least once by a substantial percentage of persons in this study. These data provide insight into care for persons at the end of life, particularly among persons with cancer. Furthermore, this information may be useful as a process indicator of the quality of end of life care.

GASTROINTESTINAL DISORDERS—Cost Studies

PG14

INCLUSION OF A PENTAVALENT ROTAVIRUS VACCINE IN THE NEW ZEALAND CHILDHOOD IMMUNISATION SCHEDULE

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OBJECTIVES: To estimate: (i) the current rotavirus burden in New Zealand children less than 5 years of age; and (ii) the annual health benefits, budget impact and cost-effectiveness of including RotaTeq, a pentavalent live-attenuated oral rotavirus vaccine, in the annual Childhood Immunisation Schedule. METHODS: A spreadsheet model was based on local epidemiology and costs plus the findings of a large phase III clinical trial showing that RotaTeq had 94.5% efficacy against rotavirus hospital presentations and 86.0% against non-urgent medical visits. In the base case, vaccine uptake was 85% and the annual discount rate was 5%. RESULTS: We predict annually 1356 admissions, 2781 ED presentations and 9495 primary-care consultations at an annual societal cost of $7.8M ($27.68/child; two-thirds Government, one-third caregivers). Vaccinating successive birth cohorts becomes increasingly effective and cost-effective as more children become immune. After five years (assuming 85% annual uptake of 3 doses), 7936 cases seeking medical attention (1105 admissions, 2215 ED presentations, 6941 primary-care consultations) would be averted. At an acquisition cost of $50/dose, the incremental cost to Government is $6.41 M in year-1 and $3.35 M in year-5. Societal cost in year-5 would be $1301 to avert one hospitalisation and $139 to avert one health care presentation. The annual cost to Government is $3.38 M to avert 7936 cases of paediatric rotavirus gastroenteritis that would otherwise require medical attention. The incremental cost and cost/admission averted are moderately sensitive to rotavirus incidence rates, declining protection over 5 years (if any), and vaccine unit price, but robust to uncertainty in other parameters. The budget impact of vaccination will lessen slightly and the cost-effectiveness will improve slightly beyond year-5, provided protective efficacy is maintained in school-aged children. CONCLUSION: Addition of a pentavalent rotavirus vaccine to the New Zealand Childhood Immunisation Schedule would confer important clinical gains at a modest annual cost.

PG15

PHARMACOECONOMICS OF CHRONIC HEPATITIS C IN SLOVAKIA

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OBJECTIVES: To investigate the cost-effectiveness of therapy of chronic hepatitis C with peginterferon alfa-2b and ribavirin in the context of the Slovak health care system. METHODS: We retrospectively obtained clinical data on the cost of treatment in 140 patients with chronic hepatitis C or advanced chronic liver disease of other etiology. Life-time cost of untreated and treated chronic hepatitis C was calculated using the Markov model and cost-effectiveness of antiviral therapy was evaluated by cost per life-year saved (LYS) analysis. RESULTS: The average medical cost per patient-year in case of chronic hepatitis C not treated with antiviral drugs, compensated cirrhosis, complicated cirrhosis, and after liver transplantation was 578 USD Sk (33,50 Slovak crowns = 1 USD), 926 USD, 5890 USD, and 9997 USD, respectively. The cost per life-year saved using 3% discounting was 3156 USD in the average group of patients and 5711 USD in patients with genotype 1. In patients with genotype 2 and 3 antiviral treatment would result in a lifetime cost saving of 492 USD per patient. CONCLUSION: The cost of treatment of chronic hepatitis C and other chronic liver diseases in Slovakia is comparable with countries with more advanced economies. The treatment of chronic hepatitis C with peginterferon alfa-2b and ribavirin in Slovakia is cost-effective based on pharmacoeconomic calculations.

