

subjected (range 31.4% in US –38.1% in France, $p = 0.827$) reported having a NSHE at least weekly. Diabetes management was impacted as 20.9% of insulin dependent subjects reported decreasing their normal insulin dose on average 18.7 units per day over 3.2 days. Further, a mean of 7.0 extra blood glucose tests were conducted in the week following their last NSHE. For those whose last NSHE was at work ($n = 483$), work productivity was impacted with 28.6% reported missing work (e.g., leaving early) due to this NSHE. For those whose last NSHE occurred during the day but outside of work ($n = 368$), 18.2% of respondents reported work absenteeism due to this NSHE. For those whose last NSHE was during sleep ($n = 121$), 16.5% of respondents reported subsequent work absenteeism. **CONCLUSIONS:** NSHE's have a considerable impact on work loss productivity across these countries. The seriousness of NSHEs may be underestimated and should be considered an important part of diabetes management.

PDB52

ATTEMPTED WEIGHT LOSS OR REGULAR EXERCISE: IMPACT ON QUALITY OF LIFE AMONG ADULTS WITH AND WITHOUT TYPE 2 DIABETES MELLITUS

Green A¹, Fox KM², Grandy S³¹Midwestern Endocrinology, Overland Park, KS, USA, ²Strategic Healthcare Solutions, LLC, Monkton, MD, USA, ³AstraZeneca LP, Wilmington, DE, USA

OBJECTIVES: Weight management and exercise are key self-management treatments for patients with type 2 diabetes mellitus (T2DM). This study examined the association between trying to lose weight or exercising regularly and health-related quality of life among individuals with and without T2DM. **METHODS:** Respondents to the US Study to Help Improve Early evaluation and management of risk factors Leading to Diabetes (SHELD) baseline survey reported if they had tried to lose weight during the last 12 months and if they currently exercised regularly for > 6 months. Respondents also completed the SF-12 quality-of-life survey 1 year later. The Physical Component Score (PCS) and Mental Component Score (MCS) of the SF-12 were computed, and differences between T2DM respondents ($n = 2419$) and respondents with no diabetes mellitus ($n = 6750$) were tested using *t*-tests. Linear regression models adjusted for age, gender, race, education, household income, body mass index (BMI), and diabetes status. **RESULTS:** Among T2DM respondents, 71% reported trying to lose weight in the past 12 months and 20% reported exercising regularly for >6 months, compared with 64% of respondents without diabetes reporting trying to lose weight and 25% exercising regularly. After adjusting for demographics, BMI and diabetes status, trying to lose weight was not associated with higher PCS scores ($p = 0.87$), but was independently associated with higher MCS scores ($p = 0.01$) in the subsequent year. After adjustment, exercising regularly was significantly associated with higher subsequent PCS and MCS scores ($p < 0.001$). **CONCLUSIONS:** Respondents with T2DM who reported exercising regularly had significantly better physical quality of life, compared with respondents without diabetes who exercised regularly. Respondents with T2DM who reported trying to lose weight or exercising regularly for > 6 months had better mental quality of life, compared with respondents without diabetes who tried to lose weight or exercised.

PDB53

IMPACT OF HYPOGLYCAEMIA ON PATIENT REPORTED OUTCOMES: A SYSTEMATIC LITERATURE REVIEW

Krishnarajah G¹, Pollack M², Balar BA¹, Vioffier H³, Zhang Y³, Modha R³¹Bristol Myers Squibb, Plainsboro, NJ, USA, ²Astrazenca, Wilmington, DE, USA, ³HERON, London, UK

OBJECTIVES: Hypoglycemia can be a critical issue in T2DM management and may impact patients in many ways. Using published data we aimed to identify and evaluate the impact of these events on patient quality of life and treatment satisfaction. **METHODS:** A systematic review of literature databases (no date limit, 1066 citations retrieved) and conference proceedings (2007–2009) was carried out. Studies reporting the effect of hypoglycemic events on quality of life or treatment satisfaction using generic or hypoglycemia-specific measures were included. **RESULTS:** Seventeen studies were identified that provided useful information for the study question, mostly in European populations. All studies relied on self-reporting of hypoglycemic episodes, with heterogeneity in methods and classification used. Seven of eight studies reported negative correlations between reporting (and in three studies also severity) of hypoglycemic events and QoL measured using the EQ-5D instrument: the difference between patients reporting and not reporting events (summary score: 0.08–0.20 on 0–1 scale; VAS: 4.2–11.3 on 0–100 scale) suggests clinical importance. No correlation was observed in the sole study examining insulin-treated patients. Four additional studies reported correlations between experience of hypoglycemia and lower QoL scores using other generic instruments; three studies reported lower scores on the Treatment Satisfaction Questionnaire for Medication in oral antidiabetics (OAD)-treated patients experiencing hypoglycemia. The results of three studies indicated that occurrence and severity of hypoglycemia were associated with higher Worry scores in the Hypoglycemia Fear Survey-II in OAD-treated patients, with one study further identifying this as a clinically important difference when related to treatment satisfaction. **CONCLUSIONS:** This review identifies a body of data which describe the relationship between hypoglycemia and patient-reported outcomes. Despite variation in methods and instruments used, the results of these studies indicate hypoglycemic events have a notable and clinically important impact on quality of life in T2DM patients, including those treated with OADs.

