OBJECTIVES: Patients who do not incorporate diet modifications in their therapy regimen may experience undesirable escalation in blood glucose levels leading to hyperglycemia and chronic complications. The objective of this study is to investigate the prevalence of diabetic patients who incorporate diet modification in their therapy, and its association with health care utilization and expenditures for the US. METHODS: Administrative claims databases used for this study included the Kaiser Permanente Washington (KP-1) and Kaiser Permanente Northern California (KP-2) populations, with a quasi-experimental design approach. Subjects included were patients who reported being diagnosed with diabetes and reported the treatment of diabetes with diet modification as of March 31, 2011. Those with diabetes, who used insulin, or did not have a diagnosis of diabetes were excluded. It was assumed that differences in day-to-day health care resource utilization and costs were attributable to diet modification. Multivariate regression analyses were used to examine the impact of diet modification on direct medical costs per patient per month (PPM). RESULTS: The study included 10,070 KP-1 patients who reported using diet modification and 8,969 who did not. PPM costs for patients who reported diet modification were $1,562.45 and $1,595.79, respectively. The adjusted PPM costs were $1,557.45 and $1,595.79, respectively. CONCLUSIONS: The results suggest that diet modification had a statistically significant impact on incarcerating costs. More research is necessary to further investigate the potential benefits of using diet modifications in diabetes management.

PDB37 TREATMENT OF BRAZILIAN CHILDREN WITH GROWTH HORMONE DEFICIENCY AND TURNER SYNDROME: IMPLICATIONS OF A DATA-DRIVEN APPROACH TO GUIDE DECISIONS
Silva MA1, Mello IM2, Fernandes RA3, Almeida BCB1, Ferreira CN4, LoFus F2
1ANAPA, Rio de Janeiro, Brazil, 2Pfizer, Inc., São Paulo, Brazil, 3Pfizer Ltd, Tadworth, UK

OBJECTIVES: The objective of this study was to evaluate the impact of a data-driven approach to treatment on height outcome and total GH cost from the Pfizer International Growth Database (KIGS). This model was adapted to patients for whom height outcome could be improved or GH use could be reduced. Our study was based on a propensity score method and impact on height outcome when a data-driven approach is used, compared to conventional treatment approach based on experience, in pre-pubertal patients with growth hormone deficiency (GHD) and Turner syndrome (TS).

METHODS: A model of the economic impact of treatment had been developed previously to study height outcome and total GH cost from the Pfizer International Growth Database (KIGS). This model was adapted to Brazilian patients, for both private and public perspectives, resulting in 4 scenarios: (1) Genotropin 16UI private; (2) Genotropin 36UI private; (3) Genotropin 16UI public; (4) Brazilian patients for whom height outcome could be improved or GH use could be reduced.

RESULTS: The analysis used a 4-year time horizon. Effects were defined as height outcome after 4 years and total treatment cost. RESULTS: The model was used to estimate the costs of health care resources and impact on height outcome when a data-driven approach was used, compared to conventional treatment approach based on experience, in pre-pubertal patients with growth hormone deficiency (GHD) and Turner syndrome (TS).

CONCLUSIONS: The study findings indicated that diabetic patients with diet modification had significant lower utilization and expenditures. Regulating diet is extremely important for people who have diabetes. It can be very effective in preventing or postponing the progression of diabetes, and subsequently managing the cost and utilization associated with it.

PDB38 COMPARISON OF THE DOUBLY ROBUST ESTIMATION METHOD TO THE PROPENSITY SCORE METHOD IN A DIABETES-RELATED COMPARATIVE HEALTH ECONOMICS STUDY
Sato E1, Lin F2, Leung KA2, Ng S3
1Kaiser Permanente research Group, Indianapolis, IN, USA, 2Novo Nordisk Inc, Princeton, NJ, USA

OBJECTIVES: To compare the doubly robust estimation and propensity score methods used in a diabetes-related comparative health economics study. METHODS: We used large US claims databases that covered 115 million patients between 2000 and 2011. Patients with type 2 diabetes with continuous health insurance were selected into the intensification cohort or non-intensification cohort depending on whether they intensify or maintain their basal insulin with insulin aspart or remained on treatment with basal insulin without bolus insulin. The study measured the patients' demographic and impact on direct medical costs per patient per month (PPPM).

RESULTS: The study included 26,016 qualified patients with 2,860 in the intensification cohort and 23,156 in the non-intensification cohort. Baseline characteristics were similar. The models were run for the two cohorts (mean age: 58 years, percentage male: 52%). Both cohorts also had similar prevalence rates of diabetes-related conditions, and similar utilization and medical costs in the pre-baseline period. Multivariate regression analyses were used to examine the impact of intensification cohort spent $297.4 PPPM less in the post-baseline period than the non-intensification cohort (p<0.05), while the doubly robust estimation method estimated a $399.0 PPPM cost reduction due to treatment intensification (p<0.001). The doubly robust estimation method was able to control all confounding factors also controlled by the propensity score method, as well as additional confounding factors not controlled by the propensity score method.

CONCLUSIONS: Although both the propensity score and doubly robust estimation methods revealed cost savings due to treatment intensification with insulin aspart ($297.4 vs. $399.0 PPPM), the propensity score method was less robust to unobserved confounding factors than the doubly robust estimation method.