectiveness.

PCV60

IMPACT OF ADHERENCE TO ANTIHYPERLIPIDEMIC DRUGS ON TOTAL PHARMACY AND MEDICAL COSTS
El Khoury AC, Shaya FT, Samant ND
University of Maryland, Baltimore, MD, USA

OBJECTIVE: To determine the impact of adherence to antihyperlipidemic drug therapy on patients’ total pharmacy and medical costs, from the payer’s perspective. METHODS: Retrospective database analysis of Maryland Medicaid medical and pharmacy claims for the period January 1, 2001–December 31, 2003. Inclusion criteria: Continuously enrolled patients older than 18 years who had at least one prescription claim for any of the statins. Exclusion criteria: (to obtain incident cohort): Patients who had at least a claim before July 1st, 2002. Non-adherence was defined as a failure to refill a prescription claim. Generalized linear models with a logarithmic link function were used to determine the impact of adherence to statins on medical costs, after adjusting for age, gender, race and comorbidities by constructing a Charlson Comorbidity Index. RESULTS: Total of 2746 patients, 34% male, 44% African-Americans, and 65% older than 63. Patients who adhere to their antihyperlipidemic pharmacotherapy incur 26.08% (p < 0.0001; CI –0.41, –0.19) and 33.25% (p = 0.0002; CI –0.62, –0.19) lower total costs (pharmacy and medical) and medical costs respectively than those who do not. Those between the age of 40 and 63 and those who are African-American incur 19.22% (p < 0.0001; CI –0.31, 0.11) and 14.03% (p = 0.0002; CI –0.25, –0.05) lower total costs than those who are older than 63 and those who are Caucasian respectively. A unit increase in the comorbidity index leads to a 10.13% (p < 0.0001; CI 0.07, 0.12) increase in total costs. CONCLUSIONS: On average, adherence to antihyperlipidemic pharmacotherapy results in lower total costs. More awareness given to adherence patterns on statins could lower the payers’ total medical costs.

PCV61

DETERMINANTS OF ADHERENCE TO STATINS IN A MEDICAID MANAGED CARE POPULATION
Samant ND, Shaya FT, El Khoury AC
University of Maryland, Baltimore, MD, USA

OBJECTIVE: To identify the determinants of drug adherence among statin users in a Medicaid managed care population.

METHODS: Retrospective database analysis of Maryland Medicaid medical and pharmacy claims for the period January 1, 2001–December 31, 2003. Inclusion criteria: Continuously enrolled patients older than 18 years who had at least one prescription claim for any of the statins. Exclusion criteria: (to obtain incident cohort): Patients who had at least a claim before July 1st, 2002. Non-adherence was defined as a failure to refill a prescription claim. Logistic regression models were built to determine the association of age, gender, race, and comorbidities (based on the Charlson Comorbidity Index) with drug adherence. RESULTS: Out of 1997 patients, 61% females, 57% African Americans, and 70% 60 years old or younger. Caucasians were more adherent than African Americans (30% vs. 22%), younger patients less adherent than older patients (24% vs. 26%) and females less adherent than males (22% vs. 28%). In the logistic multivariate model, adjusting for demographics and comorbidities, African Americans (OR 0.68, 95% CI 0.549, 0.841), and males (OR 1.33, 95% CI 1.083, 1.641) were significantly more likely to adhere to statin therapy. CONCLUSION: In this Medicaid population, adherence to statin pharmacotherapy is lower among females and African Americans. The effectiveness of adherence programs may be improved if they are earmarked to these specific subpopulations.

PCV62

UNDERSTANDING PATIENT BELIEFS TO DESIGN MEDICATION ADHERENCE MESSAGING
Foley K1, Hansen LG2
1Thomson Medstat, Philadelphia, PA, USA, 2Thomson Medstat, Northwood, NH, USA

