infection; MXN$123 million for pneumococcal diseases, MXN$199 million for HPV, and MXN$148 million for influenza. 2% for pertussis. Costs incurred in Year 1 after the acceleration of the immunization program totaled MXN$23 million for RVF infection, MXN$38 million for pneumococcal diseases, MXN$133 million for HPV, and MXN$206 million for pertussis. 2% for pertussis. CONCLUSIONS: This model suggests that targeting RSV prophylaxis to low-risk inpatient infants is cost-effective compared to not requiring prophylaxis. While further work is required to determine the most effective approach to managing RSV disease in very low-risk infants, this model suggests that RSV prophylaxis may be a cost-effective approach to reducing hospitalization costs associated with RSV disease in very low-risk infants.

Conclusion: Childhood RSV disease accounts for significant costs to the health care system, even among infants who are not high-risk for severe illness. This study suggests that RSV prophylaxis may be a cost-effective approach to reducing hospitalization costs associated with RSV disease in very low-risk infants.

PRS21 HEALTH CARE RESOURCE UTILIZATION AND REHOSPITALIZATION COSTS OF NEBULIZED ARFORMOTEROL FOR THE TREATMENT OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Boone V., Carlton R., Clark R.*

1Sunovion Pharmaceuticals Inc., Marlborough, MA, USA, 2Xcenda, LLC, Palm Harbor, FL, USA, 3Xcenda, Northbrook, IL, USA

OBJECTIVES: Arformoterol tartrate inhalation solution (arformoterol) is a long-acting beta2-agonist indicated for long-term maintenance treatment of bronchoconstriction in patients with chronic obstructive pulmonary disease (COPD). Nebulized beta2-agonists have been shown to decrease the frequency of exacerbations, and thus can cost, on unproductive days, almost 3 times more than non-smokers and 2 times more for smokers. The objective of this study was to estimate the total medical and pharmacy costs associated with treatment of COPD patients with arformoterol compared with albuterol nebulized solution for the management of COPD in hospitalized patients. METHODS: An economic model was built comparing health care resource utilization and rehospitalization costs for arformoterol and albuterol from the hospital perspective. Pharmacy costs were calculated on a per-patient-day basis and were determined by the number of doses, frequency of administration, and hospital length of stay (LOS). Pharmacy costs were based on publically available wholesale acquisition costs. Medical costs included hospitalization (admission and discharge costs), rehospitalization costs, cost of hospital stay, and respiratory therapy costs. Cost of COPD-related patient hospitalizations were calculated as the cost per day times the mean LOS. Rehospitalization costs were calculated as the number of hospital readmissions multiplied by the average cost per hospital readmission at 30, 90, and 180 days. Respiratory therapy costs were based on the number of daily sessions for administration and the hourly rate of respiratory therapy. RESULTS: Mean LOS was 4.4 days for arformoterol vs. 5.2 days for albuterol. Arformoterol had lower rates of rehospitalization at 30, 90, and 180 days post-discharge, resulting in a savings of $1,503 per patient. Arformoterol yielded net savings of $338, $1,025, and $847 over albuterol for 30, 90, and 180 days, respectively. CONCLUSIONS: Total costs of arformoterol were less than albuterol nebulized solution due to lower hospitalization and rehospitalization costs.

PRS22 ECONOMIC BURDEN ASSOCIATED TO TOBACCO IN THE BRAZILIAN POPULATION

Ferreira CN, Ruffino CR, Machado DF

Pfizer, Inc., São Paulo, Brazil

OBJECTIVES: To estimate the economic burden of lost productivity and healthcare resource use associated to tobacco in the Brazilian population among smoking and non-smoking employers. METHODS: A structured search was performed on MEDLINE database (via PubMed) using the Mesh Database terms in accordance with the following terms ("Costs and Cost Analysis" [Mesh] AND [("Tobacco industry" [Mesh] AND "Occupational health" [Mesh]) OR ("Smoking" [Mesh] AND "Occupational health" [Mesh])) as well as the cost of absence days due to health events retrieved from national labor legislations; and average wage was retrieved from the Brazilian Institute for Geography and Statistics (IBGE). RESULTS: The cost disease related to Cardiovascular disease (CVD) BRL 27,845.32; stroke BRL 20,591.24; Chronic obstructive pulmonary disease (COPD) BRL 21,328.59; pneumonia BRL 1,111.82; lung cancer BRL 67,225.83; other cancers BRL 85,524.46. When comparing the productivity and absence days, the smokers lose 62.1% more days than nonsmokers and 41.34% more than residents (5.03 and 4.5 years, respectively, when compared to the expected useful lives of 75 years). That means a loss of 5.03 and 4.5 years, respectively, when compared to the expected useful lives of the non-smoking population. CONCLUSIONS: Therefore, smoking employees can cost up, on productive days, almost 3 times more than non-smokers and 2 times more than ex-smokers, besides the cost related to the treatment of stroke, COPD, and CVD, and others.

