COPD hospitalization is higher in the winter. However, the busy period tends to
follow a seasonal trend.

In order to help allocate health care resources efficiently based on seasonal hospitaliza-
tion trend, we conducted a study in the Midwest. The analytic method and the outcome of this study may
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
be comprehensively for any underlying more serious respiratory disorders to help
medical care for patients with Asthma, Allergic Rhinitis, COPD or Rhinosinusitis.

PHYSICAL ATTRACTION

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OBJECTIVES: To investigate the seasonal variation in hospitalization for COPD in a Midwestern US State

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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 20 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. Data were converted to an angle called the pollen angle, which is a continuous variable with a circular distribution. Sin and cosi 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 no seasonal differences in minimum and maximum temperatures between the overall population. However, for patients older than 65 years of age, the num-
ber of hospital admissions reached its maximum on Feb 25 and its minimum on Aug. 8. The absolute risk rate of COPD for patients 65 years of age was on Feb 11, its mini-
mum was on Aug 12. The peaks were two weeks earlier than patients older than
65 years of age. CONCLUSIONS: The present findings support the conclusion that COPD hospitalization is higher in the winter. However, the busy period tends to
follow a seasonal trend. The pattern in patients 65 years of age was more pronounced after Aug 12, 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.