COST-UTILITY ANALYSIS OF PEGINTERFERON ALFA-2B PLUS RIBAVIRIN VERSUS INTERFERON ALFA-2B PLUS RIBAVIRIN AS INITIAL THERAPY FOR CHINESE NAÏVE PATIENTS WITH CHRONIC HEPATITIS C

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OBJECTIVE: Aims: To estimate the cost effectiveness of treatment with peginterferon alfa-2b plus ribavirin compared with interferon alfa-2b plus ribavirin for initial treatment of patients with chronic hepatitis C. METHODS: Individual patient level data from a randomised clinical trial with peginterferon plus ribavirin were applied to a Markov model to project lifelong clinical outcomes. Economic estimates and quality of life were based on Taiwan patient data and published data. We used a societal perspective and applied a 3% annual discount rate. RESULTS: Compared with no antiviral therapy, interferon alfa-2b plus weight based dosing of ribavirin or peginterferon alfa-2b plus weight based dosing of ribavirin 24 weeks therapy increased quality adjusted life year (QALY) on overall hepatitis C patients by 6.5 and 6.7 years, respectively. And the life long treatment costs are lower than no antiviral therapy. The peginterferon plus weight based dosing of ribavirin therapy on genotype I patients is dominate. On the other hand, use interferon plus weight based dosing of ribavirin to treat non-genotype I Chinese patients is the most cost-effectiveness therapy. If the SVR of interferon plus weight based dosing of ribavirin is below 67.8%, the best strategy of treating non-genotype I Chinese patients will be The peginterferon plus weight based dosing of ribavirin. CONCLUSIONS: Peginterferon alfa-2b plus ribavirin should reduce the incidence of liver complications, prolong life, improve quality of life, and be cost effective for the initial treatment of Chinese chronic hepatitis C.

COST OF ILLNESS IN US EMPLOYEES WITH AND WITHOUT GASTROESOPHAGEAL REFLUX DISEASE

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OBJECTIVE: To assess the Annual Cost of Illness (CoI) of GERD in an employed population. METHODS: A retrospective analysis was conducted using the Human Capital Management Services Research Reference database of multiple large geographically diverse US based employees with data from 2001 through 2004. Data included medical, pharmacy, payroll and demographic data. The analysis compared the direct medical costs by Place of Service (PoS: doctor’s office, inpatient hospital, outpatient hospital or clinic, emergency department, laboratory, other) for a subset of employees where this data was available. ICD-9 Codes were used to distinguish employees with GERD from the non-GERD cohort. The index date in the GERD cohort was defined as the date of first diagnosis during 2001 or later, while the average GERD index date was used in the non-GERD cohort. Regression modelling was used to measure the cost differences between employees with GERD and employees without GERD while controlling for age, job tenure, gender, salary, region, and comorbidities. RESULTS: Data were available for 267,269 employees (4.3% with GERD). The mean age of employees with GERD was 43 years, and 94% were full time employees. All of the annual CoI and PoS comparisons were statistically different (all P < 0.001). GERD was associated with an annual mean incremental cost of $3,355, of which direct medical costs accounted for 65%, prescription drug costs for 17%, and indirect costs in terms of sick leave, short- and long-term disability, and workers’ compensation for 19%. The largest PoS component (47%) was in the category “outpatient hospital or clinic”. CONCLUSIONS: GERD is associated with substantial direct and indirect costs, of which direct medical costs excluding prescription medications contributed to 65% of total incremental costs in this study.

