Objective: To identify patient factors associated with change in hemoglobin A1C (A1C) with adjunct pioglitazone therapy in routine clinical practice. Methods: This was a retrospective analysis of adult type 2 diabetes mellitus patients in a health maintenance organization setting who were newly initiated on pioglitazone between January 2002 and December 2005. Eligible patients were receiving at least one other oral antihyperglycemic medication prior to initiating pioglitazone and maintained a stable dose of pioglitazone for 90 days. Data on eligible patients characteristics, pharmacy purchases, comorbidities, and A1C measurement 90 days prior to the pioglitazone purchase date (baseline) and 90 days after achieving a stable dose (follow-up) were obtained from electronic records. Multivariate regression modeling was used to assess factors independently associated with: 1) absolute change in A1C, 2) achieving a ≥1 percentage point decrease in A1C, and 3) achieving an A1C<7%. Results: Baseline and follow-up A1Cs were available for 128 patients. At baseline, mean age was 65 years, 38% were female, mean A1C was 8.4%, and 74% had an A1C>8%. At follow-up, the mean A1C change was -1.2 percentage points (interquartile range= -0.4, -2.1), 59% achieved a ≥1 unit decrease in A1C, and 44% achieved an A1C<7%. Independent predictors in all models were baseline A1C and time (in days) between baseline and follow-up A1C measurements (p<0.05). Conclusions: Adjunct pioglitazone therapy in routine clinical practice was associated with clinically meaningful reductions in A1C levels. Patients with higher baseline A1C achieved the greatest absolute reduction in A1C but were less likely to achieve levels <7%

Keywords
Diabetes Mellitus, Type 2, Thiazolidinediones, Regression Analysis, United States.