ASSOCIATIONS BETWEEN IATROGENIC PNEUMOTHORAX AND OUTCOMES ASSOCIATED WITH IATROGENIC PNEUMOTHORAX

**OBJECTIVES:** The clinical and economic impact to U.S. hospitals of air leaks during post-operative pulmonary surgery using the Medicare Provider Analysis and Review (MEDPAR) data set. METHODS: The 2008 The Medicare Provider Analysis and Review (MEDPAR) data set contains records for 100% of Medicare beneficiaries who use hospital inpatient services. For all stays with pulmonary surgery, length of stay (LOS), total charges, and in-hospital mortality rates were compared between those stays including an air leak vs. those stays without an air leak. Unadjusted results were calculated using descriptive statistics (mean, median, frequencies, etc.). Adjusted results were calculated using multivariate regression analysis while controlling for age and gender. RESULTS: There were a total of 41,348 hospital inpatient stays with pulmonary surgery in the 2008 MEDPAR data set, of these 8,774 (21.2%) included air leak and 32,574 (78.8%) of which did not. In the MEDPAR data set patients with pulmonary surgery stays including air leak had a similar age distribution to patients without air leak and had a longer LOS on average (10.7 days vs. 7.2 days; P<0.0001), had more total charges ($78,830 vs. $63,528; P<0.0001) and were nearly equally likely to die during their stay (14.8% vs. 13.94%; P=0.057). After adjusting for differences in age and gender between the two groups, the incremental LOS and total charges due to the presence of air leak is 3.4 days and $14,532 respectively. The total additional economic impact of having an air leak after pulmonary surgery, estimated by applying patient level adjusted charges to the incidence of air leak, is $127.5 million. CONCLUSIONS: The clinical and economic impact to U.S. hospitals of air leaks during or following major pulmonary surgery is significant. The reduction of these air leaks could save considerable hospital resources, payer dollars and patient lives.

OUTCOMES ASSOCIATED WITH IATROGENIC PNEUMOTHORAX

**OBJECTIVES:** Iatrogenic pneumothorax occurs when air or gas becomes present in the pleural cavity following medical treatment. Besides subjecting the patient to the immediate risk of hypoxia, this can result in a potentially fatal event if air entry into the pleural cavity is not recognized and treated. OBJECTIVES: To comprehensively assess the burden of iatrogenic pneumothorax in the U.S. METHODS: Discharge records from the Premier’s Perspective database of U.S. inpatients who underwent inpatient pulmonary surgery and were discharged in 2007 were examined. The definition of iatrogenic pneumothorax consistent with ICD-9-CM code 512.1 was used to classify patients. Chi-square tests were used to detect differences between iatrogenic pneumothorax patients and non-iatrogenic pneumothorax patients for these outcomes. Multivariable regression models were used to obtain more precise estimates of the incremental effects of iatrogenic pneumothorax on outcomes while controlling for comorbidities, demographic and clinical characteristics of the patient’s primary diagnosis. RESULTS: A total of 8,827 iatrogenic pneumothorax patients were analyzed (8,482 with iatrogenic pneumothorax). Chi-square tests demonstrated that patients with iatrogenic pneumothorax were older (P<0.0001), had lower hospital costs (P<0.0001), a shorter length of stay (P<0.0001), and lower mortality rates (P<0.0001). Logistic modelling demonstrated that iatrogenic pneumothorax increases patient costs by 10.49% (95%CI: 8.76%–12.23%). Negative binomial models showed iatrogenic pneumothorax increases patient length of stay by 8.01% (95% CI: 6.21%–9.82%), while no difference was found with respect to mortality. CONCLUSIONS: The incremental effects of iatrogenic pneumothorax are shown to significantly increase patient costs and length of stay but not inpatient mortality.

BURDEN OF BRONCHIAL ASTHMA AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN RUSSIA

**OBJECTIVES:** To assess social and economic burden of a Bronchial asthma and Chronic Obstructive Pulmonary Disease in Russian Federation. METHODS: "Cost of illness" analysis was performed. Available data on epidemiology of bronchial asthma and chronic obstructive pulmonary disease in the Russian Federation has been analyzed. Each attempt was questioned to describe the common practice of treating patients with bronchial asthma and chronic obstructive pulmonary disease. Direct costs, indirect costs and intangible costs were calculated. RESULTS: According to the state registration data, in 2007 the number of patients with bronchial asthma was 1.3 million and with chronic obstructive pulmonary disease—2.4 million. The burden of bronchial asthma incorporates direct costs ($220.9 million), indirect costs ($67.4 million) and intangible costs ($69.6 million). The burden of chronic obstructive pulmonary disease is $120.6 million, $212 million, $207 million for direct costs, indirect costs and intangible costs respectively. Cost of BA and COPD is $987.8 million.

CONCLUSIONS: According to the results of the analysis Bronchial asthma and Chronic Obstructive Pulmonary Disease proved to be an important medical and social problem in Russian Federation.

COST OF COPD IN POLAND

**OBJECTIVES:** About two million people suffer from COPD in Poland. The aim of this study was to estimate direct, mean costs of COPD in Poland under usual clinical practice form societal perspective. METHODS: It was an observational retrospective and prospective bottom-up cost-of-illness study, based on a retrospective sample of patients presenting with COPD. Total medical resources consumption of a sample of COPD patients were collected in 2008 year through physicians—lung specialists. Direct costs of COPD were evaluated based on data from different populations of five medical hospitals and eight ambulatory care. Medical resource consumptions were categorized by investigators as usual COPD follow up and number and severity of exacerbations. Resources utilisation and cost data are summarised as mean values per patient per year. 95% confidence intervals were derived using parametric bootstrapping. RESULTS: In patients studied, number of free of exacerbation days was 331, 1 mean number of outpatient exacerbation was 1.27, mean number of exacerbations requiring hospital was 0.24. Average total medical resource consumption of a COPD patient per year was 10806.1. Among this cost $617.8 was directly related to treatment of stable COPD (costs of drugs, additional exams, costs of medical visits, influenza vaccination and home oxygen therapy), $930.5 to outpatient exacerbation, and $259.8 to exacerbation treated in hospital. CONCLUSIONS: The burden of COPD itself appeared to be considerable magnitude from societal perspective in Poland. Overall, the main cost drivers were inpatient care and prescription medication.

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