and glatiramer acetate) vs. conventional therapy for treatment of MS. METHODS: Search of electronic databases has identified 8 models. We evaluated the following sources of uncertainty: 1) variation in population characteristics (age, gender, country); 2) sources of data on effectiveness, costs, and health preferences; 3) modeling assumptions (choice and duration of treatment, long-term treatment effectiveness, time of treatment initiation and termination); and 4) model structure (number of health states, study horizon, and modeling software). RESULTS: Results for interferon beta-1a varied from cost-saving to $2,558,660 (2005 US$) per quality adjusted life year (QALY), CE of interferon beta-1b varied from $10,629/QALY to dominated (more costly and less effective), and results for glatiramer acetate varied from $165,201/QALY to dominated. Time horizon and treatment duration varied from 2 years to lifetime. Studies with longer treatment duration reported worse (higher) CE. All studies used country-specific cost data and performed some sensitivity analyses, but only 4 models were evaluated for uncertainty. CONCLUSIONS: Two out of 8 models found interferons cost-effective, while glatiramer acetate was not CE based on societal standards. The differences in models’ results were attributed to the lack of evidence on long-term treatment effectiveness and variation in modeling approaches. Use of DMAs could be justified for selected subpopulations, if prices were reduced, or if more information on long-term treatment effect becomes available.

COST-EFFECTIVENESS OF ELETRIPTAN VERSUS SUMATRIPTAN: RESULTS FROM A RANDOMIZED, CONTROLLED TRIAL

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OBJECTIVE: Migraine is a chronic, episodic condition that places a tremendous burden on the health care system, employers, patients and families. This study compared the cost-effectiveness of treating a migraine with one dose of eletriptan 40mg or sumatriptan 100mg during a 24-hour period. METHODS: This study used data from a randomized, placebo-controlled trial to compare the cost-effectiveness of eletriptan 40 mg and sumatriptan 100 mg in treating acute migraine. Three effectiveness measures were compared (sustained headache response at 1 and 2 hours, and sustained pain-free response at 2 hours) over a 24-hour period in defining treatment success. The total cost of treating all evaluable patients was defined as the total cost of the triptans used by patients up to 24 hours after the first dose. The cost per successfully treated patient (CPSTP) was calculated for each of the three definitions of treatment success using the following formula: [CPSTP = Total triptan cost of treating evaluable patients/ Number of successfully treated patients]. RESULTS: The 1-hour sustained headache response, the CPSTP estimates were $103 (95% CI: $89–$122) for eletriptan and $149 (95% CI: $126–$177) for sumatriptan. For the 2-hour sustained headache response, the estimates were $48 (95% CI: $44–$53) and $67 (95% CI: $60–$76) for eletriptan and sumatriptan, respectively. For the 2-hour sustained pain-free response, the estimates were $290 (95% CI: $279–$301) for eletriptan and $315 (95% CI: $297–$325) for sumatriptan. The benefit of eletriptan 40 mg over sumatriptan 100 mg is clear for all three measures of success. CONCLUSIONS: The CPSTP, calculated for each effectiveness measure, was consistently lower for eletriptan 40 mg versus sumatriptan 100 mg. These results support the use of eletriptan 40 mg over sumatriptan 100 mg in acute migraine management, and can be used to assist decision makers in formulary considerations.

