

PNL31

CLINICAL PRIOR AUTHORIZATION PROGRAM: A STRATEGY FOR CONTROLLING DRUG EXPENDITURES AMONG PATIENTS WITH INSOMNIA

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OBJECTIVE: Insomnia Clinical Prior Authorization (CPA) program is designed to ensure appropriate utilization of insomnia medications and does not allow for chronic use unless medical condition or medication is causing insomnia. The purpose of this study was to evaluate the impact of the program on the utilization and expenditures of insomnia medications. **METHODS:** Using a retrospective pre-post with control group study design, prescription records from January 1, 2003 to October 31, 2004 were obtained from Walgreens Health Initiatives' pharmacy claims database. The study group comprised of 166,719 eligible lives from three employer groups enrolled in the Insomnia CPA program, and the control group comprised of 501,779 eligible lives from 150 clients not enrolled in this program. The number of prescriptions dispensed and the total costs per member per month (PMPM) were analyzed for the two groups in the pre and post period. PMPM cost savings (Y') were calculated using the following formula: $Y' = Y_{st0} * R_{ct} - Y_{st1}$, where Y_{st0} and Y_{st1} represent actual pre and post PMPM total costs in the study group and R_{ct} is the ratio of PMPM pre and post total costs in the control group. **RESULTS:** From the pre to post period, in the study group, the average number of prescriptions per month increased by 8.5%, while the average PMPM costs decreased by 8.4% (from \$0.42 to \$0.39). In the control group, the average number of prescriptions per month as well as the average PMPM costs increased by 63.3% and 42.9% respectively. After comparing the trend among insomnia products in these two groups, it was estimated that WHI's Insomnia CPA program resulted in \$0.21 PMPM and total of \$420,132 annualized cost savings for the three employer groups. **CONCLUSIONS:** Clinical prior authorization program is effective in controlling drug expenditures for patients with insomnia.

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PHYSICIAN AND PATIENT DETERMINANTS OF THE TREATMENT OF SLEEP DIFFICULTIES IN OUTPATIENT SETTINGS IN THE UNITED STATES

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OBJECTIVE: This study analyzed socioeconomic and clinical factors relating to both physicians and patients associated with physicians' choice of the treatment for sleep difficulties in a nationally representative sample of outpatient physician visits in the US. **METHODS:** A modified version of the model suggested by Eisenberg was used as a theoretical framework for this study to predict the factors influencing treatment of sleep difficulties. A multivariate logistic regression method was used to analyze the 1996–2001 National Ambulatory Medical Care Survey data to examine physician and patient related predictors of treatment variations for sleep difficulties. **RESULTS:** From 1996 to 2001, about 4.8 billion visits were made to outpatient physician offices in the US, and 94.6 million of these were sleep-difficulty related visits. This study found that 32% of patients with sleep difficulties received no type of therapy during their visits and 5% of the patients received behavioral therapy only. Psychiatrist visits were 72% more likely (OR: 1.72, 95% CI: 1.08–2.61) to be associated with receipt of medication therapy and ten times more likely (OR: 10.19, 95% CI: 4.85–14.44) to be associated with behav-

ioral therapy prescription only than visits to family practitioners and internists. Patient visits with public insurance as a primary payer source were more likely to be associated with benzodiazepine prescription among patients receiving at least some medication therapy (OR: 1.66, 95% CI: 1.13–2.45) than patient visits with private insurance as a primary payer source. **CONCLUSIONS:** The results of this study indicate that several patient and physician characteristics influence physician prescribing of treatments for sleep difficulties. This study suggests a need to develop better care management guidelines for sleep difficulties and a wider coverage of behavioral therapy in the US. The study also finds variations in quality of care and treatment for sleep difficulties in outpatient settings in the US.

