all 12 features were associated with IDS satisfaction \((P < 0.01)\), but only discrepancy scores for “easy to control blood sugar,” “reduces my reluctance to use insulin,” “easy to get insulin dose needed,” and “convenient to use” were significant predictors of IDS satisfaction, as were HbA1C and health status \((R^2 = 0.31; \ P < 0.05)\). CONCLUSION: IDS features are important to patients with T2DM; therefore resolving discrepancies between feature importance and patient evaluation of IDS features may improve patient satisfaction and facilitate diabetes management.

**PD661**

**PREDICTORS OF INSULIN DELIVERY SYSTEM USE IN PATIENTS WITH TYPE 2 DIABETES**

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OBJECTIVE: Understanding what Insulin Delivery System (IDS) features are important to patients with type 2 diabetes (T2DM) is essential to the development of improved IDSs. The objective of this study was to determine what characteristics are associated with (or predict) users of insulin pens vs. vial and syringe (V/S).

METHODS: Patients with T2DM were administered a web-based survey that included questions about demographics, comorbidities, glycemic control, and insulin use; ratings of the importance of 12 IDS features; and an evaluation of features of the current IDS. Two logistic regression analyses were performed with the respondent characterization of their IDS as insulin pen or V/S as dependent variables. Variables significantly \((p < 0.05)\) associated with dependent variables, a priori, were included as independent variables.

RESULTS: A total of 681 insulin-using T2 patients in the US (52% female; mean age = 57 years; 88% Caucasian; 85% on insulin > 1 year; 86% used V/S) participated in the survey. Significant predictors \((p < 0.05)\) for insulin pen use: Patient: “is a homemaker” \((OR = 0.177)\), “agrees their IDS does not interfere with plans for short trips” \((OR = 0.942)\), “agrees their IDS is easy to carry away from home” \((OR = 0.05)\), “rates their IDS ease to carry away from home as ‘important’” \((OR = 2.538)\), “uses Byetta” \((OR = 0.067)\), “injects insulin > twice/day” \((OR = 0.235)\), “has never been diagnosed with depression” \((OR = 0.367)\). Significant predictors \((p < 0.05)\) of V/S use: Patient: “is dissatisfied with their IDS regarding insulin use” \((OR = 1.117,767)\), “disagrees their IDS makes it easy getting ready for next dose” \((OR = 0.006)\), “has cancer” \((OR < 0.0001)\), “uses Glargine” \((OR < 0.0001)\), “is not using insulin lispro” \((OR = 0.013)\), “has a higher number of adults in the household”, “rates IDS discreetness as ‘least important’” \((OR, 206.347)\).

CONCLUSION: Overall, multiple injections and need for portability predict insulin pen use; not valuing discreetness and dissatisfaction predict V/S use.

**DIABETES/ENDOCRINE DISORDERS—Health Care Use & Policy Studies**

**PD662**

**DETERMINANTS OF INSULIN INITIATION FOR PATIENTS WITH TYPE 2 DIABETES**


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OBJECTIVE: To examine the effects of sociodemographic characteristics, health status, comorbidity, provider, medication and financial variables on insulin initiation behavior for type 2 diabetics on multiple oral antidiabetic medications.

METHODS: The 2002–2006 MarketScan Research Databases were used to study the health care utilization and expenditure patterns of adults with type 2 diabetes in employer-sponsored health plans in the United States. The utilization patterns of 38,768 patients with Type 2 diabetes who were adherent to one oral antidiabetic medication and added a second oral medication for at least 6 months were analyzed. Two outcomes were examined: insulin initiation within 12 months and the amount of time to insulin initiation. Multivariate logistic models were used to estimate the effects of the explanatory variables on the likelihood of insulin initiation. Cox proportional hazard models with prescription drug and office visit copayments as time-varying covariates were used to estimate the effects of the explanatory variables on the amount of time to insulin initiation.

RESULTS: A total of 16.5% of patients initiated insulin within one year. A variety of determinants were associated with insulin initiation within a year: age (Adjusted Odds Ratio 0.982, 95% CI (0.980, 0.985)), health status indicated by the presence of factors such as heart disease \((AOR 1.48\ (1.317, 1.654))\), myocardial infarction \((AOR 1.32, (1.068, 1.640))\), diabetic retinopathy \((AOR 1.26, (1.120, 1.406))\), the number of nondiabetes medications \((AOR 1.03, (1.030, 1.039))\), and insulin copayments \((AOR 0.998, (0.995, 1.000))\). The amount of time to insulin initiation was also affected by similar factors.

CONCLUSION: Health status appears to be the strongest predictor of insulin initiation in patients initiating insulin for type 2 diabetics who are adherent to oral medications. Providers, health plans and employers should be aware of the factors that influence the addition of a medication to a treatment regimen for chronically-ill patients.

**PD663**

**AN ECONOMIC EVALUATION OF A DIABETES DISEASE MANAGEMENT PROGRAM FOR ADULT MEDICAI DENTS IN THE STATE OF COLORADO, UNITED STATES**


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OBJECTIVE: To evaluate the one to two year changes in health care costs and disease-related process measures associated with the a disease management program initiated in 2002 for higher-risk, higher-expenditure adult fee-for-service Medicaid clients with diabetes in the State of Colorado, United States.

METHODS: This retrospective database analysis employed a pre-post and propensity-score matched analysis assessing direct costs from the perspective of a public payer. Data analyzed included comprehensive medical and pharmacy claims, patient demographics (i.e., age, gender, race), medical and pharmacy resource utilization claims (e.g., selected prescription drug use and laboratory testing procedures conducted), diagnostic information, and eligibility/enrollment status. Multivariate regression techniques were utilized to ascertain differences between the disease management and matched comparator groups.

RESULTS: Of the 388 Medicaid clients that were eligible and initially contacted for enrollment, 41 (11%) completed at least one year and 10 (3%) completed an entire two years of the program. Enrollees were typically older, female, and of a non-white race or ethnicity. Among those enrolled for one year or more, significant decreases in overall medical costs were observed relative to matched comparators during both Year 1 and Year 2 of the interventions \((Year 1 = 44.4\% \text{ decrease}, \ p < 0.001 \text{ and Year 2 = 67.1\% decrease, } p < 0.010)\). Overall pharmacy costs were lower for the disease management group during Year 2 \((64.0\% \text{ decrease}, \ p = 0.013)\), as were diabetes-related pharmacy costs \((64.9\%, \ p = 0.005)\). Effect sizes based upon multivariate analyses were observed to be small.

CONCLUSION: Based on this analysis of 41 clients completing at least one year of diabetes...