PRS23 ECONOMIC IMPACT OF ALBERTA’S PCV7 CHILDLHOOD IMMUNIZATION PROGRAM (2003-2008)

Waye A.*, Haddad A., Joubert S., Pyrtle G.J., Kellner J.*

1Institute of Health Economics, Edmonton, AB, Canada, 2University of Alberta, Edmonton, AB, Canada, 3University of Calgary, Calgary, AB, Canada

OBJECTIVES: Acute respiratory tract infections caused by Streptococcus pneumoniae(SP) are a leading cause of mortality and morbidity in young children and the elderly. In 2002, Alberta introduced a pneumococcal universal immunization program for children, using Prevnar 7 (PCV7). In this study, we assess the economic impact of PCV7 on the Alberta health care system. METHODS: Using active surveillance data from Alberta, we examine the net costs averted as a result of a decline in PCV7 serotypes, accounting for the increase in costs due to sreotype replacement. We also calculate the magnitude of herd immunity in terms of costs averted. RESULTS: We estimate that following the introduction of PCV7, the incidence of invasive disease caused by vaccine serotypes declined significantly across all ages. Specifically, by 2008, there was considerable evidence of herd immunity as the incidence rates had decreased nearly 100% across all ages. However, non-PCV7 cases, on the other hand, increased. Assuming sreotype replacement is a result of the introduction of PCV7, net costs averted are in the range of $5 million as a result of the reduction in severity of PCV7 universal vaccination in Alberta. Over the period of direct protection, direct protection resulted in net cost savings of $2.6 million, and indirect benefits $2.4 million; the indirect benefits derived by elderly populations were more than one third of the total benefits derived across the population. CONCLUSIONS: This model suggests that targeted interventions such as PCV7 could retrospectively assess the economic benefit of a public health policy, and describes the distribution of benefits across different segments of the population. From 2003 to 2007, the cumulative cost impact of introducing PCV7 in the childhood immunization program to the Alberta health system is approximately $5 million, half of which were a result of herd immunity.

PRS24 COST COMPARISONS WHEN PATIENTS ARE CENSORED

Roberts M.*, Borrero M., Mapel D., Raisch DW., Georgopoulos LL., van der Goes D*

1LCF Research, Albuquerque, New Mexico, USA, 2GlaxoSmithKline, Albuquerque, NM, USA, 3University of New Mexico, Albuquerque, NM, USA

OBJECTIVES: In pharmaceutical comparative effectiveness studies, patients frequently discontinue drug treatments soon after initiation, potentially biasing estimated treatment costs attributed to treatments. A partitioned data structure may facilitate estimating costs in the presence of censoring. We compared health care utilization costs for two chronic obstructive pulmonary disease (COPD) treatments over a one-year period using intent-to-treat (ITT) and as protocol (AP) approaches. METHODS: Claims data from two managed care health plans from July 2004 through September 2013 was used to compare annual health care costs for COPD patients treated with 1) inhaled corticosteroid (ICS)/long-acting beta2-agonist (LABA) or long-acting muscarinic antagonist (LAMA) (LABA/LAMA), and 2) combination ICS/LABA (triple) therapy. Post-treatment costs were aggregated by 4-week periods. Costs were estimated for ITT and AP treatment groups, using actual and weighted cost methods. Patients were censored for health plan disenrollment (possible after 6 months post-index). In the AP analysis, patients were additionally censored for discontinuation of treatment. Weights were the inverse probability of remaining uncensored. RESULTS: Patients in the AP analysis were on average older (59.0±14.6 vs. 55.8±13.4 years), more likely to be male (61.0% vs. 55.0%), current smokers (33.3% vs. 25.3%), and likely to have more comorbidities (2.2±0.9 vs. 2.0±0.8). Using ITT analysis, treatment costs were $7,896 (SD, $1,025) for ICS/LABA or LAMA. AP weighted mean total costs were $19,133 for triple therapy and $16,814 for non-triple. CONCLUSIONS: The weighted method allowed censored individuals to contribute cost information. AP analysis costs were lower than ITT costs, highlighting the impact of therapy discontinuation on analyses.

PRS25 HOSPITALIZATION COST OF INPATIENTS WITH COPD AND THEIR COMPLICATION STUDY IN CHINA

Du F.*, Zhang J.*, Ding H.*, Ye F., Gao S.*

1Beijing Beipu Pharma Consulting Co. Ltd., Beijing, China, 2China Health Insurance Research Association of China, Beijing, China, 3Beijing Beipu Pharma Consulting Co. Ltd., Beijing, China

OBJECTIVES: The prevalence of COPD is higher and increases every year in China. To estimate hospital inpatient costs, LOS and complication among patients with COPD in China over 2014. METHODS: We collected hospitalization data for patients with COPD in China from 2014. Costs data were derived from hospitalization claim database which includes a nationwide, cross-sectional sampling of inpatients’ visits in China. Direct medical costs were separated into hospitalization costs and post-discharge care costs. Patients with COPD were grouped into COPD patients only and COPD patients with complication. All costs were a result of herd immunity.