PNL33

SLEEP COMPLAINTS AND DIAGNOSES IN THE NATIONAL AMBULATORY MEDICAL CARE SURVEY: 1997–2002

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OBJECTIVES: Insomnia symptoms have been reported to impact the lives of approximately 83 million people of the United States general population. However, insomnia complaints are often underreported and underdiagnosed. This study describes patient characteristics of those who do and do not present with insomnia complaints in the National Ambulatory Medical Care Survey (NAMCS). **METHODS:** Data was obtained from the 6 years of NAMCS data (1997 through 2002). Descriptive analyses were utilized to examine individuals who listed insomnia as one of three possible reasons for their office visit relative to those who did not have an insomnia complaint. Patient level weights were utilized to derive US national population estimates. Given the complex stratified survey design, Rao Scott and Wald Chi-square tests were used to assess statistically significant differences within groups. **RESULTS:** Patients reported an insomnia complaint as the reason for their visit in only 0.6% of all visits. The majority of these patients (64%) were treated by primary care specialists. Across all age groups, approximately twice as many women as men presented with a complaint of insomnia. However, a greater percentage of males under the age of 18 years presented with an insomnia complaint compared to females in the same age category, 18.3% compared to 11.2%, respectively. While primary organic diagnoses (55.4%) were the most common, an insomnia diagnosis occurred in 10.4% of patients and a diagnosis of depression/anxiety occurred in 27.1% of patients who listed insomnia as a reason for their visit. **CONCLUSION:** At any point in time insomnia complaints are known to impact a significant portion of the US population, yet, in only 0.6% visits do patients list insomnia as a reason for their visit. This study provides an important descriptive look at those who do and do not present with a complaint of insomnia.

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SEDATIVE HYPNOTICS EMPLOYED TO TREAT PATIENTS WITH AND WITHOUT INSOMNIA COMPLAINTS IN THE NATIONAL AMBULATORY MEDICAL CARE SURVEY: 1997–2002

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OBJECTIVES: Pharmaceutical treatments are available for patients with a complaint of insomnia. These treatments often vary by patient and physician characteristics. This study describes the use of several medications commonly used to treat sleep disorders as reported in the National Ambulatory Medical Care Survey (NAMCS). **METHODS:** Data was obtained from the six years of NAMCS data (1997 through 2002). Analyses were utilized to examine medications (ie., triazolam, temazepam,

flurazepam, zolpidem or zaleplon, trazadone, and diphenhydramine) commonly used to treat individuals with a complaint of insomnia. Patient level weights were utilized to derive US national population estimates. Given the complex stratified survey design, Rao Scott and Wald Chi-square tests were used to assess statistically significant differences within groups. **RESULTS:** For all patients taking a medication commonly used to treat sleep complaints, psychiatrists were more likely to prescribe trazadone (54%), while family/general practice physicians (29%), general internists (35%) and other specialists (28) were more likely to prescribe zolpidem or zaleplon. Those 65 years and older were more likely to be prescribed zolpidem or zaleplon (30%) and younger patients were most often prescribed trazadone (70%). **CONCLUSION:** Newer sleep agents such as zolpidem or zaleplon are the most commonly prescribed medication across the majority of physician-types. This study provides an important descriptive look at those who are taking medications commonly used to treat sleep disorders.

PNL35

USING PATIENT REPORTED OUTCOMES (PROS) TO DETERMINE THE PREVALENCE OF INSOMNIA IN FOUR COUNTRIES

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OBJECTIVE: To utilize international patient reported outcomes (PROs) data and identify the size and impact of patient populations suffering from insomnia/sleep difficulty in four countries: United States, UK, France, and Germany. **METHODS:** An annual, self-reported study of consumer attitudes and behaviors conducted by Consumer Health Sciences was fielded in June, 2004 and completed by 60,050 adults, 18 years of age or older in the United States (40,736), UK (8393), France (9011), and Germany (9064). We stratified and weighted the sample by key demographics. All respondents were asked if they experienced insomnia or sleep difficulty within the past 12-months and if they had their condition physician diagnosed. Respondents also completed the SF-8 and the WPAI. **RESULTS:** Of the 374.0 million adults in the four countries examined, 27% (101.8 million) reported to have experienced insomnia/sleep difficulty in the previous 12-months. The number of insomnia/sleep difficulty sufferers in the United States is 53.2 million, 51% of total number of sufferers, while the number of insomnia/sleep difficult sufferers in the UK, France and Germany combined is 48.6 million adults, 49% of total number of sufferers. Diagnosed insomnia/sleep difficulty sufferers in the UK have the lowest SF-8 Mental health score: 39.2 and the lowest SF-8 Physical health score: 37.9 ($p < 0.05$). The percentage of insomnia/sleep difficulty sufferers who missed work due to their health 26% or more of the time was highest in France: 25.5% and lowest in the United States: 12.7% ($p < 0.05$). **CONCLUSIONS:** Insomnia/sleep difficulty remains a significant health care issue for adults in the United States, UK, France and Germany. The impact that insomnia/sleep difficulty has on the quality of life and productivity of adults warrants further investigation for public policy makers and health care officials.

