survey of headache in the United States. This study utilized data collected in the 2005 baseline survey of 14,544 adults who were identified as having migraine based on criteria proposed by the International Classification of Headache Disorders, 2nd edition. Participants completed self-administered, validated questionnaires on headache, functional impairment, resource use, and productivity loss. Direct and indirect headache-related costs were estimated using unit-cost assumptions derived from the PharMetrics Patient-Centric database, wholesale acquisition costs of medications, and wage data from the US Bureau of Labor Statistics. The population of migraineurs was divided into quartiles (1–2, 3–4, 5–6, and 7–365 headache days) based on self-reported headache frequency in the past year. Analyses controlled for age, gender, income, geographic region, population density, and insurance status. RESULTS: Of the original 14,544 identified migraineurs, 12,829 completed the 2008 follow-up and were included in this analysis. Higher headache frequency quartile was associated with more nights in hospital and increased visits to primary care, urgent care, pain clinic, emergency room, and neurologists or headache specialists. The most commonly cited medications used for headache relief in all four quartiles were non-prescription analgesics and NSAIDs, and the most commonly cited prescription medications in all quartiles were the triptans. Lost productive time (but not absenteeism) generally increased progressively in the higher quartiles. Average per-person annual total costs, including direct and indirect costs, ranged from $2,528 (lowest quartile) to $6,014 (highest quartile). CONCLUSIONS: Decreasing headache frequency is associated with positive economic benefits of reduced resource use and productivity loss. These benefits should be considered by stakeholders interested in improving migraine outcomes in a cost-effective fashion.

THE IMPACT OF GENERIC SUBSTITUTION OF TOPIRAMATE ON HEALTH CARE COSTS: CONVERSION OF THE CANADIAN EXPERIENCE INTO THE CONTEXT OF THE EU COUNTRIES

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OBJECTIVES: Evaluate the economic impact of generic substitution of generic antiepileptic drug (AED) topiramate in Canada; and convert observed Canadian costs into the settings of France, Germany, Italy, and the UK. METHODS: Health claims from Quebec’s provincial health plan (RAMQ) between January 2006 and September 2008 were analyzed. Patients with epilepsy or non-febrile convulsions (ICD-9: 345, 780.3 or 780.39) and 22 topiramate (Topamax®) dispensings were selected. An open-cohort design was used to classify patients’ observation into mutually-exclusive periods of blinded versus generic use of topiramate. Total health care utilization and costs in Canada (2008-2009) was compared with periods of branded and generic use, after adjusting for demographics, treatment characteristics, and comorbidities. Annualized health care costs ($2,007 and L2,007/person-year) were converted at the patient level using Canadian utilization rates, adjusted with service-use rates and European cost units. Non-parametric bootstrap procedure was used to determine statistical significance for the cost measures. RESULTS: A total of 1164 patients (mean age 39.8 years, 61.7% female) were observed for 2.6 years on average. Unadjusted results consistently associated generic use with significant increases in health care resource utilization. Periods of generic topiramate use remained associated with significant increases in pharmacy dispensions (other AEDs: +6%, non-AEDs: +11%, p < 0.001, 17% increase in hospitalizations (p = 0.015), and 21% longer lengths of hospital stays (p < 0.001). Non-topiramate adjusted health care costs were £1,060/person-year higher during periods of generic use (p < 0.003). Converted per-patient health care costs between branded and generic use were estimated to be significantly higher for generic relative to brand periods in all four countries (adjusted cost differences per person-year [95% CI]: France: €815 [€427–€2,115], Germany: €706 [€369–€1,010], Italy: £795 [£430–£1,177], UK: £485 [£283–£687]; p < 0.001 for all comparisons). CONCLUSIONS: Higher health care costs were projected for G4 European countries from the Canadian experience following generic substitution of topiramate, offsetting potential savings from lower generic prices.