when comparing AP2 + MS therapy with MS monotherapy. **CONCLUSIONS:** In terms of non-index medication health-related costs, AP2 monotherapy was more cost saving than MS monotherapy in the treatment of bipolar disease. In terms of non-index medication bipolar-related costs, AP2 monotherapy and AP2 + MS therapy was more cost saving than MS monotherapy. However, when the cost of AP2 treatment was included, no significant differences were found.

PMH13

AN ECONOMIC COST ANALYSIS OF ATYPICAL ANTIPSYCHOTIC SINGLE TREATMENT FOR BIPOLAR DISORDER IN A MEDICAID PROGRAM

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OBJECTIVES: To evaluate the direct health care costs associated with olanzapine, risperidone, and quetiapine monotherapy among patients diagnosed with bipolar disorder (ICD-9: 296.4x-296.8x). **METHODS:** Using a sample drawn from the NC Medicaid Claims database during August 2000 through January 2005. This study included patients with a bipolar-related diagnosis who were naïve to atypical antipsychotic treatment and were without a bipolar-related medical visit or hospitalization during 90 days prior to treatment initiation. Patients were followed for 12 months after initiation of atypical antipsychotic monotherapy (index drug). Costs of index drug, all bipolar-related medical care, and all health-related costs, both including and excluding index drug, were examined in the 12 month treatment period using Generalized Linear Model with Gamma Distribution and Log link. To account for potential confounds, the model included several covariates. **RESULTS:** A total of 838 continuously eligible patients met the inclusion criteria (393 olanzapine, 262 risperidone and 183 quetiapine). The costs of index drug for patients taking olanzapine were 43% (P < 0.0001) and 19% higher (p < 0.0001) than risperidone and quetiapine, respectively. In terms of total health-related cost there was no difference between patients treated with olanzapine and those treated with risperidone or quetiapine, including or excluding index drug. In terms of all bipolar-related medical care costs, the inclusion of index drug led to 15.2% (p < 0.04) higher costs for patients receiving olanzapine compared to risperidone, primarily due to the higher acquisition cost of olanzapine. **CONCLUSIONS:** Despite significantly higher acquisition costs of olanzapine when used as mono-therapy for the treatment of bipolar disorder, total health-related costs with and without index drug were similar for olanzapine, risperidone and quetiapine. Bipolar-related medical costs excluding index drug were also similar for olanzapine, risperidone, and quetiapine treatment. However, the inclusion index drug costs resulted in higher bipolar-related medical costs for patients receiving olanzapine compared to risperidone.

PMH14

BURDEN OF ILLNESS OF ALZHEIMER'S PATIENTS IN COMMERCIAL MANAGED CARE

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OBJECTIVE: To examine the acute adverse outcomes and direct health care costs among patients with Alzheimer's disease (AD) using a retrospective, administrative claim database. **METHODS:** We identified an over-age-65 population with pharmacy and medical benefits enrolled in a large, US, geographically diverse, commercial managed care plan between May 2001 and December 2002. AD patients had at least one claim with an AD diagnosis or one filled prescription for medication used exclusively for AD treatment. This claim identified the index date. A control cohort consisted of non-AD patients with no dementia diagnosis over the pre- and post-index periods randomly matched (3:1) to the AD patients by age, gender, plan location, and length of enrollment. The first claim in the period identified the index date. All patients included in the study had a 12-month pre-index period, and a minimum of 30-days follow-up. We compared the prevalence of acute adverse outcomes and comorbidities between the AD and control cohorts. Additionally, we used a two-part model (one equation estimating the probability of any costs, and a generalized linear model with a gamma distribution and log-link function estimating the level of costs) to examine differences in adjusted annualized total health care costs between the AD patients and the controls. **RESULTS:** Both the AD patients (N = 4,550) and the controls (N = 13,650) had a mean age of 79 years. Approximately 70% of AD patients were identified based on an AD prescription. AD patients had a higher risk of fracture, accidental fall, and urinary tract infection than the controls. Annual adjusted total health care costs per patient were approximately $1418 greater for the AD cohort. **CONCLUSIONS:** AD patients had significantly greater risk of acute adverse outcomes and more health care resource utilization than age- and gender-matched controls in a large managed care plan.

