MEDICAL CARE COSTS OF PRIMARY OPEN-ANGLE GLAUCOMA IN THE UNITED STATES: A NATIONAL ESTIMATE USING THE MEDICAL EXPENDITURE PANEL SURVEY

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OBJECTIVES: The objective of this study was to estimate the direct costs of medical care associated with the treatment of primary open-angle glaucoma (POAG) in the United States.

METHODS: Retrospective analysis was conducted of the 2001 Medical Expenditure Panel Survey (MEPS) data. The MEPS collected survey and administrative claims data from a nationally representative sample of 33,556 respondents and from respondents' health care and insurance providers. Data extracted for this study included demographics (patients ≥40 years of age), medical conditions, and utilization of and payments for medical care. Patients with POAG were identified using ICD-9-CM codes and direct costs were calculated using patient and third-party payments for POAG-related medical events by type of care provided (office-based provider visits, prescription medications, and outpatient services). Sample estimates were weighted and projected to the population and 95% confidence limits were calculated using the Taylor expansion method. RESULTS: The estimated prevalence of POAG using the MEPS was 1.25% (95% C.L. = 0.94%–1.56%) or 1,640,087 individuals. Total direct costs of POAG were $1,788,914,417, with an average cost of $1,091 per patient. Prescription medications accounted for $2 billion. Although prescription medications accounted for $619,401,436 (mean cost / visit = $58; 95% C.L. = $54–$63) of direct costs. Office-based provider visits represented $1,042,509,011 (mean cost / prescription = $105; 95% C.L. = $96–$113) and outpatient services represented $127,003,970 (mean cost / patient = $316; 95% C.L. = $198–$434). CONCLUSIONS: Using the MEPS, POAG was estimated to affect nearly 1.7 million individuals with resultant medical care costs approaching $2 billion. Although prescription medications accounted for 58% of total direct costs, they had the lowest mean cost across the types of care. It may well be that innovative drug therapies, which are preferable to less effective alternatives, contribute to less utilization of more costly medical care.

COST OF GLAUCOMA TO THE CALIFORNIA MEDICAID (MEDI-CAL) PROGRAM BETWEEN 1995 AND 2002

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OBJECTIVES: To estimate the treatment costs of glaucoma to the California Medicaid program from 1995–2002. METHODS: Patients with glaucoma (ICD-9 = 365.xx) were identified using a 20% sample of the Medi-Cal administrative claims database from January 1, 1995 to December 31, 2002. Yearly cost was compared between glaucoma patients and controls through a case-control match. For each patient with glaucoma, three Medi-Cal enrollees without glaucoma were matched based on age and gender. In addition, expenditures were calculated for inpatient, outpatient, pharmacy, and other medical costs during the first year after the initial glaucoma diagnosis. All costs were eligibility-adjusted by the number of eligible months. RESULTS: In total, 32,395 glaucoma patients matched a cohort of 97,185 controls. The average age was 65.5 years and 65% were female. The average yearly costs for glaucoma patients were $4191 and $4021 for control patients. The cost steadily increased over the eight-year study period at a rate higher in glaucoma patients than in the control group. For the glaucoma patients, the treatment costs in 2002 were more than twice of controls in 1995 ($5974 vs. $2,597), without adjusting for inflation. On average, the first year treatment costs after the initial diagnosis for glaucoma patients were $4347, where $1554 (35.7%) were pharmacy costs, $1315 (30.2%) hospitalization, $595 outpatient, and other medical costs were $1086. Additional analysis suggested that in year 2002, Medi-Cal incurred an incremental $116 million dollars due to glaucoma. CONCLUSIONS: The economic burden of glaucoma to the Medi-Cal program doubled between 1995 and 2002.

