

**OBJECTIVES:** Respiratory infections are common and frequent diseases in nursing homes (NH). The occurrence of pneumonia in a frail elderly person is associated with a decrease in the overall health status of the individual and may increase costs of care. The objective of this study is to estimate the economic burden of the occurrence of pneumonia in (NH), and to identify the main cost drivers constituting the net cost of pneumonia. **METHODS:** The economic analysis was performed from the French National Health Insurance (NHI) perspective. Direct medical (i.e. inpatient stays, outpatient visits, medications) and non-medical (i.e. transportation) were included. Data related to resources consumption were collected from the French NHI database. Costs valuation was based on tariffs reimbursed by the French NHI. Net cost of pneumonia was calculated and a log link Generalized Linear Model (GLM) was built to estimate the most important cost drivers. **RESULTS:** The economic analysis was performed on 345 patients living in NH. During the one year follow-up period 32 patients had pneumonia (9%). Mean annual cost amounted to €7,157±13,734 in patients who have not experienced a pneumonia compared to €11,624±10,510€ in patients who had pneumonia ( $p<0.05$ ). Net cost of pneumonia in NH was €4,467. This cost was mainly due to inpatient stays (€3,044) and outpatients (€1,423). Costs driver of pneumonia were inpatient stays (68%), respiratory assistance equipment (10%) and physiotherapist visits (6%). According to the results of the GLM, pneumonia increases the cost of care of 1.9 ( $p<0.05$ ). Smoking and type of NH may also affect the total cost of the care. **CONCLUSIONS:** Pneumonia constitutes a significant economic burden in the care of institutionalized patient. Improvement strategies of care for these patients should be identified.

#### PRS25

##### ESTIMATING ECONOMIC LOSS FROM LUNG CANCER

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**OBJECTIVES:** Early detection of lung cancer is important in terms of life of the patient and diminishing economic burden on patient and society. Health services for cancer patients are free in Mongolia. This study aims to determine the trend of lung cancer for the last ten years in Mongolia, direct cost of lung cancer inpatient treatment and economic loss to patient from admission in relation to the stages of lung cancer. **METHODS:** To estimate trend of lung cancer time-series analysis was used. 2004-2014 data on lung cancer morbidity and mortality was obtained from the National Cancer Centre database. Direct costs of inpatient treatment of lung cancer different stages were estimated using data related to patient admission. There were reviewed 80 patients data. Economic losses from lung cancer were estimated. **RESULTS:** There was a trend of increasing of lung cancer incidence by 1% for ten years. Mortality from lung cancer increased by 0.99% over ten year period. Direct costs of lung cancer inpatient treatment ranged from 271-1991 USD depending on stages of lung cancer. Some 77.5% of patients admitted with lung cancer had 3rd and 4th stages of the disease. Average cost of economic loss from lung cancer for a patient for treatment and disability was 607680 USD. **CONCLUSIONS:** Incidence of lung cancer and mortality from it are increasing over years, which means cost for the disease treatment and consequently economic loss form disability will be raising.

#### PRS26

##### BURDEN OF COPD IN CHINA: A SYSTEMATIC LITERATURE REVIEW

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**OBJECTIVES:** Chronic obstructive pulmonary disease (COPD) ranked the fourth as a leading cause of death in China. This study aims to systematically review the evidence on burden of disease associated with COPD in China. **METHODS:** A literature search was performed using PubMed, Embase and Cochrane and two Chinese data base CNKI and Wanfang Database from Jan 1st 1990 to Oct 9th 2015 to identify prevalence of COPD, economic evidence and quality of life for COPD. **RESULTS:** The search retrieved 6830 studies (6764 in Chinese and 56 in English) of which 49 fulfilled the eligibility criteria. Reported COPD prevalence varied from 1.20% to 8.87% among different provinces. In terms of epidemic burden, the prevalence rate of COPD is higher among male (7.76%) in comparison with female (4.07%), and that the disease is more prevalent in rural area (7.62%) than in urban area (6.09%). The diagnostic rate of COPD patients in China varies from 23.61% to 30.00%. The percentage of COPD patients receiving outpatient treatment is around 50%, while the admission rate ranges between 8.78% and 35.60%. COPD is among the top 10 causes of DALYs, causing a total number of 16,723,800 DALYs in 2010. The direct cost of COPD ranged from \$476 to \$1947 per patient per year and the indirect cost ranged from \$19 to \$746 per patient per year. The most commonly used scales for quality of life include SGRQ, AQ20 and SF-36. COPD patients have lower quality of life score than non-COPD patients, and have higher risk to depression. **CONCLUSIONS:** This analysis indicates that COPD is associated with considerable burden of disease in China regarding DALYs, cost of illness and quality of life. Measures should be taken to disease management, increase access to care and improve quality of life for COPD in China.

#### PRS27

##### ASSESSING THE ECONOMIC BURDEN AND HEALTH CARE RESOURCE UTILIZATION OF US VETERANS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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**OBJECTIVES:** To evaluate the economic burden and health care resource utilization of chronic obstructive pulmonary disease (COPD) in the US Veterans Health Administration (VHA) population. **METHODS:** Patients diagnosed with COPD (International Classification of Diseases 9th Revision Clinical Modification diagnosis codes 490.xx-491.xx) were identified using VHA claims from 01OCT2009 through 30SEPT2014. The first diagnosis date was designated as the index date. A

