stay served to contribute to a 0.19% probability increase of 30-day readmissions (p<0.001). CONCLUSIONS: Several comorbidities and a previous record of hospitalizations served as risk factors for 30-day readmissions. Patients with these risk factors are vulnerable and merit special attention.

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THE DETAILED DECISIONS OF 30-DAY HOSPITAL READMISSIONS AMONG PATIENTS WITH ASTHMA
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OBJECTIVES: The societal economic burden of asthma was $6 billion (direct and indirect costs) in 2007. Inpatient costs represented 28%-43% of the total direct costs (excluding prescription costs). The objective of this study is to estimate the determinants of 30-day hospital readmissions among patients with asthma. METHODS: A retrospective medical record audit was conducted. Healthcare utilization was obtained for patients with asthma claims in the medical database for the 30-day period following a hospital discharge (n=493) among all age groups utilizing the 2012 Truven MarketScan dataset. Patients discharged to home or other facilities were included (un-weighted n=16,390). A multivariable logit model was employed where the outcome variable was a dichotomous variable indicating a 30-day readmission. Covariates included demographic characteristics, length of stay at index hospitalization, past healthcare utilizations, and comorbidities. RESULTS: Among patients with asthma, the readmission rate within 30 days after the index hospitalization discharge was 4.8%. Older groups were more likely to be readmitted than younger group (17-34 aged): Odds ratio (OR) =1.59 (55-64 aged, p=0.023), 1.61 (45-54 aged, p=0.012) and 1.71 (55-64 aged, p=0.007). Patients with HMO, FPO, and Comprehensive insurances were 72% more (OR=1.72, p=0.001), 31% less (OR=0.69, p=0.031) and 68 less (OR=0.32, p<0.001) likely to be readmitted than those with FPO, respectively. Patients discharged to other facilities were 388% (OR=4.88, p<0.001) more likely to be readmitted than those discharged to home. Patients with connective tissue disease were 63% (OR=1.63, p=0.007) more likely to be readmitted within 30 days than those without. In addition, an increase of hospitalization acuteness and treatment pattern used for the study where the same as those described in the patient and outpatient care levels from a public Mexican institutional perspective. In this case insured patients from the “Instituto Mexicano del Seguro Social” (IMSS) have been evaluated. RESULTS: From the public Spanish database, 450,000 patients were evaluated to estimate the direct medical costs of COPD exacerbations. The level of acuteness and treatment patterns used for the study where the same as those defined by the institution (IMSS guideline). Patient records were retrieved from the existing electronic databases for a 11822 COPD patients cohort. Exacerbation episodes were classified according to the guideline. Inpatient and outpatient care was the criteria for assessing the use and frequency of medical resources, including relevant outcomes as hospitalization, physician visits, intensive care unit, surgery, medication use, clinical studies among others. Unitary costs were obtained from public tabulators (2014/IMSS). Mean frequency values were weighted with its corresponding costs. RESULTS: In 2013, 16122 episodes of exacerbation were identified in patients with COPD, representing 97% of all cases; being those over 65 years the most frequent (81%). A mean average of 5.6 days of inpatient care was found at the study horizon. Yearly weighted cost of treatment for outpatient and inpatient care was US$5,630 and US$1,259 respectively. A unitary item costs analysis from the inpatient versus the outpatient treatment groups found a significant increase in medication use (+83%), speciality visits (+100%), surgery (+100%) among other items. CONCLUSIONS: In the treatment of exacerbation episodes in patients with COPD, the cost per patient of inpatient versus outpatient care was estimated to be 83% higher. Reducing the risk of exacerbation episodes with the right treatment choice would be relevant for Mexican institutions.
A COST EFFICIENCY MODEL FOR COMPARING ON-DEMAND TREATMENT COSTS IN HEREDITARY ANGIEdema

Edgardo J., Weatra S

OBJECTIVES: To capture the cost-related, objective, and customizable cost estimation formula to compare per-attack treatment costs of four recently FDA-approved Hereditary Angioidema (HAE) products. METHODS: Products developed for small orphan disease populations such as hereditary angioedema (HAE) are predictably costly. Comparing treatment costs among new HAE therapies is complicated by differences in dosing recommendations and re-dosing probabilities. We propose a simple cost estimation formula that factors in the non-static variables of body weight and re-dosing likelihood per attack based on official prescribing recommendations and published clinical study data. Other administrative or indirect costs were not factored into the formula. RESULTS: Formulas were developed that allow insertion of local institutional data into the model. The cost of the initial dose was added to determine the total cost, factoring in the anticipated need for re-dosing. For products having more than one published re-dosing frequency, the highest frequency was assumed. The cost estimation formulas address three theoretical patient weight categories: ≤40 kg (to reflect small adults or pediatric patients), a standard 75 kg adult, and obese patients weighing between 100–125 kg. CONCLUSIONS: While therapy choices in HAE should be primarily driven by clinical factors and patient preferences, cost of treatment can be an important consideration if multiple options are considered equally appropriate. The formulas presented provide a simple, objective means of quickly comparing direct product costs for treating an HAE attack using local pricing figures.