WINNERS AND LOSERS: PATTERNS IN ECONOMIC EVALUATIONS OF ANTI-EPILEPTIC DRUGS

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OBJECTIVES: Examine patterns of published economic “value messages” for anti-epileptic drugs (AEDs). METHODS: Using literature review best practices, identified, reviewed, and abstracted data from comparative economic analyses published in English and referenced in PubMed or presented at ISPOR. For each study, documented comparators, “winners” and “losers”, explanation of economic advantage (if any) study sponsor (if any), year published, country of interest, and study design. RESULTS: We identified 26 studies containing at least one comparative economic “value message” for an AED. A total of 57% (15) were published as manuscripts; 53% (14 of 26) were sponsored by a drug manufacturer (4 manuscripts and 10 conference abstracts); and 38% (10 of 26) were US-oriented. Of the 14 sponsored studies, Ortho-McNeil (topiramate) sponsored 6 (only 1 published; only 1 US-oriented); UCB (levetiracetam) 4; Novartis (carbamazepine, oxcarbazepine) 3; and GSK (lamotrigine) 1. With only one exception (Ortho-McNeil), sponsored studies generated positive messages for sponsors’ products. The 26 studies generated 39 comparative messages. There was at least one “winning” message for 11 of the 13 AEDs studied. Topiramate was the most frequent “winner” (35% of all messages expressed economic superiority of topiramate over comparators). Lamotrigine was the most frequent “loser” (45% of all economic messages). There was at least one message showing economic superiority over lamotrigine for 7 of the 13 AEDs. For generically available AEDs, the explanation for cost savings stemmed from lower drug price, with no evidence of clinical inferiority. For levetiracetam, the explanation for cost-effectiveness stemmed from reduced seizure frequency, a better side effect profile, and improved adherence. The rationale for topiramate’s economic advantages was unclear from conference abstracts. CONCLUSIONS: Several manufacturers of branded AEDs (Ortho-McNeil, UCB, Novartis) have produced studies describing their drug’s economic value, while others have done very little work in this area. Patterns emerge in methods and comparators.

COST-EFFECTIVENESS OF PREGABALIN AS ADJUNCT TO STANDARD THERAPY IN PATIENTS WITH REFRACTORY PARTIAL EPILEPSY

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OBJECTIVE: To assess the cost-effectiveness of pregabalin, a new add-on antiepileptic, as an adjunct to standard therapy (ST) in adult patients with refractory partial epilepsy (RPE). METHODS: We developed a stochastic model to estimate expected outcomes and costs over one year for a hypothetical cohort of 1000 RPE patients assumed to receive pregabalin (300mg/d, 600mg/d) plus ST or ST alone. Model outcomes included numbers of days free of seizures (“seizure-free [SF] days”) and quality-adjusted life-years (QALYs); the latter were assumed to depend on seizure frequency and side effects. Costs included those of antiepileptics only. Number of days with
seizures was estimated for each month of follow-up for ST patients using data on inter- and intra-patient variability in seizure frequency. Seizure-days for pregabalin patients were estimated by applying the seizure-rate reduction observed in clinical trials to the estimated rate for ST. Health-state utilities were estimated using data from a survey of RPE patients. Costs of antiepileptic drugs were estimated using published US prices. Cost-effectiveness was calculated alternatively in terms of incremental cost per SF day gained and incremental cost per QALY gained. RESULTS: Compared to ST alone, add-on therapy with pregabalin 300mg/d was estimated to yield an average of 41.4 additional SF days and 0.027 additional QALYs over one year; corresponding estimates for pregabalin 600mg/d were 48.6 additional SF days and 0.030 additional QALYs. Incremental cost (mean, 95% CI) per SF day gained was $30 ($24, $39) for pregabalin 300mg/d, and $25 ($21, $29) for pregabalin 600mg/d. Corresponding estimates of the incremental cost per QALY gained were $46,055 ($35,212, $66,992) and $40,638 ($32,616, $50,616). CONCLUSION: The cost-effectiveness ratio for pregabalin as an adjunct to ST in RPE patients falls within accepted published thresholds and compares favorably to those of other add-on antiepileptics.