OBJECTIVE: To identify patient segments based on beliefs about medications, reasons for non-adherence, and demographics to inform actionable adherence improvement messaging. METHODS: A total of 5630 patients self-identifying as having high cholesterol responded to the Thomson Medstat PULSE consumer health behavior survey in October–November 2005. These respondents received cholesterol-specific questions about their adherence, beliefs and reasons for non-adherence. Beliefs about the necessity of and concerns about taking cholesterol-lowering medications were assessed via five Likert-scale questions, each with summed scores ranging between 5 and 25. A cut-point of 15 was used to identify high versus low necessity or concern creating four patient segments: high necessity/high concern (HNHC), low necessity/high concern (LHNC), low necessity/low concern (LNLC), high necessity/low concern (HNLC). Non-adherence was measured as skipping, taking smaller doses, delaying, and/or stopping medication fills in the past 30 days. Reasons for non-adherence included: cost, forgetting, experience with the medication, self-assessed need, and convenience. RESULTS: A total of 4737 respondents reported taking prescription cholesterol-lowering medications with 28.1% reporting non-adherence. Non-adherence rates varied significantly among patient segments: 51.6% of LHNC respondents, 36.1% of HNHC, 29.1% of LNLC and 20.8% of HNLC were non-adherent (chi-square p < 0.0001). Type of and reasons for non-adherence also varied. Patients with high concerns were more likely to report taking smaller doses (33.5% of HNHC and 36.5% of LNHC versus 22.4% of LNLC and 20.6% of HNLC) than those with low concerns and they were more likely to be non-adherent due to experiences with medications (26.6% of HNHC and 30.2% of LNHC versus 12.2% LNLC and 8.7% of HNLC). Patient segments also differed by income (chi-square p < 0.0001), education (chi-square p < 0.0001), and health status (chi-square p < 0.0001). CONCLUSION: Creating psychographic patient segments using patient beliefs about medication
necessity and concerns may be useful for crafting actionable messaging to overcome barriers to medication adherence.

**PCV63**

**ASSOCIATION OF ANTIHYPERTENSIVE MEDICATION CLASS WITH BLOOD PRESSURE CONTROL AND PERSISTENCE ON MONOTHERAPY**

Smith KL, Malone DC, Bhandary D
University of Arizona, Tucson, AZ, USA

**OBJECTIVES:** Determine the association between antihypertensive medication class and blood pressure (BP) control and determine persistence of subjects on monotherapy for hypertension in veterans. **METHODS:** Blood pressure (BP) measurements and pharmacy records were obtained from Southern Arizona Veterans Affairs Healthcare System. Variables of interest included demographics, BP measurements, and pharmacy dispensings. Medications classified by VA class codes included ten distinct subclasses. Mean systolic BP (SBP) and diastolic BPs (DBP) were categorized according to JNC-7 classifications. Association of BP control using mean SBP and antihypertensive class was determined. Medication persistence was calculated. Cox proportional hazards analysis was performed to examine the hazard ratio (HR) of discontinuation of medication class. **RESULTS:** A total of 16,195 veterans obtained 49,254 antihypertensive medication dispensings from August 12, 2002 to February 2, 2004. Of these, 4787 received monotherapy. For persons on monotherapy, mean (SD) age was 64.9 ±12.8 years; 93.4% were male. A total of 346 had normal SBP, but 4441 subjects had high SBP. Mean SBP control was significantly different between antihypertensive classes(X2 = 7.9e + 3, p < 0.001). Use of beta-blockers and ACE-inhibitors were more likely to be associated with subjects who had controlled blood pressure, 47.1% and 23.1% respectively. Among subjects with high SBP, beta-blockers and ACE-inhibitors were used in 34.5% and 30.9% of subjects. The likelihood of discontinuing therapy was statistically significantly lower among subjects receiving angiotensin receptor blockers (ARB), (HR 0.31, 95% CI 0.1–0.9). **CONCLUSIONS:** Among veterans taking antihypertensive monotherapy, subjects on beta-blockers were more likely to have controlled BP compared to other antihypertensive medication classes. This could be due to high prescribing rates, not necessarily success or failure as monotherapy. Side effects/preference may lead to different persistence rates between classes, but persons on ARBs were less likely to discontinue therapy. These results should be viewed cautiously since they may have been influenced by unmeasured patient characteristics and formulary considerations.