COST AND RESOURCE UTILIZATION IN HOSPITAL-TREATED CAP PATIENTS

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OBJECTIVES: Cost analysis, acquired pneumonia, is a leading cause of hospitalization in the US and is associated with substantial healthcare costs. The most commonly administered regimen for hospitalized patients, guideline-instructed intravenous azithromycin 500mg/ceftriaxone 1g (azi/ceft), is not available in identical oral formulations requiring patients to switch to oral medications when sufficiently improved for oral treatment (oral switch). The incremental cost and resource utilization associated with this requirement has not been fully characterized. This study characterizes the incremental burden of a regimen lacking identical oral formulation. METHODS: Inpatient stay data from the Truven Health Marketscan® Hospital Drug Database were used in this analysis. CAP inpatients treated with azi/ceft were compared to those treated with intravenous levofloxacin 750mg (levo), a fluoroquinolone. All-cause mortality among identified groups was compared. RESULTS: Six thousand one hundred and eighty-nine (6,189) patients diagnosed with CAP who required hospitalization were included, 3,264 patients were treated with azi/ceft, 2,702 with levo, and 2,017 with the oral switch regimen. Patients on the oral switch regimen had a significantly higher Charlson Comorbidity Index score compared to patients treated with azi/ceft (3.23 vs. 2.86) and levo (3.23 vs. 2.66). The use of azi/ceft, the most common antibiotic regimen for hospitalized CAP patients but one that lacks an identical oral formulation, is associated with increased LOI/V, LOS and cost. Efficacious alternatives with similar (or better) adverse event profiles and an oral formulation may yield cost and resource use savings.

OUT-OF-POCKET EXPENSES FOR COPD PATIENTS IN A THIRD LEVEL HOSPITAL


OBJECTIVES: Chronic Obstructive Pulmonary Disease (COPD) is a main worldwide cause of morbidity and mortality. COPD prevalence in 40 years or older people is 7.8% in Mexico City. However, there is no information about direct cost of COPD patients in Mexico. This study estimated direct costs of COPD from patient perspective in a third level hospital. METHODS: We conducted an interview at each visit by patients from August 2013 to July 2014 in a third level hospital. The diagnosis was carried out by a pulmonologist according to GOLD criteria. Information about direct and indirect costs was collected. Mean (SD) of annual total cost, medical consultation, clinical test, drugs, oxygen, transportation, gas and food were estimated for outpatients with at least one year of diagnosis and stratifying by severity Costs were transformed in U.S. Dollars of 2014. RESULTS: We interviewed 402 outpatients. Patients were classified as: mild (n=36), moderate (n=137), severe (n=76) and very severe (n=233). Mean (SD) of costs were: 6,013 (2,398) vs. 5,945 (2,239) vs. 5,358 (1,901), vs. 9,361 (3,986) for mild, moderate, severe and very severe COPD respectively. Conclusions: Average annual total cost of outpatients with COPD in Mexico City was 5,945 (2,239) U.S. dollars. Costs increased significantly with severity. Out-of-pocket expenses for COPD were 1,371 (512) U.S. dollars.

A DESCRIPTIVE ANALYSIS OF PATIENT CHARACTERISTICS AND HEALTH CARE BURDEN ASSOCIATED WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN THE U.S. MEDICARE POPULATION

