UTILIZATION OF ANTIDIABETIC MEDICATIONS OF PATIENTS WITH TYPE 2 DIABETES COVERED BY VARIOUS TYPES OF HEALTH INSURANCE IN A US NATIONAL REPRESENTATIVE POPULATION IN YEAR 2005–2006

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OBJECTIVES: The impact of various medical insurance structures on the quality of care is not clearly understood. Drug utilization patterns of type 2 diabetes patients may be affected by health care access, which vary across various types of health insurance and may lead to disparities in disease control and clinical results. METHODS: A cross-sectional analysis was conducted on data from the National Health and Nutrition Examination Survey (NHANES) 2005–2006. Based on data from 7,667 adults aged 20 years and older with diagnosed type 2 diabetes were classified as patients with commercial insurance, Medicare and/or Medigap, Medicaid, multiple insurance, other types of insurance and no health insurance coverage. Likelihood of oral anti-diabetic medications, insulin or combinations and the likelihood of having successful Glycemic control were modeled with multi-variables logistic regression analyses with adjustment for age, gender, BMI, ethnicity, diabetic complications, household incomes and important co-morbidities. RESULTS: A total of 401 diabetic patients were included in the analysis. Compared to commercially-insured patients, patients under Medicare (OR = 1.36, 95% CI: 0.62, 3.00) or Medicaid (OR = 2.32, 95% CI: 0.76, 7.04) were more likely to be treated with insulin, but less likely to receive oral anti-diabetic medications (OR = 0.19, 95% CI: 0.09, 0.40 for Medicare; OR = 0.19, 95% CI: 0.07, 0.51 for Medicaid). The likelihood of having successful glucose control varied but was not significantly different across types of plans (p > 0.05). CONCLUSIONS: Treatment patterns varied across various types of health insurance plans and might have impact on the optimum quality of care and expenditure implications.

THE EFFECT OF VALUE-BASED INSURANCE DESIGN ON ADHERENCE TO DIABETES MEDICATIONS: A MATCHED DIFFERENCE IN DIFFERENCE EVALUATION

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OBJECTIVES: To evaluate the impact of value-based insurance design (VBID) on adherence to diabetic medications. METHODS: Health Alliance Medical Plans of Illinois piloted VBID by placing at least one diabetic drug in each class at Tier 1 with a $10 copayment for a subgroup of 3400 enrollees in January 2007, while keeping copayments unchanged for all other enrollees. A matched-difference-in-difference method (DID) was used to evaluate the effect of VBID, based on pharmacy claim data. Patients with unchanged benefits in the same plan were used as the control group. Patients included in the analysis needed to be continuously enrolled from January 2006 to December 2007 and have used diabetic medications in both years. Adherence was measured by the proportion of days covered (PDC). A logistic model was used to model the probability of having PDC = 0.8. A 1-to-1 matched control group was generated based on propensity score. RESULTS: There were 71 patients in the case group and 5037 patients in the control group. The matched control group had 71 patients with similar propensity scores. The baseline characteristics were balanced between the case group. After the implementation of VBID, the average copayment for diabetic medications decreased from $21.70 to $14.00 for the case group and increased from $19.60 to $22.00 for the matched control group. The probability of being adherent increased from 69% to 79% for the case group and decreased to 72% to 70% for the matched control group. The matched DID model showed that VBID increased the probability of being adherent: OR = 1.84, 95% CI: 0.96–3.54, p = 0.068. The full sample DID estimated OR = 1.56 with p = 0.068. CONCLUSIONS: A VBID program that reduced the copayment for diabetic medications by 33% improved the odds of being adherent by 84% and reduced the number of non-adherent patients by 35%.

MEDICATION NONADHERENCE AND POTENTIALLY AVOIDABLE HOSPITALIZATIONS AMONG PATIENTS WITH DIABETES

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OBJECTIVES: To examine the association between medication adherence and potentially avoidable hospitalizations (PAHs) among Medicare part D enrollees with diabetes. METHODS: A longitudinal retrospective cohort study of 493,609 Medicare part D enrollees with diabetes from 6 states (Alabama, California, Florida, Mississippi, New York and Ohio) who had filled at least 1 prescription for oral hypoglycemics, angiotensin-converting enzyme inhibitors/angiotensin II receptor blockers, and statins. Adherence was calculated as proportion of days covered for all three classes of medications during Part D records for the last 6 months of 2006. A summary measure of adherence was computed for each patient as an ordinal variable – adherent to none, any one class, any two classes and all three classes of medications. Medicare part A records for the next nine months were used to identify PAHs, as defined by the AHRQs Preventive Quality Indicators. A logistic regression was used to assess the association between nonadherence and PAHs. RESULTS: A total of 16.2%, 15.7%, 27.3% and 40.8% of patients were adherent with none, any one class, any two classes and all three classes of medications respectively. A total of 23,222 (4.7%) patients had at least one PAH, 0.12% had an admission due to diabetes short-term...