PDB85

EVALUATION OF STATIN THERAPY PRESCRIBING AMONG HOSPITALIZED PATIENTS WITH TYPE 2 DIABETES MELLITUS: FINDINGS FROM TWO MALAYSIAN TERTIARY HOSPITALS

Elnaem MH[1], Nik Mohamed MH[1], Huri HZ[1], Azarisman SM[1]
[1]International Islamic University Malaysia, Kuantan, Malaysia, [2]University of Malaya, Kuala Lumpur, Malaysia

OBJECTIVES: The data regarding statin therapy prescribing among Malaysian patients with type 2 diabetes mellitus (T2DM) is lacking. This study was aimed to describe the prevalence of statin prescribing in Malaysian T2DM patients at two tertiary hospitals in the state of Pahang, Malaysia and to assess the appropriateness of statins prescribing according to the 2015 CPG on the treatment of T2DM. **METHODS:** A cross-sectional study was conducted between September to December 2016. The study involved hospitalized T2DM patients aged between 40 to 75 years without any contraindications to receiving statins. The study protocol obtained an ethical approval from the Malaysian National Medical Research Register. Assessment of current statin prescribing was classified as appropriate (proper statin was prescribed with no drug interactions) or inappropriate (not receiving any statins, although no contraindications) or adjustment needed (drug interactions or renal dose adjustment). **RESULTS:** A total of 393 cases were collected from the two hospitals. The prevalence of statins prescribing was about 65% (257/393). The most commonly prescribed statin was simvastatin 40 mg (53.3%) followed by simvastatin 20 mg (24.1%) and atorvastatin 40 mg (12.4%). The majority of the prescribed statins (82%) were moderate intensity ones. The evaluation of statins prescribing showed that approximately 35% of patients were not prescribed with statins contradictory to the national guidelines. About 26% of the study cases were given drugs that interact with statins. Renal dose adjustment of the given statin was detected in 5% of patients. Finally, one-third of patients were prescribed with appropriate statins. **CONCLUSIONS:** Prescribing of statins during hospitalization need to be improved to ensure eligible T2DM patients receive adequate CVD prophylaxis. Closer monitoring and/or intervention are warranted to assure that hospitalized T2DM patients are taking the proper statin dose without significant drug interactions. All initiatives to enhance statins prescribing should be considered.

PDB87

ASSOCIATION BETWEEN CARDIOVASCULAR COMORBIDITIES AND HEALTH CARE EXPENDITURES AMONG PATIENTS WITH DIABETES

Lin D, Zhang S, Thomas III J
Purdue University, West Lafayette, IN, USA

OBJECTIVES: Cardiovascular (CV) disease is two to four times more prevalent in patients with diabetes than in those without diabetes. This study sought to quantify the impact of CV comorbidities on health care expenditures among patients with diabetes. **METHODS:** A sample was drawn from 2014 Medical Expenditure Panel Survey (MEPS). Adults aged 18 years or older with self-reported diagnosis of diabetes were included. Individuals with missing data on any study covariates were excluded. Patients were classified as having cardiovascular comorbidity if they reported having ever been diagnosed with any of the following conditions: hypertension, coronary heart disease, angina or angina pectoris, heart attack or myocardial infarction, stroke, or other kind of heart disease. A generalized linear model with gamma distribution and log link were used to assess association between CV comorbidity and healthcare costs among patients with diabetes. The model adjusted for age, gender, race, education, family income, insurance coverage, self-perceived health status and duration of diabetes. The MEPS sampling weights were used to adjust for the complex survey design. **RESULTS:** A total of 2,022 individuals met study criteria, and 1,656 (81.9%) had one or more CV comorbidities. Patients with CV comorbidity were older than those without CV comorbidity (62.3 years vs. 52.2 years, p<0.001). There was no significant difference in prevalence of cardiovascular comorbidity among males and females (83.6% vs. 80.6%, p=0.091). Non-whites had higher prevalence of CV comorbidity than whites (85.2% vs. 80.0%, p=0.004). The unadjusted cost associated with CV comorbidity was, mean (95% confidence interval, "C.I."), 7,454 (C.I.=5,541 to 9,366, p<0.001) U.S. dollars (USD) per year. After adjusting for study covariates, estimated cost associated with CV comorbidity decreased to 5,287 (C.I.=2,911 to 7,663, p<0.001) USD per year. **CONCLUSIONS:** Cardiovascular comorbidity is a significant contributor to healthcare expenditure in patients with diabetes with annual associated cost of 5,287 USD.