comparison cohort (patients without a COPD diagnosis) was created for patients of the same age, gender, race, index year, and baseline Charlson Comorbidity Index score as patients in the COPD cohort. To reduce selection bias, a random index date was chosen for the comparison cohort. Patients were required to have continuous medical and pharmacy benefits 1 year pre- and post-index date. One-to-one propensity score matching (PSM) was performed to compare follow-up health care costs and utilization between the cohorts, adjusting for demographic and clinical characteristics. **RESULTS:** Eligible patients (N=925,970) were identified for the COPD and comparison cohorts. After 1:1 PSM, a total of 308,089 patients were matched from each cohort and baseline characteristics were well-balanced. COPD patients had a higher percentage of health care resource utilization, including inpatient visits (12.04% vs. 2.83%,  $p<0.0001$ ); outpatient visits (99.72% vs. 77.43%,  $p<0.0001$ ); and pharmacy visits (91.35% vs. 68.37%,  $p<0.0001$ ) than non-COPD patients. Higher health care resource utilization translated to higher costs for COPD patients, including inpatient (\$3,845 vs. \$812,  $p<0.0001$ ), outpatient (\$5,060 vs. \$2,582,  $p<0.0001$ ), pharmacy (\$804 vs. \$481,  $p<0.0001$ ), and total costs (\$9,709 vs. \$3,875,  $p<0.0001$ ) than non-COPD patients. **CONCLUSIONS:** US veteran patients diagnosed with COPD have a higher economic burden compared to those who were not.

#### PRS28

##### EVALUATING ASTHMA-RELATED EXPENSES AND HEALTH CARE RESOURCE UTILIZATION AMONG CHILDREN IN THE UNITED STATES MEDICAID POPULATION

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**OBJECTIVES:** To evaluate asthma-related expenses and health care resource utilization among children in the US Medicaid population. **METHODS:** Patients under age 18 years and diagnosed with asthma (International Classification of Diseases, 9th Revision, Clinical Modification diagnosis code: 493.xx) were identified using US Medicaid data from January 1, 2009 through December 31, 2009. The initial diagnosis date was designated as the index date. The control cohort (patients without asthma) was matched one-to-one with the case cohort (patients with asthma) having the same age, gender, race, and region. The index date for the control cohort was randomly assigned to minimize selection bias. Patients in both cohorts were required to have continuous health plan enrollment for 1-year pre- and post-index date. Propensity score matching (PSM) was used to compare health care costs and utilization during the follow-up period. **RESULTS:** Compared with the control cohort (n=65,394), children with asthma were more likely to have higher Charlson comorbidity index (CCI) scores (0.67 vs. 0.14,  $p<0.0001$ ), and higher percentages of comorbidities, such as congestive heart failure (0.36% vs. 0.10%), renal disease (0.32% vs. 0.15%), and diabetes (0.92% vs. 0.45%, all  $p<0.0001$ ). After 1:1 PSM, 36,029 patients with balanced demographic characteristics and CCI scores were matched from each cohort. A higher proportion of children in the asthma cohort had inpatient stays (11.65% vs. 2.84%), long-term care (LTC) (2.75% vs. 1.27%), pharmacy (96.53% vs. 64.40%) and outpatient visits (99.99% vs. 84.72%, all  $p<0.0001$ ). Higher health care resource utilization translated to higher costs, including inpatient (\$2,016 vs. \$469), LTC (\$1,437 vs. \$672), pharmacy (\$2,120 vs. \$968), outpatient (\$8,039 vs. \$4,585), and total costs (\$13,612 vs. \$6,695, all  $p<0.0001$ ) for children with asthma compared to those without asthma. **CONCLUSIONS:** Children with asthma had significantly higher health care utilization and expenses compared to those without asthma.

#### PRS29

##### ASSESSING HEALTH CARE RESOURCE UTILIZATION AND COSTS AMONG US VETERANS DIAGNOSED WITH ASTHMA

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**OBJECTIVES:** To evaluate the health care resource utilization and economic burden of asthma in the US Veterans Health Administration (VHA) population. **METHODS:** A retrospective data analysis was performed using VHA claims from October 1, 2009 through September 30, 2014. Asthmatic patients were identified using the International Classification of Diseases, 9th Revision, Clinical Modification diagnosis code 493. The diagnosis date was designated as the index date. A comparison cohort of patients without an asthma diagnosis was created for patients of the same age, gender, race, index year, and baseline Charlson Comorbidity Index score. A random index date was chosen for the comparison cohort to reduce selection bias. Patients were required to have continuous medical and pharmacy benefits 1 year pre- and post-index date. One-to-one propensity score matching (PSM) was performed to compare follow-up health care costs and utilization between the cohorts, adjusting for demographic and clinical characteristics. **RESULTS:** Eligible patients (N=253,302) were identified for patients with and without asthma. After 1:1 PSM, 75,214 patients were matched from each cohort, and the baseline characteristics were well-balanced. Asthmatic patients were more likely to utilize health care resources than non-asthmatic patients, including inpatient (8.50% vs. 3.48%,  $p<0.0001$ ); outpatient (99.73% vs. 74.76%,  $p<0.0001$ ), and pharmacy visits (90.91% vs. 65.94%,  $p<0.0001$ ). Higher health care resource utilization translated to higher costs for asthmatic patients than non-asthmatic patients, including inpatient (\$2,314 vs. \$999,  $p<0.0001$ ), outpatient (\$4,435 vs. \$2,803,  $p<0.0001$ ), pharmacy (\$747 vs. \$511,  $p<0.0001$ ) and total costs (\$7,496 vs. \$4,313,  $p<0.0001$ ). **CONCLUSIONS:** The economic burden and health care resource utilization was significantly higher for patients in the US VHA population who were diagnosed with asthma compared to those without asthma.

#### PRS30

##### ESTIMATION OF DIRECT AND INDIRECT COSTS ASSOCIATED WITH ASTHMA AND COPD: A CANADIAN EMPLOYERS PERSPECTIVE

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