costs of aggregate back pain were $14,701,417,650, work-related back pain were $2,643,650,647, and missed workdays back pain were $3,396,353,220. With regard to aggregate back pain, higher proportions of direct costs were incurred for office-based medical provider visits at $3,768,302,826 (mean = $68; 95% C.I. = $61 to $75), inpatient visits at $4,638,655,867 (mean = $10,016; 95% C.I. = $9,463 to $10,570), and outpatient visits at $2,050,207,343 (mean = $274; 95% C.I. = $204 to $345). Lower proportions of direct costs were incurred for prescriptions, home health visits, and emergency room visits. CONCLUSIONS: Direct costs associated with back pain are sizable. As direct costs of occupationally related back pain were substantially lower than total direct costs of $14.7 billion, Workman’s Compensation should be publicly promoted.

THE BURDEN OF MIGRAINE: BEYOND DIRECT HEALTH CARE COSTS
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OBJECTIVES: To estimate the socio-economic burden of migraine by calculating the direct and indirect costs of the disease. METHODS: The prevalence approach was used to calculate the annual direct (pharmacy, specialist and primary care consultations, emergency room visits) and indirect (missed workdays and reduced performance at work) costs of migraine in Spain in 2001. Data was extracted from published epidemiological and resource use studies which used the International Headache Society diagnostic criteria and from publicly available official and unofficial databases. The indirect costs were calculated by the human capital approach using the model developed by Hu XH et al. RESULTS: The current Spanish population suffering from migraine was estimated at 3,617,600 patients of whom 92.5% were of an age to work. The economic burden of migraine was greater than €1500 million. The direct costs represented only 21.9% of the total burden (€331 million), of which 40.7% was attributable to primary care office visits, 29.8% to specialist consultations, 17.3% to emergency room visits and a further 12.1% to migraine-specific prescription drugs (triptans 11.2%, ergots 0.9%). The indirect cost was estimated at €1177 million annually, which represents a cost per working migraine-sufferer of €729.46. Most indirect costs (almost €660 million) were due to migraine-related missed workdays. CONCLUSIONS: As in many other developed countries, migraine puts a considerable economic burden on Spanish society, especially in terms of work losses. Therefore, activities should be aimed specifically at reducing the indirect costs of the disease, and effective treatments, which have demonstrated a significant reduction in work losses, should be publicly promoted.

ECONOMIC EVALUATION OF LEVETIRACETAM AS ADJUNCTIVE THERAPY IN REFRACTORY EPILEPTIC PATIENTS
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OBJECTIVES: Epilepsy is one of the most frequent neurological disorders. One-third of epileptic patients suffering from partial onset seizures cannot be satisfactorily controlled despite the availability of a large number of anti-epileptic drugs. The present study reports on an economic evaluation of Levetiracacetam (LEV) used as an add-on therapy in refractory epileptic patients. METHODS: A cost-effectiveness analysis was done using data derived from three randomised clinical trials. A dose escalation decision model comparing LEV add-on to standard therapy alone was designed. Total treatment cost estimates were based on seizure-related costs, routine follow-up of patients, cost of adverse events as well as LEV acquisition cost. The perspective is that of the Ontario (Canada) Ministry of Health. As time horizon for the estimation of costs is one year, no discounting was applied. Treatment effectiveness was measured by the number of seizure free days gained (SFDs). Extensive sensitivity analyses were performed to test the robustness of the results, including inclusion of the costs of pre-surgical evaluation and surgery in addition to the other costs. RESULTS: Total treatment cost per patient per year was estimated at Canadian dollars (CAD) 3925 for LEV add-on and at CAD 2404 for maintenance of standard therapy—the difference was mainly related to drug acquisition cost. LEV add-on was associated with an incremental gain of 19 SFDs per patient per year. As such, the incremental cost effectiveness ratio was CAD 80.7 per seizure free day gained. When costs associated with pre-surgical evaluation and surgery were considered, the LEV add-on approach was in a dominant situation leading to cost savings of CAD 5871 per patient per year. CONCLUSIONS: This economic evaluation demonstrates that Levetiracacetam add-on is a cost-effective alternative to maintenance of standard therapy for the treatment of refractory epilepsy.

ADJUNCTIVE TOPIRAMATE THERAPY IN PATIENTS WITH REFRACTORY SEIZURES: A LIFETIME COST-UTILITY ANALYSIS
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OBJECTIVES: Topiramate as add-on treatment is effective in patients with refractory epilepsy. Since there has been less research aimed at evaluating its cost-