PDB88

HEALTH CARE RESOURCE UTILIZATION AND COSTS OF PATIENTS WITH TYPE 2 DIABETES TREATED WITH DULAGLUTIDE VS. EXENATIDE QW OR LIRAGLUTIDE IN THE US

Mody R[1], Alatorre C[1], Yu M[2], Fernandez Lando L[3], Davis B[4], Juneau P[5]
[1]Eli Lilly and Company, Indianapolis, IN, USA, [2]Eli Lilly and Company, Toronto, ON, Canada, [3]Lilly USA, Indianapolis, IN, USA, [4]Truven Health Analytics, Ann Arbor, MI, USA, [5]Truven Health Analytics, Boyds, MD, USA

OBJECTIVES: Fernández Landó et al. [Diabetologia(2016) 59(Suppl 1):S1–S581] showed that patients with type 2 diabetes (T2D) treated with dulaglutide have higher adherence and persistence over 6 months vs. exenatide once weekly (EQW) or liraglutide patients. The objective of this secondary analysis was to describe diabetes-related resource utilization and costs over the same 6-month post-index period. **METHODS:** This analysis utilized Truven Early View data to identify patients newly initiating GLP-1 RAs between 11/2014 and 04/2015. Index treatment was identified in hierarchical order (dulaglutide, albiglutide, EQW, exenatide twice a day, and liraglutide) with no index drug claim in the pre-index period. Patients ≥18 years old, with ≥1 medical claim with T2D diagnosis and continuous enrollment for 6 months pre- and post-index were included. Diabetes-related medical, pharmacy, and total resource utilization and costs were assessed for a propensity matched sample of patients (dulaglutide vs. liraglutide, dulaglutide vs. EQW). **RESULTS:** The matched cohorts with 2,414 patients per arm for dulaglutide-EQW cohort and 2,037 for dulaglutide-liraglutide cohort were balanced in

baseline demographic and clinical characteristics. The mean±SD number of prescriptions for index drug in the post-index period was higher for dulaglutide vs. EQW (4.0±2.0 vs. 2.9±1.9, p<0.0001) and dulaglutide vs. liraglutide (4.0±2.0 vs. 3.1±1.7, p<0.0001). Dulaglutide patients had similar mean±SD diabetes-related medical costs ($1,093±3,183 vs. $1,164±3,122, p=0.433) compared to EWQ patients but higher pharmacy ($4,822±2,830 vs. $4,182±2,744, p<0.0001) and total costs ($5,914±4,378 vs. $5,346±4,256, p<0.0001), likely in part due to greater number of dulaglutide prescriptions. No significant differences existed between dulaglutide vs. liraglutide patients in diabetes-related medical ($1,154±3,405 vs. $1,246±3,354, p=0.390), pharmacy ($4,719±2,784 vs. $4,551±3,091, p=0.069), and total costs ($5,873±4,529 vs. $5,797± 4,872, p=0.602). **CONCLUSIONS:** Dulaglutide patients have similar diabetes-related costs vs. liraglutide, and have higher pharmacy and total costs compared to EQW in part due to higher medication use, consistent with previously demonstrated higher adherence for dulaglutide.