PATIENT-REPORTED VISUAL FUNCTION IN LOW-VISION POPULATIONS (NEI-VFQ): AN ANALYSIS WITH COMPARISONS OF READING PERFORMANCE, CONTRAST SENSITIVITY, SCOTOMA TESTING, AND VISUAL ACUITY

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OBJECTIVES: To assess the criterion validity of a patient reported visual function instrument (NEI-VFQ) in a cohort of low vision patients using clinical parameters. METHODS: A subset of the NEI-VFQ-51 items was administered to 255 low vision patients. Contrast sensitivity (CS), visual acuity (VA), reading acuity (RA), critical print size and maximum reading rate were measured. Retinal visual function was evaluated and foveal functioning assessed. The association of the NEI-VFQ subscales with clinical parameters were assessed by Pearson’s correlation coefficients. Subscale scores between patients with stable/unstable vision loss and a functioning/non-functioning fovea were compared using Students T-test. Linear regression models were used to calculate the differences in scores that corresponded to a clinically significant three-line loss in visual acuity. RESULTS: Binocular VA was significantly correlated with the near vision (r = −0.36, p < 0.0001) and distance vision subscales (r = −0.43, p < 0.0001). Contrast sensitivity was moderately correlated with near vision (r = 0.36, p < 0.001) and more strongly correlated with distance vision (r = 0.42, p < 0.001). The maximum reading rate was significantly correlated with VA (r = 0.53, p < 0.0001). Patients with unstable visual loss reported a significantly lower mean composite score (6.0 points, p = 0.03), expectation score (19.9 points, p < 0.0001) and social functioning score (7.9 points, p = 0.03) than patients with stable visual loss. Significant differences were found in the near (22.5 points, p < 0.0001), distance (11.8 points, p = 0.015), social functioning (15.5 points, p = 0.015), and role limitations (17.0 points, p = 0.009) subscales between patients with a functioning versus non-functioning fovea. A three-line difference in visual acuity was associated with a 5.8 to 10.9 point difference in the NEI-VFQ domains. CONCLUSION: The NEI-VFQ correlated significantly with reading speed and binocular visual acuity. Foveal functioning is significantly associated with the near and distance subscales, as well as reading speeds. A minimally important clinical difference of three lines of VA is associated with a 5.8–10.9 difference in NEI-VFQ scores.

GI DISORDERS

PREVALENCE AND RISK FACTORS FOR DIARRHEA AT A LARGE TERTIARY CARE MEDICAL CENTER


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OBJECTIVES: The purpose of this project was to assess the prevalence and risk factors for diarrhea at a large tertiary care medical center. METHODS: Prospective cross-sectional study conducted on December 13, 2004 in a 600-bed tertiary care medical center. All patients hospitalized for greater than 24-hours on the study day were interviewed. Patients were asked if they were experiencing diarrhea (defined as passing of two or more unformed stools in the past 24-hours.) All patients reporting diarrhea were tested for Clostridium difficile. Patient demographics, and use of antibiotics, tube feeds, GI motility agents, steroids, chemotherapy proton pump inhibitors were collected for every patient. Chi-square analysis was used to determine risk factors for diarrhea. RESULTS: A total of 485 patients were interviewed for the study, of which 60 (12.3%) patients reported diarrhea. The risk factors for diarrhea include Clostridium difficile infection (OR 15.1, p < 0.0001), hospitalization duration (p < 0.0001), current use of antibiotics (OR 1.95, p = 0.0166), and tube feeds (OR 3.34, p < 0.0018). Prevalence of diarrhea increased with longer duration of hospitalization (p = 0.03). CONCLUSION: Twelve percent of hospitalized patients experienced diarrhea in our study. Common risk factors for diarrhea included C. difficile infection, current use of antibiotics, tube feeds, or longer hospitalizations.