**PCV65**

**PATIENT ADHERENCE WITH ANTIDIABETIC, ANTIHYPERTENSIVE, AND LIPID-LOWERING MEDICATIONS: EVALUATION OF VETERANS WITH TYPE 2 DIABETES**

Smith KL, Malone DC, Bhandary D
University of Arizona, Tucson, AZ, USA

**OBJECTIVES:** The quality of life (QL) level was a determinant of patient adherence to treatment, while such relationships during routine hypertension management are less clear. The study aim was to evaluate predictors of self-reported adherence to drug therapy and its relation to QL level in patients referred to a specialized hypertension facility. **METHODS:** In a random sample of 338 hypertensives (116 males; aged 49 (43–57) years (median, quartile range)) we performed standardized interview and QL assessment with validated questionnaires: the General Well-Being Adjustment Scale and the Giessen Somatic Complaints Questionnaire. Total Well-Being Index (TWBI) and Total Complaints Intensity (TCI) were calculated in groups of patients (GrA) treated on regular basis (62), (GrB) those taking drugs irregularly (116), and (GrC) ones with known but untreated hypertension (60). The same information was successfully obtained by postal survey for 40 out of 104 patients residing in city area after 61 months (range 32–73) of follow-up. **RESULTS:** In GrC TWBI were the highest (88 (75–99.5) vs. 80 (69–88) in GrA, 80 (71–91.5) in GrB; p-value for Kruskal-Wallis ANOVA 0.032), while TCI was the lowest (20.5 (10.5–34) vs. 33.5 (18–48) in GrA, 29 (16–38) in GrB; p = 0.003). Other compliance predictors were age (42.5 (29.5–50) years in untreated patients vs. 52 (46–59) in GrA, 50 (44–57) in GrB; p < 0.0001) and gender (42% of men vs. 9% of women fell into GrC; p < 0.0001). During follow-up TWBI and TCI did not change significantly in any group, while TCI after follow-up was even lower in patients twice reported absence of regular treatment (15 (12–29) in combined GrB+GrC vs. 36 (25–43) in GrA; p = 0.017). **CONCLUSIONS:** Long-term high QL level seems to be related to low adherence to antihypertensive therapy. QL profile might be promising additional factor for risk stratification during routine hypertension management.

**PCV66**

**THE LEVEL AND LONG-TERM DYNAMICS OF THE QUALITY OF LIFE AS PREDICTORS OF ADHERENCE TO ROUTINE HYPERTENSION MANAGEMENT**

Golubev SA, Mily MN
Vitebsk State University, Vitebsk, Belarus, Vitebsk State Medical University, Vitebsk, Belarus

**OBJECTIVES:** In clinical trials the quality of life (QL) was determined of patient adherence to treatment, while such relationships during routine hypertension management are less clear. The study aim was to evaluate predictors of self-reported adherence to drug therapy and its relation to QL level in patients referred to a specialized hypertension facility. **METHODS:** In a random sample of 338 hypertensives (116 males; aged 49 (43–57) years (median, quartile range)) we performed standardized interview and QL assessment with validated questionnaires: the General Well-Being Adjustment Scale and the Giessen Somatic Complaints Questionnaire. Total Well-Being Index (TWBI) and Total Complaints Intensity (TCI) were calculated in groups of patients (GrA) treated on regular basis (62), (GrB) those taking drugs irregularly (116), and (GrC) ones with known but untreated hypertension (60). The same information was successfully obtained by postal survey for 40 out of 104 patients residing in city area after 61 months (range 32–73) of follow-up. **RESULTS:** In GrC TWBI were the highest (88 (75–99.5) vs. 80 (69–88) in GrA, 80 (71–91.5) in GrB; p-value for Kruskal-Wallis ANOVA 0.032), while TCI was the lowest (20.5 (10.5–34) vs. 33.5 (18–48) in GrA, 29 (16–38) in GrB; p = 0.003). Other compliance predictors were age (42.5 (29.5–50) years in untreated patients vs. 52 (46–59) in GrA, 50 (44–57) in GrB; p < 0.0001) and gender (42% of men vs. 9% of women fell into GrC; p < 0.0001). During follow-up TWBI and TCI did not change significantly in any group, while TCI after follow-up was even lower in patients twice reported absence of regular treatment (15 (12–29) in combined GrB+GrC vs. 36 (25–43) in GrA; p = 0.017). **CONCLUSIONS:** Long-term high QL level seems to be related to low adherence to antihypertensive therapy. QL profile might be promising additional factor for risk stratification during routine hypertension management.