DIABETES/ENDOCRINE DISORDERS – Health Care Use & Policy Studies

PDB54

CLINICAL AND ECONOMIC OUTCOMES OF A DIABETES MEDICATION MANAGEMENT PROGRAM

Kim Y¹, Prasla K¹, Rascati K², Tabor T¹, Juan J¹, Godley PJ¹¹Scott & White Health Plan, Temple, TX, USA, ²University of Texas, College of Pharmacy, Austin, TX, USA

OBJECTIVES: A central Texas HMO plan implemented a pharmacist-led diabetes medication management program (MMP) offering co-pay waivers. Medication adherence and diabetic control were compared between patients enrolled in the MMP vs. control patients. Health care costs and utilization were also compared. **METHODS:** Patients were enrolled in the MMP if they had baseline A1C levels >7.5% and continuous enrollment throughout the study period (“rolling” enrollment from August 2006–July 2008). The enrollees and controls were matched 1:1 by age, gender, baseline A1C, and Charlson comorbidity index (CCI). A1C and adherence (Medication Possession Ratio (MPR)) were measured one year before and after implementation. Paired *t*-tests compared the changes in MPR and A1C. Health care costs and utilization were analyzed by year, group, types of service, and diabetes-related vs. all-cause claims. **RESULTS:** A total of 136 patients were enrolled in the MMP for at least 1 year (46 of those enrolled for two years). A1C decreased 5% in controls and 12% in MMP patients; the difference between groups was statistically significant ($P < 0.001$). The MPR for oral hypoglycemics increased from 76% to 81% one year after in MMP enrollees, whereas MPR remained at 76% in controls; the difference was not statistically significant ($P = 0.159$). The baseline health care costs were 23% higher in MMP enrollees than controls, possibly due to a few outliers. After one year, the average per member per month (PMPM) cost increased by 21% and 14% in MMP and control groups, respectively; the larger increase was mainly attributable to growth in diabetes-related drug and outpatient claims. Over two years post-implementation, the average MMP PMPM increased by 2%, while the average control PMPM increased by 14%. **CONCLUSIONS:** The medication management program improved patients' outcomes. Although one-year costs increased, the slowdown of costs over 2 years in MMP patients compared to controls indicates potential savings over the long term.

PDB55

THE IMPACT OF DIABETIC NON-SEVERE HYPOGLYCEMIC EPISODES ON FUNCTIONING AND DIABETES MANAGEMENT: A 4 COUNTRY PERSPECTIVE

Brod M¹, Christensen T², Lyager Thomsen T³, Bushnell D⁴¹The Brod Group, Mill Valley, CA, USA, ²Novo Nordisk A/S, Virum, Denmark,³Novo Nordisk, Virum, Denmark, ⁴Health Research Associates, Inc., Mountlake Terrace, WA, USA

OBJECTIVES: To increase our understanding of the impact of diabetes-related non-severe hypoglycemic episodes (NSHE's) on patient functioning and diabetes management. **METHODS:** A web-based survey of adults with diabetes (US, France, Germany, and UK). NSHE's were classified as occurring in the past month, either during the day or during sleep (nocturnal). **RESULTS:** 6,756 persons with diabetes were surveyed, 2,430 had at least one NSHE in the past month. The mean age was 46.1 ± 14.8 (range 18–90), 1378 (56.7%) were female and average duration of diabetes was 12.8 ± 11.8 years (range 0.08–72.8). 89.2% ($n = 2,167$) reported at least 1 daytime NSHE and 44.7% ($n = 1086$) had at least 1 nocturnal NSHE. In the past month, \$45.64 out-of-pocket was spent on foods, glucose products, transportation, etc. to either prevent or cope with these NSHE's. For daytime NSHE's, the average amount of time respondents reported not functioning at their usual level was 9.0 ± 24.9 hours if the NSHE occurred while they were active and 12.4 ± 62.3 hours for NSHE occurring while not active. On average, 8.3 extra blood glucose monitoring test strips were used and insulin was decreased on average by 10 units over the following 6 days. For sleep related NSHE's, on average, it took 1.4 ± 1.9 hours to return to sleep with 15.6% not being able to go back to sleep at all after the episode. 81.9% ($n = 889$) reported being tired the following day as a result of the event. Sleep related NSHE's resulted in on average 11.4 ± 84.1 extra blood glucose monitoring test strips used and insulin was decreased on average by 13.8 units over the following 6 days. **CONCLUSIONS:** NSHE have a considerable impact on daily functioning as well as add to the financial burden of living with diabetes. The seriousness of NSHE's may be underestimated and should be considered an important part of diabetes management.

PDB56

RELATIONSHIP BETWEEN CARE FINANCING STRUCTURE AND DIABETES CARE ASSESSMENTS AMONG MEDICAID BENEFICIARIES WITH TYPE 2 DIABETES

Phattarabenjapol S¹, Plake KS², Modi A³, Carney Doebbeling C³, Thomas J²¹Ubon Ratchathani University, Warin Chamrab, Ubon Ratchathani, Thailand, ²Purdue University, West Lafayette, IN, USA, ³Office of Medicaid Policy and Planning, Indianapolis, IN, USA

OBJECTIVES: We estimated rates of diabetes care indicated services in adult type 2 diabetics in a state Medicaid population and associations between receipt of services in Fee-For-Service (FFS); Care Management (CM), i.e., fee-for-service plus care coordination; and Managed Care (MC) subprograms. **METHODS:** A retrospective cohort analysis of Indiana Medicaid 2006 and 2007 eligibility, claims, and encounter files was conducted. Persons 18 to 64 y/o, with diabetes based on ICD-9 codes or NDC codes, and ≥ 12 months continuous eligibility in one subprogram were included. Exclu-