PNL15
COST-OF-ILLNESS FOR ADULTS WITH PARTIAL EPILEPSY IN SWEDEN
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OBJECTIVES: To estimate the socio-economic cost and health-related quality of life (HRQOL) for adults with partial epilepsy in Sweden during 2003. METHODS: 292 patients were randomly selected from two tertiary centres (University hospital in Lund and Umeå) and complete data was obtained from 175 patients. Patients completed a 3 months prospective seizure diary, one retrospective and one prospective health care resource utilization questionnaire (3 months each). HRQOL data were collected using EQ-5D and a disease-specific instrument, QOLIE-31. In addition, data was collected by physicians/nurses by a one-year retrospective patient chart review. Patients were categorized by most common seizure (sz) type (simple partial, complex partial, secondary generalized) and sz frequency (sz free, <1sz per month, >1sz per month). Direct and indirect costs were estimated using prevalence and bottom-up approach. Direct costs included inpatient care, outpatient care, pharmaceuticals and social services. Indirect costs were calculated based on the human capital theory as loss of production due to temporary sick leave and early retirement. RESULTS: The mean total annual cost per patient due to partial epilepsy was approximately 100,000 SEK, indirect costs accounting for approximately 60%. Disease specific costs varied between 50,000–170,000 SEK depending on sz type and frequency. The mean total annual cost per patient based on all data collected for the patient population was 250,000 SEK, indirect costs accounting for approximately 50%. The patient population cost varied between 100,000–420,000 SEK depending on seizure type and frequency. Patients with complex partial seizure carried the highest cost and had the lowest HRQOL. Patients with no or occasional seizures reported higher HRQOL than patients with more than one sz per month. CONCLUSIONS: Partial epilepsy is a serious and expensive disease. The socio-economic cost increases and HRQOL deteriorates with high seizure frequency increasing frequency of seizures and with frequent complex partial seizures.

PNL16
ECONOMIC BURDEN OF PAIN DUE TO MULTIPLE SCLEROSIS IN CANADA
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OBJECTIVES: Multiple Sclerosis (MS) is an unpredictable, chronic neurological disease with a prevalence in Canada of 0.24%. Prevalence of associated pain ranges from 10%–80% with an average of about 50%. Pain can be musculoskeletal or nerve related and affects patients’ quality of life. We estimated the prevalence and the burden of pain due to MS in Canadian MS patients from the perspective of society. METHODS: The study protocol was approved by a central Institutional Research Board and by participating hospitals. 296 patients were recruited either through MS clinics or the MS Society. Resource utilization data over the previous six months were collected by telephone interviews with the patients for direct (drugs, physicians, hospitalizations) and indirect costs (time loss). Indirect costs were based on time loss using the Canadian average industrial wage. Costing was calculated with Ontario prices and fee schedules, applying 2004 Canadian dollars (CAD). Mean cost per patient was determined (SD, range etc.). The burden was extrapolated to the Canadian population using national demographics and prevalence rates for MS and pain in MS. Spearman’s Rho assessed the relationship between cost and pain severity. RESULTS: The average age was 49 (±11) years, with 77% females. The prevalence of pain due to MS in this study sample was 71% (211/297). The mean total direct cost per patient for pain in MS over a 6-month period was $2528 (SD = $5695), with hospitalization as the highest contributor (mean = $711). The mean total indirect cost for the same period was $669 (SD = $875). We observed a positive trend between cost and pain severity measured by the BS-11 scale (Spearman Rho > 0.291, p = 0.0001). The projected six-month burden for Canada was $65,034,679. CONCLUSIONS: Pain due to MS in Canada is associated with substantial costs to patients and society.

PNL17
ECONOMIC COSTS OF CHRONIC PRIMARY INSOMNIA IN THE UNITED STATES
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OBJECTIVE: Insomnia affects patients’ quality of life and workplace productivity, and is a risk factor for costly acute events and chronic diseases. Existing data on the costs of insomnia are sparse and outdated. Accordingly, in this study we estimated current societal and employer costs of chronic primary insomnia in the U.S. METHODS: Prevalence-based cost-of-illness estimation techniques and data from secondary sources were used to assess the economic burden of chronic primary insomnia (i.e., insomnia that is not due to a medical, psychiatric, or environmental cause) in the U.S. population. Costs included insomnia medications, insomnia-attributable health events and chronic conditions (i.e., depression, alcohol abuse, nicotine dependency, drug abuse, accidental injuries), and lost productivity. The cost of each insomnia-attributable health consequence was estimated by multiplying its total cost by its population attributable risk, which is a function of the prevalence of chronic