PMH15

BURDEN OF ILLNESS AMONG PATIENTS WITH ALZHEIMER'S DISEASE IN A COMMERCIALLY-INSURED POPULATION

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OBJECTIVES: To examine the direct medical costs of newly diagnosed patients with Alzheimer's disease (AD) using retrospective health care claims data. **METHODS:** This study examined individuals aged 65 years and over with pharmacy benefits who had at least one claim with an AD diagnosis and were enrolled in commercially-insured and nationally-dispersed Medicare Risk plans between January 1999 and November 2003. Each AD patient had an "index date" where the first AD claim was observed, a 12-month pre-index period, and a minimum 30-day follow-up. A control group consisted of individuals who had no AD or dementia over the study period and were randomly matched (2:1) to AD patients based on age, gender, and follow-up duration. The Charlson Comorbidity Index was used to examine the burden of comorbid medical conditions in the pre-index period. The primary measures of interest were annualized health care resource utilization and costs; a generalized linear model with a gamma distribution and log-link function was used to compare costs between the AD and control groups over the follow-up period. **RESULTS:** Both AD patients (n = 2475) and controls (n = 4950) were aged 82 years on average; 38% were male. AD patients had significantly more comorbid medical conditions than controls (mean Charlson score 1.6 vs. 1.2); the prevalence of diabetes, heart and vascular problems also was higher in the AD group. Inpatient costs contributed primarily to total annualized costs among AD patients, while outpatient costs dominated among controls. Average adjusted annualized costs for AD patients were more than five-fold higher compared to controls, driven primarily by inpatient costs ($21,150 vs. $4,053 for AD vs. control, respectively). **CONCLUSIONS:** AD patients have a significantly greater

comorbidity burden than age- and gender-matched controls, and incur much higher levels of inpatient service use and overall health care costs.

HEALTH CARE COSTS AND UTILIZATION PATTERNS OF INDIVIDUALS WITH GENERALIZED ANXIETY DISORDER (GAD) IN THE UNITED STATES

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OBJECTIVES: GAD is a chronic psychiatric disorder with an estimated lifetime prevalence of 5.7% in the U.S. population. This study evaluated the health care costs and utilization patterns for individuals with GAD in the U.S. **METHODS:** A large, geographically-representative aggregated medical and pharmacy claims database from the UnitedHealth Group was used to construct the study database. The database included approximately 1.4 million covered lives, from May 2000 through July 2005. Individuals were extracted who had at least one ICD-9 code of 300.02 for GAD. The date of first GAD claim was defined as the index date. Individuals were excluded if not enrolled for at least six months prior to and 12 months after the index date. Costs were reported in both nominal and constant dollars (in 2005 dollars). **RESULTS:** After applying the exclusion/exclusion criteria, the study sample included 101,367 eligible individuals with GAD; 65% were female and average age was 39.7 years. On average, annual total non-drug medical costs for an individual with GAD were $6,585 ($8,864 in constant dollars) prior to the index date and increased to $9,562 ($10,904), or 45%, in the post-index date period. Annual total costs for all prescriptions increased from $1212 ($1314) in the pre-index date period to $1959 ($2018), or 62%, in the post-index date period. On average, 19 and 24 prescriptions were filled per year in the pre- and post-index periods, respectively. Most prescribed mental disorder drugs were antidepressants, followed by anxiolytics and anticonvulsants. **CONCLUSIONS:** Individuals with GAD consume enormously high health care services before and after GAD diagnosis, and health care expenditures increase significantly after GAD is diagnosed. Further research is warranted to investigate how cost and utilization patterns relate to factors such as demographic and clinical characteristics to better understand costs and implications of GAD to both patients and society.

