Current data are limited regarding the effects of statins in the naturalistic setting of clinical practice.

**OBJECTIVES:** This study sought to determine the effects of statins on the lipid profile and target LDL-cholesterol (LDL-C) attainment in this setting.

**METHODS:** Patients newly initiated on atorvastatin, fluvastatin, pravastatin, or simvastatin from 1/99 to 6/99 were retrospectively identified from a southeastern U.S. health plan database. A parallel design incorporated four study arms based on the statin prescribed. Exclusion criteria included statin therapy in the prior 6 months, less than 90 days of statin therapy, switching of statin, use of combination dyslipidemia therapy, or non-continuous enrollment in the health plan. Changes in lipid subfractions and attainment of LDL-C goal based on NCEP ATP II guidelines were evaluated with OLS and logistic regression techniques utilizing clinically relevant covariates.

**RESULTS:** A total of 2,429 patients (age = 62 ± 13 years, 47.8% male) were identified. Comorbidities included 73% hypertension, 24% diabetes, and 34% atherosclerotic vascular disease. Median duration of statin therapy was 19.4 months. Patients receiving atorvastatin had significantly greater mean absolute (and percentage) reductions in LDL-C and triglycerides compared to the other statins in both the unadjusted and adjusted results (all p < 0.05 vs. atorvastatin). Differences in HDL-cholesterol (HDL-C) were small, however, a statistically significant increase was observed with simvastatin compared to atorvastatin (p < 0.05). Also, a significantly greater percentage (unadjusted, adjusted) of patients reached their NCEP LDL-C goal on atorvastatin (74.0%, 73.0%) compared with fluvastatin (52.0%, 51.0%), pravastatin (58.3%, 56.4%) and simvastatin (69.0%, 69.4%), and atorvastatin patients reached goal faster than the other statins (median: 184 days vs. 215–357 days, all p < 0.05 vs. atorvastatin).

**CONCLUSION:** Patients prescribed atorvastatin had statistically significant improvements in LDL-C and triglycerides, though not in HDL-C, compared to those prescribed other statins. In addition, atorvastatin patients attained LDL-C goal more often and in a shorter timeframe.