PGI2 THE BUDGET IMPACT OF TEGASEROD ON A MANAGED CARE ORGANIZATION FORMULARY Bloom MA1, Barghout V2, Kahler KH2, Bentkover JD3, Kurth H4, Gralnek IM1, Spiegel B4
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OBJECTIVE: To develop a budget impact model that assesses the economic impact of adding tegaserod for the management of irritable bowel syndrome with constipation to a managed care organization’s (MCO) formulary. METHODS: The model estimates per patient and per-member per-month (PMPM) economic impact of two patient subgroups six-months prior to and six-months after the initiation of tegaserod. The incremental budget impact of tegaserod was then calculated by subtracting the prior period costs from the post period costs. The two patient subgroups were 1) females with an IBS diagnosis (FIBS); and 2) males and females with other GI diagnosis (GID). Resource utilization data were based on a retrospective, longitudinal study of 3365 tegaserod users from a large, geographically-diverse MCO utilizing medical and pharmacy administrative claims data. We used prevalence and tegaserod treatment rates observed from the aforementioned MCO. Sensitivity analyses were performed by varying several model inputs parameters. RESULTS: The base-case model resulted in an incremental PMPM budget impact associated with the use of tegaserod of $0.01. Total per-patient budget impact (for all resources, including tegaserod) for a six-month period was $274.34 for FIBS and $301.84 for GID. Overall, 25.9% (29.0% for FIBS and 21.9% for GID) of the cost of tegaserod was offset by decreases in resource utilization. Key drivers of post-tegaserod reductions in resource costs were hospital stays, abdominal and pelvic CAT scans, colonoscopies (for FIBS), and outpatient office consultations and emergency room visits (for GID). CONCLUSIONS: Tegaserod therapy can decrease GI-related resource use, resulting in a significant cost-offset percentage. When the associated budget impact of adding tegaserod to formulary is absorbed across an entire MCO population, the PMPM impact of tegaserod is small.

PGI3 THE ECONOMIC IMPLICATIONS OF SOMATROPIN [ rDNA ORIGIN] MANAGEMENT IN PATIENTS WITH SHORT BOWEL SYNDROME Migliaccio-Walle K, Caro JJ, Moller J
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OBJECTIVES: Short bowel syndrome (SBS) results from extensive surgical removal of portions of the small intestine, and leads to serious morbidity and shortened life expectancy. A recent trial showed that use of somatropin [rDNA origin] for injection (rhGH) significantly reduces the need for standard treatments such as parenteral nutrition (PN), which significantly impair quality of life. This study sought to evaluate the economic impact of this new treatment. METHODS: A discrete event simulation was developed to compare a regimen of daily rhGH for four weeks with PN alone in the management of patients with SBS. Risks of treatment- and disease-related complications and resource use were modeled in two identical cohorts of 1000 patients for two years. Rates of disease-related events (e.g., biliary problems), including age-dependent mortality, were assumed to be the same across strategies. Risk functions for each strategy were estimated from the literature and one randomized clinical trial. Direct medical costs were obtained from Medicaid and the literature. Sensitivity analyses were conducted on key parameters. Direct medical costs are reported in US$2004. All outcomes were discounted at 3%/yr. RESULTS: Overall, 96.0% of patients receiving rhGH reduced or eliminated PN use within six weeks of initiating the regimen; one-third weaned completely; and PN use decreased 2.8 days. PN was estimated to cost $118,099 in year one and $132,935 in year two, totaling $231,033 vs rhGH cost of $84,309, including $17,459 for treatment, in year one, a savings of $33,790 per patient; over two years $165,559, for a total savings of $85,474. Cost neutrality is achieved within eight months. Sensitivity analyses showed no significant change in results. CONCLUSIONS: The reduction of PN use or complete weaning in the vast majority of patients with rhGH results in a substantial savings and improvement in quality of life—a dominant strategy.

PGI4 THE COST-EFFECTIVENESS OF TWO STRATEGIES FOR VACCINATING PATIENTS WITH HEPATITIS C VIRUS INFECTION AGAINST HEPATITIS A AND HEPATITIS B Jakiche R, Borrego ME, Raisch D, Gupchup G, Pai M, Jakiche A
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OBJECTIVE: To model the cost-effectiveness of two strategies for vaccinating patients with chronic hepatitis C virus (HCV), the ideal vaccination strategy is not determined. OBJECTIVE: To model the cost-effectiveness of two strategies of vaccinating patients with HCV infection against hepatitis A (HAV) and hepatitis B (HBV) viruses. The strategies evaluated were: universal vaccination with the combined HAV and HBV vaccine, and selective vaccination based on immunity by blood testing. METHODS: A decision tree computer model was constructed to compare the cost-effectiveness of the two vaccination strategies from the New Mexico Veterans Affairs Health Care System (NMVAHCS) perspective. A retrospective review of all HCV patients (2542 subjects) at the NMVAHCS was performed to extract prevalence of immunity to HAV and HBV, and prevalence of uncomplicated