RESOURCE-USE AND COSTS ASSOCIATED WITH PATIENTS TREATED FOR DEPRESSION IN PRIMARY CARE

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Despite the clinical and economic importance of depression, resource utilization and cost in clinical practice is not well documented. **OBJECTIVES:** The aim of this study was to investigate medical resource consumption, productivity loss and costs associated with patients treated with antidepressants for depression in primary care. **METHODS:** A total of 447 patients were enrolled at 56 Swedish primary care centres to this naturalistic longitudinal observational study. Patients over 18 years with depressive symptoms, and who initiated a new antidepressant therapy were included in the study. Data on patients' socio-demographics, daily activity and quality-of-life (EQ-5D) were collected using questionnaires completed during outpatient GP visit for a follow-up period of approximately 6 months. **RESULTS:** Based on a complete sample of 398 patients, the total annual cost per patient was estimated at $13,400 (SEK 12,300–$15,100) in 2005 prices. Direct costs were estimated at $4800 ($4300–$5400), constituting 35% of the total annual cost per patient. Among direct costs, the cost for medical visits was the largest single cost item, representing about 18%. The costs for antidepressants represented only 4% of the total costs. The indirect costs, i.e. productivity loss due to lost working time, were estimated at $9000 per patient ($7600–10,200), or 65% of the total annual costs per patient. No demographic variables were significantly associated with cost of depression. Direct and indirect costs were however correlated positively with achievement of clinical remission. The presence of sick-leave during follow-up was moreover associated with 1.8 times higher costs. **CONCLUSIONS:** The burden of depression to society is high, both in terms of direct treatments costs and indirect costs for sickness absence and early retirement. Because of the high indirect cost per patient, there seems to be a particular need for therapies that have the potential to reduce absenteeism.

ANALYZING PATTERNS OF ANTIDEPRESSANT USE AND THE COST CONSEQUENCES OF PRODUCT SWITCHING

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OBJECTIVES: The study examines patterns of antidepressant use including drug switching and related resource utilization. **METHODS:** Using retrospective claims of managed care enrollees from a national database (PharMetrics), this study followed newly diagnosed depression patients (age 18+) with newly prescribed antidepressants. Patients switching from commonly prescribed selective serotonin reuptake inhibitors (SSRIs; fluoxetine, citalopram, sertraline, and paroxetine) to serotonin-norepinephrine reuptake inhibitors (SNRI; venlafaxine), and vice versa were identified and quantified. The healthcare costs for a 1-year period following diagnosis for various switcher groups were then aggregated. Multivariate regression analyses were used to determine the predictors of switching and the factors influencing overall and depression-related costs while controlling for confounding factors. **RESULTS:** Of the 48,950 patients included in the study population, 89% were treated with SSRIs and 11% with SNRIs. Twelve percent to 15% of patients switched antidepressants. Of the SSRI switchers, 29% switched to an SNRI. Increased likelihood of switching was associated with female gender, Medicaid coverage, prior anxiolytic use, treatment by a psychiatrist or psychologist, and paroxetine as the index medication. Compared with SSRI non-switchers, costs for SSRI switchers were 36% higher for all causes and 58% higher for depression-related causes. In contrast, compared with SNRI non-switchers, costs for SNRI switchers were 27% higher for all causes and 5% higher for depression-related causes. Thus, patients switching from SSRI to SNRI are accruing relatively greater costs than vice versa. In addition, among SSRI patients switching to SNRI, costs increased with the number of switches. Mutlivariate analyses confirmed that switching was associated with higher overall and depression-related costs. **CONCLUSIONS:** Switching among antidepressants is quite frequent among depression patients. Switchers incur significantly higher overall and depression-related costs, and in general, switching antidepressants is more costly for SSRI patients than for SNRI patients.