ECONOMIC BURDEN OF ENDSCOPY-RELATED INFECTIONS, PSEUDO-INFECTIONS AND TOXIC REACTIONS

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OBJECTIVES: The objective of this study is to analyze the economic burden of exogenous endoscopy-related infections, pseudo-infections and toxic reactions in the U.S. in 2004. METHODS: The economic burden was estimated from the U.S. health care perspective. The number of events and patients involved was estimated based on a review of the literature. An analysis of the causes of contamination was conducted to evaluate preventable events. The use of resources was estimated for patients exposed, contaminated and experiencing clinical symptoms. The use of resources included chart reviews, physician visits, clinical tests, and interventions required for the treatment of the infections and toxic reactions. The valuation of resources was based on a review of the literature. A sensitivity analysis of the incidence of endoscopy-related events and the use and valuation of resources was conducted. RESULTS: The analysis yielded a baseline incidence of 2,741 patients exposed to endoscopy-related events; 208 patients contaminated; and 113 patients experiencing clinical symptoms. It was estimated that 91.7% of the cases could be prevented if better infection control practices were implemented, and that 93.3% of the cases could be prevented if protective endoscope sheaths were used during procedures. The total direct medical cost associated with endoscopy-related infections occurring in the US in 2004 was estimated at $7.6 million (range = $2.8–$14.7 million). Health care expenditures for patients experiencing clinical symptoms and evaluation of patient exposed represented 61.3% and 34.8% of the total cost respectively. CONCLUSIONS: The analysis of the economic burden associated with endoscopy-related events reveals the significance of the costs related to the care of patients experiencing clinical symptoms, and the review of patients’ medical charts and the clinical evaluation of exposed patients. The use of protective endoscope sheaths during procedures, improved infection control, and surveillance systems could reduce the economic burden associated with endoscopy-related events.

COST-UTILITY ANALYSIS OF TEGASEROD FOR THE TREATMENT OF IRRITABLE BOWEL SYNDROME

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OBJECTIVES: Tegaserod appears to be safe and effective for treating constipation-predominant irritable bowel syndrome (IBS-C). The present study evaluates whether tegaserod is cost-effective compared to usual care, which consists of education, reassurance, suggestions on lifestyle and diet, and discussion about psychosocial issues. METHODS: The study employed a Markov-cycle tree to evaluate the medical and economic out-
comes of repeated treatment with tegaserod compared to usual care in a hypothetical cohort of 1000 female patients ages 18–65 years. Probability and utility estimates were obtained from clinical trials; costs were derived from published fee schedules and other sources. Using a societal perspective over a 60-week time horizon, treatment of tegaserod was compared to usual care based on costs, quality-adjusted life-years (QALYs), and incremental cost-utility ratio (ICUR). One-way sensitivity analyses were conducted to assess the effect of varying baseline estimates within plausible ranges on ICUR, and a probabilistic sensitivity analysis in which parameters were varied simultaneously over predefined probability distributions was conducted. RESULTS: Although the cost of tegaserod treatment was higher than that of usual care ($1,070,761 vs. $173,000), the outcomes of tegaserod treatment were also better than those of usual care ($334 QALYs vs. 806 QALYs). The resulting incremental cost-utility ratio was $32,113/QALY. The probability that tegaserod remains cost-effective within the generally accepted $50,000 per QALY decision threshold is more than 80%. One-way sensitivity analyses demonstrate that the results are most sensitive to the costs of tegaserod and the utilities associated with treated and untreated IBS. In probabilistic sensitivity analyses, the costs of tegaserod accounted for 77% of variation in the ICUR. CONCLUSIONS: For treatment of IBS-C in females, tegaserod is cost-effective compared to usual care.

A COST UTILITY ANALYSIS OF PEGUINTERFERON ALFA 2B (12KD) (PEG2B) VERSUS PEGUINTERFERON ALFA 2A (40KD) (PEG2A) FOR THE TREATMENT OF CHRONIC HEPATITIS C (CHC) IN BRAZIL