RESPIRATORY DISORDERS**PRSI**

PULMONOLOGISTS' PERCEPTIONS OF ANEMIA IN COPD: A SURVEY

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OBJECTIVE: To understand the hemoglobin (Hb) thresholds Pulmonologists (PULs) use to assess anemia severity in COPD. **METHODS:** A survey was conducted to identify Hb thresholds representing presence and severity of anemia in COPD. **RESULTS:** One hundred PULs completed the survey at a specialty society meeting in 2004. All were either board-certified or eligible in Pulmonary Medicine. Forty-seven percent have been in practice for <5 years, with 30% and 23% in practice for 5–15 years and >15 years, respectively. The vast majority (86%) see almost exclusively adult patients, 41% of the responders follow <250 patients, while 41% see 250–1000 and 12% see >1000 patients with lung disease. Responders estimated that COPD accounts for 49% of their lung disease patients, followed by asthma (24%), lung cancer (13%) and obstructive sleep apnea (13%). Only 21% of the PULs considered anemia to be Hb ≤ 12g/dL. Furthermore, 37% of the responders considered Hb ≤ 10g/dL to represent only mild anemia. Hb ≤ 9g/dL was identified by 47% to represent moderate anemia, while Hb ≤ 8g/dL was deemed to represent severe anemia by 75% of the responders. **CONCLUSIONS:** Despite the accepted WHO definition of anemia (men, Hb < 13g/dL; women, Hb < 12g/dL), the majority of PULs surveyed do not consider anemia to be present in COPD patients until the Hb is <11g/dL, and a substantial number consider a Hb < 10g/dL as only mild anemia. Results of this survey suggest that PULs may not recognize mild anemia which could lead to severe anemia and other complications.

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AN ASSESSMENT OF DIAGNOSIS AND TREATMENT OF COPD IN PRIMARY CARE VIA AN ELECTRONIC MEDICAL RECORD DATABASE

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The characteristics of Chronic Obstructive Pulmonary Disease (COPD) patients and the patterns of treatment have not been well characterized in primary care settings. Determining how drug treatment patterns align with COPD diagnosis and severity may help optimize care. **OBJECTIVE:** This study was designed to explore treatment patterns at the time of and post COPD diagnosis. **METHODS:** A national electronic medical record database was queried to identify patients with at least six-months history prior to a diagnosis of COPD (ICD-9 codes 491.xx, 492.xx, and 496). Pulmonary function test (PFT) results closest to the first diagnosis of COPD were evaluated to characterize disease severity using the Global Initiative for Chronic Obstructive Lung Disease (GOLD) criteria. Prescription data were evaluated at the time of diagnosis. All descriptive statistics were conducted using STATA statistical software. **RESULTS:** A total of 14,691 patients had COPD and six-months of data. Prescription data at diagnosis were available for 9334 (64%) of these patients. Of these, over 50% (n = 5264) had a prescription on the date of diagnosis. The average number of days between diagnosis and the first prescription was 106 (SD+256.4). The beta-adrenergic class was the most commonly prescribed therapy (64%) post diagnosis. Only 273 (2%) of the 14,691 COPD patients had PFT data adequate to determine the GOLD severity class. For this group, the average time from diagnosis to first prescription was inversely related to severity: 163 (SD+288.2) days for Stage one and 124 (SD+152.3) days for Stage four. **CONCLUSIONS:** COPD is often not diagnosed or treated until the later stages of the disease, nor is PFT used routinely to diagnose, stage or guide treatment decisions. COPD severity seems to influence the time between the date of diagnosis and physician prescription order.