Conclusion: Childhood RSV disease accounts for significant costs to the health care system, even among infants who are not high-risk for severe illness. This study suggests that RSV prophylaxis may be a cost-effective approach to reducing hospitalization costs associated with RSV disease in very low-risk infants.

Conclusion: Childhood RSV disease accounts for significant costs to the health care system, even among infants who are not high-risk for severe illness. This study suggests that RSV prophylaxis may be a cost-effective approach to reducing hospitalization costs associated with RSV disease in very low-risk infants.

Conclusion: Childhood RSV disease accounts for significant costs to the health care system, even among infants who are not high-risk for severe illness. This study suggests that RSV prophylaxis may be a cost-effective approach to reducing hospitalization costs associated with RSV disease in very low-risk infants.
ies involving symptomatic patients defined as modified Medical Research Council (mMRC) score ≥ 3 or COPD Assessment test (CAT) score ≥ 10 presenting common symptoms of COPD were included. Studies focused on cost of illness and resource use in adult symptomatic COPD patients were included. Studies meeting the eligibility criteria were appraised using Drummond checklist. Results: Database searches yielded 4,491 references which resulted in 74 relevant studies after two levels of screening. All the included studies were of adequate reporting quality with study objective and competing alternatives being defined clearly. The annual direct medical cost of COPD ranged from US$523 in France to US$4119 in the United States. Physician consultations were the most frequently utilised resource, followed by ER visits and hospitalisations. The composition of direct costs differed between countries, with more than 50% of the direct costs resulting due to inpatient admissions in Canada, Italy, Spain, the UK, and the United States and almost 50% due to regular prescribed medicines in The Netherlands. The mean annual societal costs ranged from US$1023 in The Netherlands to US$5646 in the United States. The annual direct medical costs per patient were higher in patients with severe COPD, with study objective and competing alternatives being defined clearly. The annual direct medical cost of COPD was associated with a substantial economic burden, especially in the developed nations of Europe and North America.

PRS27 OUTPATIENT DIRECT COST OF COPD IN A THIRD LEVEL HOSPITAL: PATIENT PERSPECTIVE

National Institute of Respiratory Diseases “Ismael Cosío Villegas”, Mexico City, Mexico

OBJECTIVES: Chronic Obstructive Pulmonary Disease (COPD) is a main worldwide cause of morbidity and mortality. COPD elderly patients spend a large amount of money; elderly population is rapidly increasing due to population aging. COPD prevalence in the elderly is 18.4%. Methods: The aim of the study is to get information about out-of-pocket expenses of COPD patients in Mexico. The objective is to estimate direct costs of COPD from patient perspective in a third level hospital in Mexico. METHODS: A pool was developed from augusto to november of 2013 in a third level hospital in Mexico City. We included patients older 65 years old with COPD diagnosis and newly diagnosed with COPD. The diagnosis was carried out by a pulmonologist according to GOLD criteria. We collected information about direct and indirect cost of the patients and the hospital. We estimate median (Q1, Q3) annual cost of medical consultation, clinical test, travel, gasoline and food from outpatients and stratifying by severity. All cost were transformed in US Dollars of 2013. Results: We interviewed 242 outpatients. According GOLD criteria the patients were classified as mild (n=80), moderate (n=105), severe (n=39) and very severe (n=38). Median of age was 71.7 years,141 (58.3%) were men and 133 (54.9%) had social security. Annual total costs for mild, moderate, severe and very severe were $64,599, $130,7 and $138,4, respectively. Conclusions: COPD is a chronic disease that affects the elderly population and is associated with a large amount of money, especially in Mexico.

PRS28 COST OF ASTHMA IN VIETNAM

Nguyen HNT, Nguyen TTT
University of Medicine and Pharmacy in HCMC, HCMC, Vietnam

OBJECTIVES: Nowadays, health care costs of asthma are under pressure in all countries due to high prevalence, incidence and the chronic nature of disease. Therefore, conducting cost analysis of economic burden of asthma is necessary, especially in Vietnam. This is also the aim of this study. METHODS: The cost of asthma has been evaluated using pharmacoeconomic method "cost of illness" by following formula: COI = DC + IC in which: COI - cost of illness, DC- direct cost, IC- indirect cost. A tree-decision model has been developed to evaluate the cost of asthma by different classification of the severity of asthma. Based on the perspective of insurance companies only direct medical costs were evaluated in this study. List of medical consultations and clinical test. CONCLUSIONS: The cost of asthma management increases following the increasing of asthma severity with 3,410,278; 6,548,156; 8,829,234; 18.4).