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OBJECTIVES: The Brazilian government has published guidance for the use of pegylated interferons for the treatment of CHC in adults. However, there is no differentiation between the drugs either concerning efficacy or cost effectiveness. We used a previously published Brazilian Markov model to compare these two drugs in terms of cost utility. METHODS: The Brazilian Markov model describes the clinical history of CHC in which cohorts of hepatitis C virus (HCV) patients receive peginterferon alfa 2b or peginterferon alfa 2a for either 48 or 24 weeks according to genotype and liver histology and were followed for their life expected time. The reference patient was a 30-year-old male with CHC without cirrhosis. The SVRs to PEG2b and PEG2a were 48% and 46% for HCV genotype 1 and 88% and 76% for non-1, respectively. Quality of life for each health state was based on literature. Costs for each health state was based on three Delphi panels, one with hepatologists, one with intensivists and another with oncologists. Costs in 2005 reais and benefits were discounted at 3%. RESULTS: In HCV genotype 1 PEG2b increases life expectancy (LY) by 0.07 years and quality adjusted life expectancy (QALY) by 0.13 years compared to PEG2a. In these patients PEG2b is less costly than PEG2a (R$3,763,33 difference). In HCV non-genotype 1 patients PEG2b increases LY by 0.44 and QALY by 0.76. Also, in HCV non-genotype 1 patients PEG2b was less costly than PEG2a (R$6,371,04 difference). CONCLUSIONS: Peginterferon alfa 2b is dominant, in pharmacoeconomics terms, in comparison to PEG2a for the treatment of HCV adult patients, in Brazil.

COST-UTILITY OF A MODALITY OF “C” VIRUS HEPATITIS TREATMENT IN PATIENTS THAT DO NOT RESPOND TO INTERFERON PLUS RIBAVIRIN IN MEXICO

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OBJECTIVE: To determine cost-utility of the treatment alternatives of C virus hepatitis (CVH) in the Mexican Institute of Social Security (IMSS): a) Peginterferon, b) Peginterferon plus Ribavirin, c) Peginterferon plus Ribavirin plus Thymosin in those patients that did not respond to interferon plus Ribavirin, and d) and finally, not using any drug. METHODS: A cost-utility analysis was performed using a decision tree and a Markov model to simulate a cohort of 30-year-old male patients with CVH without chronic complications. The follow-up was till their death. The cost information was gotten from a Mexican expert panel and effectiveness data were taken from a clinical trial in Mexican population. The perspective used was institutional and a 3% discount rate was applied for costs and effectiveness. Costs were reported in 2005 US dollars. The sensitivity analysis performed included one-way, two-way, threshold and probabilistic. Acceptability curves and health net benefits were estimated. RESULTS: The most costly and least effective option was not using any drug, with $4776 per QALY. The alternative with less cost per QALY was the one that included Thymosin ($2246) followed by Peginterferon plus Ribavirin ($2492) and Peginterferon alone ($3229). CONCLUSIONS: The alternatives of not using any drug and the one based on Peginterferon were dominated. Triple therapy (Peginterferon plus Ribavirin plus Thymosin) was the most expensive and effective. Therefore the decision about using triple therapy and Peginterferon plus Ribavirin will depend on willingness to pay.

GII DISORDERS—Health Care Use & Policy Studies

PRIOR AUTHORIZATION AND THE APPROPRIATE PRESCRIBING OF TEGASEROD: A LOOK AT A MANAGED CARE POPULATION

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OBJECTIVE: To assess the effect of prior authorization (PA) on the appropriate gastrointestinal (GI) prescribing of tegaserod in a managed care population. METHODS: Retrospective analysis was conducted of pharmacy and medical claims data of tegaserod users from four geographically diverse managed care health plans. Members who were continuously enrolled and initiated on tegaserod therapy between August 1, 2002 and December 31, 2003 were included in the study. The first prescription fill date for tegaserod during this period was considered the index prescription date. Index diagnosis visit was defined as the closest physician visit with a GI-related diagnosis either before or after the index prescription date. Diagnostic characteristics were evaluated during a 2-year period (1 year before and 1 year after the index prescription date). Appropriate GI prescribing of tegaserod, defined as a claim for IBS or at least one of its symptoms—abdominal pain, bloating, or constipation—was assessed for plans with and without PA. RESULTS: In total, 2638 tegaserod users had an index diagnosis visit for a GI-related disorder; 93.5% were female, and the mean age was 48.6 (SD = 13.7) years. During the 24-month observation period, 93.6% of the patients were appropriately prescribed tegaserod. Specifically, they were diagnosed with IBS (56.4%), constipation (21.2%), abdominal pain (15.8%), or bloating (1.3%). There were no dif-