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OBJECTIVES: To evaluate patient characteristics and health care burden associated with chronic obstructive pulmonary disease (COPD) in the U.S. Medicare population. METHODS: COPD patients were identified (International Classification of Disease, 9th Revision, Clinical Modification [ICD-9-CM] codes: 491.xx, 492.xx and 496.xx). Patients were inclusion if they had continuous medical and pharmacy benefits for 12 months. Costs were calculated for 12 months after index date (baseline period) and for 12 months after index date (follow-up period). RESULTS: A total of 543,249 COPD patients were identified. Patients were, on average, age 78 years. Most patients were white (94%) and resided in the South U.S. region (41%). The average Charlson Comorbidity Index for all patients was 2.73, and hospitalization for one year was 9.5% for congestive heart failure (26%) and chronic pulmonary disease (20%) were the most frequently diagnosed comorbidities. A 13.82% mortality rate was observed during the first year of the follow-up period. Post-index LABA medications, including arformoterol (0.55%), fomoterol (0.25%) and salmeterol (0.32%) were prescribed to 1.10% of the population. Identified LABCIS combinations included budesonide/formoterol (1.97%) and fluticasone/salmeterol (10.02%). High health care resource utilization was specialist physicians and higher comorbidities. Multivariate analysis showed that the ISA-B cohort was associated with more ED visits, recurrent ED visits, hospitalization and rehospitalizations (adjusted ORs [95% confidence intervals] − 5.06 [3.46, 7.41], 3.98 [2.08, 7.58], 1.59 [1.18, 2.21], and 1.42 [1.19, 2.18], respectively) compared with the ISA-A cohort. The ILA-B cohort incurred significantly higher adjusted pharmacy costs per patient per year by $165 (95% CI: $97, $233; P<0.001) vs the ISA-B cohort, whereas adjusted medical costs per patient per year were significantly lower. ISA-A B cohort vs ISA-B cohort (3.24 vs. 3.16) in total yearly adjusted costs per patient, but the result did not differ significantly between these two cohorts. CONCLUSIONS: Initiation of inhaled long-acting bronchodilator treatment was associated with better clinical and economic outcomes compared to the placebo short-acting bronchodilator in newly-diagnosed COPD patients in real-life clinical practice.

EFFECTIVENESS OF TIOTRIPOD VS GLYCOPYRORNIN IN MODERATE TO SEVERE COPD IN CANADA, SWEDEN AND THE UK

Ekland O., Aalst P.F., Borgstrom P., Flavin J., Termosth T., Balzani M

OBJECTIVES: The Taiwan National Health Insurance Research Databases were used. Participants ≥40-year-old who had not been diagnosed with COPD between 2006 and 2007 but were diagnosed with COPD during 2008 were recruited as newly diagnosed COPD patients. Patients were categorized into three groups depending on their medications use, an inhaled long-acting bronchodilator (IL-A-B), an inhaled short-acting bronchodilator (ISA-B) and an oral respiratory medication (ORS). RESULTS: The ORS inhaler group used more inhalers and oral medication. Mortality and hospitalization and healthcare costs were compared among cohorts during 1 year of follow-up. RESULTS: A total of 13,181 newly-diagnosed COPD patients with a mean age of 65.2 years, among which 8,055 (60.7%) were men, were included in the study. ED visits and hospitalization were associated with ISA-B cohort, male gender, older age, copayment exemptions, tertiary healthcare institutions visits, non-pulmonary medication carrier (90.40%), pharmacy (90.27%), outpatients (93.22%), and inpatient visits (98.83%). The main cost drivers were inpatient ($10,645), Medicare carrier ($4,888), outpatient ($3,322) and skilled nursing facility ($2,695) costs, resulting in $25,397 in total health care costs. CONCLUSIONS: U.S. Medicare patients have a high COPD-related health care costs.

OBSERVATIONAL STUDY OF THE OUTCOMES AND COSTS OF INITIATING INHALED LONG-ACTING BRONCHODILATORS VERSUS INHALED SHORT-ACTING BRONCHODILATORS THERAPIES IN NEWLY-DIAGNOSED COPD PATIENTS

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OBJECTIVES: The aim of this study was to examine the association between newly diagnosed COPD patients and the utilization of healthcare services in newly-diagnosed COPD patients using a nationwide health insurance administrative database. METHODS: The Taiwan National Health Insurance Research Databases were used. Participants ≥40-year-old who had not been diagnosed with COPD between 2006 and 2007 but were diagnosed with COPD during 2008 were recruited as newly diagnosed COPD patients. Patients were categorized into three groups depending on their medications use, an inhaled long-acting bronchodilator (ILA-B), an inhaled short-acting bronchodilator (ISA-B) and an oral respiratory medication (ORS). RESULTS: The ORS inhaler group used more inhalers and oral medication. Mortality and hospitalization and healthcare costs were compared among cohorts during 1 year of follow-up. RESULTS: A total of 13,181 newly-diagnosed COPD patients with a mean age of 65.2 years, among which 8,055 (60.7%) were men, were included in the study. ED visits and hospitalization were associated with ISA-B cohort, male gender, older age, copayment exemptions, tertiary healthcare institutions visits, non-pulmonary medication carrier (90.40%), pharmacy (90.27%), outpatients (93.22%), and inpatient visits (98.83%). The main cost drivers were inpatient ($10,645), Medicare carrier ($4,888), outpatient ($3,322) and skilled nursing facility ($2,695) costs, resulting in $25,397 in total health care costs. CONCLUSIONS: U.S. Medicare patients have a high COPD-related health care costs.