PG16

BURDEN OF POST-OPERATIVE ILEUS (POI) IN COLECTOMY SURGERY PATIENTS IN THE UNITED STATES

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OBJECTIVES: To study the impact of post-operative ileus (POI) on health care utilization and costs in colectomy surgery patients in the United States. METHODS: A retrospective cohort study design was used. Adult patients with a principal procedure code for colectomy (ICD-9 codes 45.71–45.79), discharged between Jan. 2004 and Dec. 2004 were identified from Premier's Perspective Comparative Database, an inpatient records database from over 500 hospitals in the United States. The colectomy patients were further classified for the presence of POI, defined as presence of paralytic ileus (ICD-9 code 560.1) and/or digestive system complications (ICD-9 code 994.1) during the study period. Hospital length of stay (LOS), ICU LOS, ventilator usage, and hospitalization costs were compared using t-tests and chi-square tests as appropriate. RESULTS: A total of 17,896 patients with primary procedure code for colectomy were identified, of which 3115 (17.4%) patients were classified for presence of POI, including paralytic ileus (N = 2732; 15.3%) and digestive system complications (N = 1899; 10.6%), with significant overlap between the two (N = 1516; 8.5%). A majority of the patients with POI were male (54.9%), Caucasian (70.9%) and in the 51–64 year age group (51%). The average hospital LOS was significantly higher (p < 0.001) in patients with POI (13.6 ± 13.3 days) compared with patients without POI (8.6 ± 9.5 days). The average ICU LOS was significantly higher (p < 0.001) in patients with POI (2.4 ± 8.6 days) compared with patients without (1.2 ± 9.5 days). Ventilator usage was found to be significantly higher (p < 0.001) in the POI group (17.0%) compared to those without (12.4%). Average hospitalization costs were significantly higher (p < 0.001) in the patients with POI ($25,089 ± 53,386) than those without POI ($16,907 ± 29,320). CONCLUSION: Post-operative ileus in colectomy patients is associated with increased hospital resource utilization. Prevention of POI could reduce hospital length of stay and costs.

PG17

HEALTH CARE UTILIZATION AND COSTS ASSOCIATED WITH CONSTIPATION (C-ONLY) AND CO-OCCURRING IRRITABLE BOWEL SYNDROME AND CONSTIPATION (IBS+C) COMPARED TO MIGRAINE IN A LARGE MANAGED CARE POPULATION

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OBJECTIVES: To investigate the cost-effectiveness of therapy of chronic hepatitis C with peginterferon alfa-2b and ribavirin in the context of the Slovak health care system. METHODS: We retrospectively obtained clinical data on the cost of treatment in 140 patients with chronic hepatitis C or advanced chronic liver disease of other etiology. Life-time cost of untreated and treated chronic hepatitis C was calculated using the Markov model and cost-effectiveness of antiviral therapy was evaluated by cost per life-year saved (LYS) analysis. RESULTS: The average medical
OBJECTIVES: Health care utilization and costs may be elevated among patients with C-ONLY and IBS+C. Migraine is an appropriate comparator because it is chronic, costly, and non-gastrointestinal. Health care utilization and costs were evaluated for these three groups. METHODS: A large US health plan claims database was retrospectively analyzed from January 2003 through December 2005. Three mutually exclusive cohorts were identified: 1) C-ONLY: ICD-9 564.0x (N = 91,632); 2) IBS+C: ICD-9 564.1 and 564.0x (N = 10,952); and 3) Migraine: ICD-9 346.xx (N = 101,418). Per patient use and costs (charged amounts) of medical services and prescriptions were assessed over a period of 3 months prior to and 9 months following first diagnosis. Patients had continuous health plan enrollment during this period. RESULTS: Total health care charges were $15,808 and $16,378 for patients with C-ONLY and IBS+C compared to $10,405 among patients with migraine (difference $5,403 and $5,973, both P < 0.0001). Inpatient charges were approximately 2.5 times higher for the C-ONLY cohort and 1.7 times higher for the IBS+C cohort compared to migraine ($9112 and $3,625, vs. $2093; both P < 0.0001). Both cohorts had higher charges vs. office visits compared to migraine ($2460 and $3,050, vs. $2282; both P < 0.0001). Charges for hospital outpatient services were $3913 and $4738 for patients with C-ONLY and IBS+C, respectively, compared to $2784 for migraine (both P < 0.001), while charges for other ancillary services were $2578 and $2627 for C-ONLY and IBS+C, respectively, compared to $1444 for migraine (both P < 0.0001). Prescription drug charges were slightly lower for C-ONLY, but higher for IBS+C compared to migraine ($1438 and $2053 vs. $1551; both P < 0.0001). Charges for ER visits were higher for both cohorts compared to migraine ($307 vs. $251; P < 0.0001 and $284 vs. $251; P = 0.0039). CONCLUSION: C-ONLY and IBS+C are costly conditions that present greater economic burden to payers compared to migraine. Institutional costs are primary drivers for constipation expenditures.

