The number of hospital admissions reached its maximum on Feb. 21. The peaks were two weeks earlier than patients older than 65 years of age. For patients 30–65 years of age, its maximum was on Feb. 11; its minimum was on Aug. 12. The peaks were two weeks earlier than patients older than 65 years of age.

Conclusions: Cough is a prominent symptom and major driver of medical care for patients with Asthma, Allergic Rhinitis, COPD or Rhinosinusitis. These findings suggest that patients presenting/suspected to be comprehensively for any underlying more serious respiratory disorders to help with appropriate disease management.

PRS4 POLLEN MORPHOLOGY AND TOTAL PROTEIN OF TARAXACUM OXICIANE AND ASTER ALPINUS
Kang Y,1 Mukhanyalakhi S,2 Narasaratset T.
Health Sciences University of Mongolia, Ulaanbaatar, Mongolia
OBJECTIVES: The airborne allergenic content of the atmosphere varies according to climate, geography, and vegetation. Furthermore, in the last few years, experimental data on pollen and sub-pollen particles structure, the pathogenetic role of pollen and the interaction between pollen and air pollutants, gave new insights into the mechanisms of respiratory allergic diseases. We aim to evaluate Pollen morphology and total protein of Taraxacum officinale and Aster alpinus to determine the pollen morphology and total protein of Taraxacum officinale and Aster alpinus. METHODS: The Research is been done under the Biochemistry and Laboratory Department of Biomedical School, HSUW with the help of Laboratory of School of Health Technology. Pollen morphology of Taraxacum officinale and Aster alpinus was investigated by light and microscopy. And total proteins were detected by Lowry method. RESULTS: In Taraxacum pollen grain size (polartereal diameter) ranged from 29.5±0.77 (24.7±3.46 μm) to 25.1±0.76 (21.4±3.40 μm). And total proteins content 0.4mg/ml. Pollen grain of Aster alpinus size range from 34±2.4 (22.7±3.85 μm) to 22.7±3.88 (19.6±2.09 μm). Total proteins was contents 0.9mg/ml. Both of the pollen grains are echinated and oil droplets. CONCLUSIONS: Findings from the pollen grains comparison of morphologic parameters demonstrated that the Aster alpinus pollen was larger than Taraxacum pollen.

PRS5 A METHOD TO INVESTIGATE SEASONAL VARIATION IN HOSPITALIZATION FOR COPD IN A MIDWESTERN US STATE
Su W,1 Zhao R,1 Heins-Nevsold J,2 Carlson A2
1University of Minnesota, Minneapolis, MN, USA, 2American Lung Association of the Upper Midwest, St Paul, MN, USA
OBJECTIVES: To investigate the impact of seasonal variation on daily number of COPD hospital admissions using 6 years of hospital discharge data from the Iowa Hospital Association. METHODS: Inpatient admissions from 2006 to 2011 for persons 30 years of age or older were included if there was a principal ICD-9-CM diagnosis of COPD (491.xx; 492.xx; 496.xx) Generalized linear models extending Poisson regression and Negative Binomial model (to account for overdispersion) were used. COPD cases were converted into a continuous variable with a circular distribution. Sin and cos2 together were proposed to be used as the covariates representing seasonal effect. Subgroup analyses of age and sex were applied. RESULTS: 34,563 inpatient admissions for COPD were identified. Admissions for COPD showed a strong seasonal pattern (P<0.0001). The number of hospital admissions reached its maximum on Feb 21 and its minimum on Aug. 23. The distribution is symmetric around the year. There were 2.2 times more admissions in minimum and maximum months compared to the overall population. However, for patients older than 65 years of age, the number of hospital admissions reached its maximum on Feb 25 and its minimum on Aug. 21. The peak to peak rate of 3%. The distribution is symmetric around the year. There were 2.2 times more admissions in minimum and maximum months compared to the overall population. However, for patients older than 65 years of age, the number of hospital admissions reached its maximum on Feb 25 and its minimum on Aug. 21. The peak to peak rate of 3%. CONCLUSIONS: The present findings support the conclusion that COPD hospitalization is higher in the winter. However, the busy period tends to be in lower first quarter, such as in March, April, and May in the Midwest, suggesting that it may be arbitrary to simply define winter as December to February when studying seasonal effect of COPD in the Midwest. The analytic method and the outcome of this study may help to allocate health care resources efficiently based on seasonal hospitalization trend.

PRS8 ANALYSIS OF FACTORS CAUSING CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN EASTERN REGION OF CHINA
Shu B
University College London, London, England
OBJECTIVES: Chronic Obstructive Pulmonary Disease (COPD) has become increasingly a major public health problem. This study aimed to evaluate the risk factors for COPD based on data from several cities in eastern region of China. METHODS: Data from 457 024 patients were collected from China. Cities and counties were divided into provinces and cities (Liaoning, Beijing, Tianjing, Shanghai and Guangdong) in the eastern region of China where rates of COPD were available. Descriptive statistics and multivariate regression models were used to examine risk factors for COPD including gender, average family expenditure on cigarette, industrial dust, industrial emission of sulfur dioxide, average family income and other relevant factors. RESULTS: The total sample size was 150. Descriptive statistics indicated strong correlations between the dependent variable rate of COPD and independent variables – average family expenditure on cigarette, industrial emission of sulfur dioxide, average family income and average family expenditure on vegetables. RESULTS: The total sample size was 150. Descriptive statistics indicated strong correlations between the dependent variable rate of COPD and independent variables – average family expenditure on cigarette, industrial emission of sulfur dioxide, average family income and average family expenditure on vegetables. CONCLUSIONS: Our analysis showed that in the eastern region of China, cigarette smoking, sulfur dioxide emission, industrial dust and family expenditure on vegetables were independent risk factors associated with the occurrence of COPD. To lessen the occurrence of COPD, people should quit smoking and modify dietary habit, while governmental authorities should enforce controlling for sulfur dioxide and industrial dust emissions.

RESPIRATORY-RELATED DISORDERS – Cost Studies

PRS9 INCIDENCE-BASED COST OF ASTHMA IN VIETNAM
Nguyen NT1, Nguyen TT2
1University of Medicine and Pharmacy in HCMC, HCMC, Vietnam, 2University of Medicine and Pharmacy in HCMC, Ho Chi Minh City, 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. Hence, the aim of the study is to evaluate the lifetime cost of asthma for every newly case and the incidence-based economic burden of asthma in Vietnam. METHODS: A Markov model with 5 states, including mild, intermittent, moderate and severe, has been built. The model has a cycle length of 1 year with the time horizon of lifetime. The population model has been conducted based on the representative of insurance companies, therefore only direct medical costs have been evaluated. Results: The prices of drugs and medical services have been averaged from the price-lists in 2013 of some major hospitals in Vietnam. RESULTS: The incidence-based cost of every new case of asthma is 1,019,897 VND (50.80 USD) and medical services account for 60.55% and 39.45%, respectively. The cost for diagnosis and management of asthma within life-time per capita is 51,459,674 VND, which is around 2,77 times higher than for the costs of asthma exacerbation treatment (18,560,224 VND). With nearly 231,260 new cases of asthma annually, Vietnam has