divided by the duration of time in the data. A regression model explained AUC as a function of rapid transitioning to insulin. A Cox model assessed the relationship between the time to first complication and AUC, rapid transition to insulin and the number of modifications.

RESULTS: A total of 3137 patients satisfied all study entry criteria; 1230 patients were initiated on diet and exercise, 1756 on oral agents, and 151 on insulin. Demographics were comparable. Of patients initiated on diet and exercise 66 switched to insulin in 2.4 months. In the linear regression model explaining AUC ($R^2 = 0.185$), rapid transition to insulin was significant ($-0.19$, $p = 0.04$) indicating that insulin sooner improves blood glucose control. Of the 3137 patients, 954 encountered complications. Time to first complication was negatively related to AUC ($-0.04$, $p < 0.01$) and rapid use of insulin ($-0.45$, $p < 0.01$) with hazard ratios of 0.962 and 0.637 and positively related to the number of modifications ($0.08$, $p < 0.01$) with a hazard ratio of 1.083. CONCLUSIONS: Initial or immediate transition to insulin results in better blood glucose control that reduces the onset of diabetes-related complications.

DIABETES—Cost Studies

THE COMPACT-STUDY: PIOGLITAZONE VS. INSULIN FOR TREATMENT OF PATIENTS WITH TYPE-2-DIABETES MELLITUS—A MEDICAL AND PHARMACOECONOMIC ANALYSIS

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OBJECTIVES: Pioglitazone (PIO), a thiazolidinedione, is a member of a new class of oral antidiabetic agents targeted to treat insulin resistance, the major underlying cause of type 2 diabetes mellitus. Insulin (INS) is believed to be the “gold standard” for achieving optimal glycaemic control. This study is aimed to compare both treatment options with regard to metabolic control and effectiveness under the conditions of daily practice. METHODS: Prospective, controlled, non-randomized observational study where patient selection, allocation to treatment and dose was left at the physicians’ discretion. Quality standards included a central laboratory and a regular monitoring. Primary parameter was the change of HbA1C compared to baseline ($\Delta$HbA1C) where a difference of $<0.5\%$ between both arms was set for defining non-inferiority. Analyses were performed under the perspective of the German Statutory Health Care System. RESULTS: A total of 299 and 218 patients in whom PIO or INS was started for insufficient metabolic control were treated for a mean duration of 26 weeks at 51 specialised out-patient diabetic centres. Adjusted $\Delta$ HbA1C ($-0.72\%$), PIO ($-0.42\%$) and adjusted $\Delta$ Fasting Plasma Glucose ($-24.5\text{mg/dl}$, PIO: $-19.5\text{mg/dl}$, INS) were observed. Responder rates (adjusted $\Delta$ HbA1C $\geq 0.6\%$) were 54.9% (PIO) and 37.2% (INS), respectively. Mean total treatment costs were $\text{€}1207$ (PIO) and $\text{€}1510$ (INS) where mean costs for antidiabetic medication and glucose self-monitoring (dip-stick measurement) could be assessed as $\text{€}646$ (PIO) and $\text{€}774$ (INS). Compared to INS, PIO revealed to be more cost-effective ($\Delta$ HbA1C/$\text{€}1000$) in the insulin resistant (ATP-III), younger ($<64$ years) and more obese (BMI $<30\text{kg/m2}$) individuals with shorter diabetes duration ($<5$ years). For INS a similar trend could not be observed. CONCLUSIONS: PIO proved to be non-inferior to INS treatment in terms of metabolic control as well as cost-effectiveness. Targeting individual patient profiles achieve best possible outcomes.

DIABETES DISEASE MANAGEMENT IS ASSOCIATED WITH PHARMACY SAVINGS IN A MANAGED CARE SETTING

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OBJECTIVES: To compare pharmacy costs for patients fulfilling HEDIS® for diabetes in an HMO disease management program (DDM) vs. those not in the program.

METHODS: We analyzed HMO paid drug costs among 1362 continuously enrolled GHP members with prescription coverage who met HEDIS® criteria for diabetes January 1, 2000 to December 31, 2001. We compared patients in an opt-in “DDM” versus those not enrolled. Multiple linear regression was used to control for the impact of age and gender.

RESULTS: Of 1362 patients fulfilling criteria, 1273 (93.5%) were in DDM versus 89 (6.5%) not in DDM. The DDM male/female ratio (Program M/F = 52.4%/47.6% vs. Non-program M/F = 58.6%/41.4%, $p = 0.07$) was similar and those in DDM were 1.9 years younger than non-DDM ($5.6$ vs. 57.9 years, $p = 0.15$). Mean pharmacy PMPM paid claims for DDM vs. non-DDM patients was $\$92.24$ (STD = $\$99.18$) vs $\$143.98$ (STD = $\$136.78$), ($t = 4.63$, $p < .0001$). The mean PMPM for DDM vs. non-DDM for insulin for $\$20.17$ Program vs. $\$15.49$, other diabetes medications ($\$29.71$ vs. $\$25.39$) and diabetes supplies ($\$4.31$ vs. $\$5.77$) were not statistically different. The mean PMPM for non-diabetes medications for DDM patients was of $\$61.06$ (STD = $\$81.91$) vs, a mean PMPM of $\$123.34$ (STD = $\$131.97$). After controlling for age and gender, this difference was statistically significant ($p < .0001$).

CONCLUSIONS: We observed lower pharmacy costs for non-diabetes medicines among DDM participants. These data suggest that diabetes disease management is not necessarily associated with an increase in pharmacy costs.