COST OF PATIENT CARE IN PATIENTS WITH CROHN'S DISEASE IN BRAZIL: PUBLIC HEALTH PERSPECTIVE
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OBJECTIVES: Because of its long duration, Crohn’s disease (CD) causes high use of health services and high lifetime costs for medical care. The aim of the present study was to measure the annual costs of patients with CD from the Brazilian public health perspective and to identify potentially relevant determinants of costs. METHODS: Thirty one gastroenterologists from southeast Brazil prospectively evaluated all their CD patients during two months. They used a structured questionnaire specifically developed to evaluate resource use by patients with CD. Costs of medical services (diagnostics and treatment) were considered as well as costs of medication. Resource use was valued using government reimbursement for hospital services and government tender prices for drugs. RESULTS: 221 patients were evaluated. The mean annual cost of one CD patient was R$ 2,239,67, including medication, physician, laboratory, diagnostic procedures, hospitalization and surgery costs. Medication, hospitalization, surgery and laboratory/ diagnostic procedures accounted, respectively for 79%, 18%, 2% and 1% of the total annual costs. Mesalazine was the most used drug to initiate CD’s treatment (59% of the times). Although mesalazine is deemed to be more expensive than sulfasalazine, there was no statistical difference between the costs of the patients treated with mesalazine and sulfasalazine. In fact, due to differences in the mean dosage of these drugs, mesalazine daily cost is lower than sulfasalazine.

CONCLUSION: This is the first time that CD treatment costs have been demonstrated from the Brazilian public health perspective. Considering that there was no statistical difference in total costs among patients taking mesalazine and sulfasalazine, and that medications represent more than 70% of total CD treatment annual costs in the public Brazilian health care system, the use of mesalazine may represent a reduction factor in the financial resource expenditure for the treatment of CD.

INCORPORATING NON-ADHERENCE RESULTING FROM MULTIPLE DAILY DOSE REGIMENS INTO ECONOMIC MODELS: COST-UTILITY ANALYSIS OF ALTERNATIVE GASTROINTESTINAL PROPHYLAXIS STRATEGIES IN PREVENTING NSAID ASSOCIATED GASTROINTESTINAL COMPLICATIONS IN CANADA
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OBJECTIVES: To investigate the potential impact of non-adherence resulting from multiple daily dosing on cost-utility of gastrointestinal prophylaxis strategies in preventing NSAID associated gastrointestinal complications. METHODS: Two decision analytical models (TreeAge 2005) were developed—one model incorporating non-adherence resulting from multiple daily dosing and another model that does not. Each model evaluates the cost-utility of gastrointestinal prophylaxis in a hypothetical cohort of patients’ age ≥65 years beginning a 6 month course of NSAIDs. Patients entering each model were treated with either: (1) No Prophylaxis, (2) Proton Pump Inhibitors (generic omeprazole od) (3.) misoprostol (200 ug qid), (4.) ranitidine (300 mg bid). Average adherence to therapy: od = 79% ± 14%, bid = 69% ± 15% and qid = 51% ± 20% were obtained from a systematic review of studies using electronic monitoring devices. Costs were from the perspective of a 3rd party payer of a Canadian provincial seniors’ drug plan. Cost-Utility was measured in terms of cost per quality adjusted life year (QALY) gained, relative to no prophylaxis. Probabilistic sensitivity analysis using Monte Carlo Simulation was used to generate uncertainty of results, along with cost-effectiveness acceptability curves. RESULTS: Misoprostol (200 ug qid) has a greater likelihood (69.2%) than generic omeprazole (30.8%) of being the optimal cost-effective strategy at a willingness to pay (WTP) of $50,000 per QALY in the model that does not incorporate non-adherence resulting from multiple daily dosing. In the model that incorporates non-adherence resulting from multiple daily dose regimens, generic omeprazole has a greater likelihood (94.8%) than misoprostol (5.2%) of being the optimal cost-effective strategy at a WTP of $50,000 per QALY. CONCLUSION: Cost-utility results are sensitive to non-adherence resulting from multiple-daily dosing. Previous economic models in this area have not incorporated this in the analysis. Markov modeling or discrete event simulation may be better suited to incorporate non-adherence rates of therapies.