PDB89

INSULIN PRICE INCREASES FROM 2007-2014

Ellyson A, Bennette CS
University of Washington, Seattle, WA, USA

OBJECTIVES: Insulin is a life-saving drug that many patients diabetes require daily. Recent research reports that the price of insulin has soared in the previous decade. The objective of this analysis is to measure changes in the payments for insulin over time and how price is affected by market factors. **METHODS:** Data on average monthly payments for insulin was obtained the Truven Marketscan Commercial and Medicare Claims 2007-2014. The average monthly payment was calculated as expenditures per patient for a thirty-day supply of each drug in each quarter. Expenditures include payments from patients (copayments and coinsurance) and payments from the health plan. Additional data on drug characteristics and market information was also obtained from Redbook and the Food and Drug Administration (FDA) Orangebook and Drugs@FDA database. Prices for individual insulin products will depend on the quantity of prescriptions for product, quality attributes of the product, formulary tiers which vary by insurer, and market competitiveness, measured by the number and prices of competitors. Regression analysis will be used to assess the effect of market changes on insulin price including product fixed effects. **RESULTS:** On average, monthly payments for all insulins increased by 198.8 percent from the first quarter of 2007 to the last quarter of 2014. Insulin analogues accounted for over 86.5 percent of pharmaceutical claims for insulin in the Truven Marketscan Commercial and Medicare Database from 2007-2014. The majority of these price increases were absorbed by payers. Payments made by patients only increased by 36.7 percent. **CONCLUSIONS:** Insulin remains to be an incredibly cost-effective treatment to improve glycemic control among diabetic patients. However, these price increases may enhance the overall burden of illness of diabetes. As the treatment of diabetes becomes more costly, it may be important to consider the willingness of society to pay for a cure or find other treatment options.

PDB90

EFFECTS OF MULTIMORBIDITY ON HEALTH CARE UTILIZATION AND COSTS AMONG PATIENTS WITH DIABETES

Zhong Y[1], Thorat T[1], Zhou FL[2], Ye F[2], Preblick R[2], Lin P[1]
[1]Tufts Medical Center, Boston, MA, USA, [2]Sanofi, Bridgewater, NJ, USA

OBJECTIVES: The combination, not just the count, of comorbidities may influence diabetes care and patient outcomes. This study evaluates the effects of comorbidity clusters on health care utilization and costs among patients with diabetes. **METHODS:** Using the Optum Clinformatics database, we identified patients newly diagnosed with type 2 diabetes in 2013, excluding subjects with any diabetes diagnosis or diabetes medication use in the 12 months prior to the index date. Each patient had ≥12 months of continuous enrollment both pre- and post-diagnosis. We categorized patients into five mutually exclusive comorbidity groups using the widely-cited Piette and Kerr framework: none, concordant conditions only (e.g., heart disease), discordant conditions only (e.g., gastrointestinal illness), both, and dominant conditions (e.g., cancer). We compared healthcare utilization and costs in the year following a new diabetes diagnosis across different comorbidity clusters. **RESULTS:** Of the 130,193 patients with newly-diagnosed diabetes, 84% had comorbidities: 7% with concordant conditions only, 24% with dominant conditions, 25% with both concordant and discordant conditions, and 28% with discordant conditions only. Annual health care costs varied significantly by comorbidity type: dominant ($33,152), both ($17,928), discordant only ($8,595), concordant only ($8,518) and no comorbidities ($3,183) (p<0.001). Outpatient care accounted for 50%-59% of total costs among patients with any comorbidity (depending on the cluster). Patients with dominant and both concordant and discordant conditions had more inpatient, outpatient and ER visits and more prescriptions than other groups. **CONCLUSIONS:** This study is the first of which we are aware to document substantial cost variation based on the widely-used Piette and Kerr multimorbidity framework among patients with diabetes. We found that patients with dominant and both concordant and discordant comorbidities may incur significantly higher health care costs than those with other comorbidity clusters. Our results may help clinicians tailor comorbidity management plans targeting high-cost patients with diabetes.

PDB91

DELAY IN TREATMENT PROGRESSION AMONGST DIABETICS: A REAL-WORLD ASSESSMENT

Higgins V, Leith A, Benford M, Kelly M, Ellams A, Piercy J
Adelphi Real World, Bollington, UK

OBJECTIVES: To explore clinical inertia implications amongst Dual+ uncontrolled and basal insulin-only uncontrolled patients. **METHODS:** Data were drawn from 2016 Adelphi Diabetes Disease Specific Programme (DSP) in T2DM conducted across 5EU/