RESPIRATORY DISORDERS—Health Care Use & Policy Studies

REDUCTION IN TOTAL TREATMENT COSTS THROUGH IMPROVED PHARMACOTHERAPEUTIC TREATMENT OF OBSTRUCTIVE AIRWAY DISEASES

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OBJECTIVES: The aim of the study was to estimate the economic impact of improved pharmaceutical care in obstructive airway diseases (OAD) by evaluating the effects of the introduction of new pharmaceutical treatments in the costs of OAD treatment between 1996 and 2005. METHODS: To analyse the real change in the costs of OAD treatment, we estimated costs in 2005 assuming that the treatment practices (pharmaceuticals, hospitalizations, outpatient visits) had been similar to 1996 and subsequently compared these expected costs to the actual costs in 2005. The change in real costs due to improved pharmaceutical care was estimated by evaluating the change in the number of exacerbations requiring treatment. A spreadsheet based probabilistic simulation model was used. The data on health care resources, pharmaceuticals and costs were obtained from national registries. The effectiveness of pharmaceutical treatments in reducing exacerbations was obtained from three published meta-analyses. RESULTS: Compared to 1996, the improved pharmaceutical treatment decreased other OAD treatment costs in 2005 by 33.7 (95% CI: 19.4–50.9) million euros explaining 42.1% of the decrease in secondary health care costs of OAD in Finland. When adjusting for the increase in the number of patients, the extra costs of new pharmaceutical treatments were 5.1 million euros. Thus the increase in pharmaceutical costs was offset more than 6-fold by the reduction in secondary health care costs. CONCLUSION: The OAD treatment costs in Finland have decreased significantly as a result of improved pharmaceutical treatments. When pharmaceuticals are properly evaluated as one part of the treatment process, the expressed concerns over the increasing pharmaceutical costs seem to be unfounded in the case of OAD.

ECONOMIC BURDEN OF DISEASE OF PULMONARY ARTERIAL HYPERTENSION IN GERMANY: AN INTERIM ANALYSIS OF RESOURCE UTILISATION

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OBJECTIVES: To describe health care provision and resource consumption in patients with pulmonary arterial hypertension (PAH) in Germany. METHODS: A multi-centre, cross-sectional, retrospective and prospective study was conducted which addressed PAH care in hospitals and in the ambulant setting taking into account the patients’ perspective. Study period covered 15 months. In hospitals, chart abstraction was accomplished 12 months retrospectively and 3 months prospectively. A GP’s questionnaire covered health care utilisation in the office-based sector and two patient questionnaires were applied to collect data on health status, resource consumption (over 3 months), and quality of life. RESULTS: Ten hospitals enrolled 150 patients with PAH; data of 118 patients (treated October 2004–December 2006) were considered within this interim analysis. Response rate of GP questionnaire was 52%, of patient questionnaires 85% (1st questionnaire) and 76% (2nd questionnaire). Mean age of patients was 55 years (SD 14), 72% were female. 60% suffered from idiopathic PAH and 40% from PAH mainly associated with collagen vascular diseases (37%), congenital systemic-to-pulmonary shunts (26%), or portal hypertension (22%). Mean duration from occurrence of first symptoms until diagnosis was 2.3 years (SD 4.4). Within 15 months mean number of GP visits was 23.1 (SD 16.2); mean number of hospital visits was 4.5. 44% of patients were hospitalised (mean length of stay: 7.1 days SD 6.1). Hospitalisation with surgical interventions (5% of hospital stays) occurred for port-transplantation or catheter replacement. 59% of patients received anticoagulants, 60% diuretics, 27% calcium-antagonists, 66% endothelin-receptor antagonists, 20% inhalative prostacyclin analogues, and 25% PDE5 inhibitors. 10% of patients participated in rehabilitation with a mean length of stay of 30.1 days (SD 11.3). CONCLUSION: This analysis is the first step in a comprehensive study on health care provision and economic burden of PAH in Germany. In a second step outcomes, e.g. disease severity and quality of life, will be assessed.

ANALYSIS OF THE PREDICTIVE ABILITY OF DIAGNOSTIC COST GROUPS, RXGROUPS, AND PRIOR COST FOR TEXAS MEDICAID COPD PATIENTS

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OBJECTIVES: The objective of this study was to test the ability of Diagnostic Cost Groups (DCGs), RxGroups, and prior cost risk models to identify high risk patients within the Texas Medicaid Chronic Obstructive Pulmonary Disease (COPD) population who could benefit from case management intervention. METHODS: DCGs, RxGroups, and prior cost risk models were used to predict future medical costs. ICD-9 diagnostic codes, NDC drug codes and 2001 total health care costs were input into the risk models. The study included Texas Medicaid patients under the age of 65 who had an inpatient diagnoses of COPD in 2000 and were continuously enrolled in Medicaid from 2000–2002 (n = 7967). The risk models predicted total health care costs for 2002. Predicted costs were compared to actual 2002 costs using R² and mean absolute prediction error. Prediction of high cost cases were analyzed using the positive predictive value (PPV) of the top 5% of high cost patients. RESULTS: The R² was 0.035 for the DCG inpatient + RxGroups model and 0.033 for the prior cost model. For the top 5% of high cost patients the DCG + RxGroups model had a PPV of 20.5% (82/399). PPV for the prior cost model was 33.1% (132/399). The mean absolute prediction error was $7293 for the DCG inpatient + RxGroups model and $7429 for the prior cost model. CONCLUSION: Diagnosis-based risk adjustment models using only inpatient and pharmacy data may not be as useful as prior cost data when attempting to identify future high cost cases among Texas Medicaid COPD patients. A combination of diagnosis-based risk adjustment models and prior cost data may prove to be the most effective way to identify COPD candidates for case management.