**Abstracts**

**COST AND RESOURCE UTILIZATION OF RESPIRATORY SYNCTIAL VIRUS (RSV) OR WINTER UNSPECIFIED BRONCHIOLITIS OR PNEUMONIA (UBP) HOSPITALIZATIONS DURING THE FIRST YEAR OF LIFE AMONG PRETERM AND FULL-TERM INFANTS**

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**OBJECTIVES:** To estimate the total costs and resource utilization of RSV or UBP hospitalizations among late preterm vs. full-term infants during their first year.

**METHODS:** This retrospective cohort study examined the MarketScan® Commercial Claims and Encounters database from January 1, 2003 to June 2007 (baseline). Hospital admission with ICD-9 CM diagnosis codes for RSV (466.11, 480.1, 079.6) or UBP (466.19, 485, 486) during November-March were identified among infants <1 year old. Cohorts included 1) early preterm infants <33 weeks gestational age (wGA) and infants with chronic lung disease; 2) late preterm infants 33–36 wGA; and 3) full-term infants ≥37 wGA. The average costs of RSV and UBP hospitalizations, use of health care resources, and patient demographics were examined. Descriptive analyses included a Wilcoxon test for continuous variables and a two-sided test for categorical variables (α = 0.05).

**RESULTS:** Early, late, and full-term infants had 46, 149 and 1983 RSV hospitalizations, respectively. Across cohorts, infants were an average of 3–4 months of age and mostly males. RSV hospitalization costs were significantly higher among early preterm ($13,876, SD = $14,453) (p < 0.01) and late preterm infants ($18,463, SD = $31,792) (p < 0.001) compared to full-term infants ($58,221, SD = $52,506). Late preterm infants had a significantly higher mean length of hospital stay (4.9 vs. 3.2 days), intensive care unit admission (22% vs. 9.6%), and comorbid conditions (10% vs. 3.1%) compared to full-term infants (each p < 0.01). Early and late preterm compared to full-term infants also had higher UBP hospitalization costs and morbidity (each p < 0.01). CONCLUSIONS: Since about three-fourths of all preterm born infants are late preterm infants, the significantly higher RSV-associated costs of late preterm infants compared to full-term infants impose a major health care burden. Analysis of health care costs at birth and through the first year of life may help elucidate strategies to prevent RSV among late preterm infants.

**REFERENCES:**

**AN ECONOMIC EVALUATION OF GRAZAX FOR THE TREATMENT OF GRAZAX PULMONARY RHINITIS**

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**OBJECTIVES:** To determine the cost-effectiveness of the grass allergen immunotherapy tablet (ATI), Grazax (ALK-Abello A/S) for the treatment of grass pollen induced rhinoconjunctivitis in children either with or without co-existing asthma. The analysis compared treatment using Grazax in combination with symptomatic medications versus using symptomatic medications alone in terms of costs and health outcomes.

**METHODS:** The model uses a decision tree structure to evaluate two grass pollen induced rhinoconjunctivitis treatments for a cohort of 1000 hypothetical children. The analysis is performed from the perspective of the payer, including only direct costs in the base case. Treatment is modelled in terms of the management of symptoms, reduction in resource use and averting the development of allergic asthma. The evaluation is UK-based and models both short- and long-term effects. Several data inputs such as resource use and cost values are drawn from the literature, including a clinical trial and the Preventive Allergy Treatment (PAT) study. Cost data are sourced from published sources and utility values are derived using GT-12 trial data and a published study. RESULTS: Treatment with Grazax in combination with symptomatic medications compared to treatment with symptomatic medications alone generates a (discounted) incremental cost per QALY gained of 10,077 GBP ($14,578, €11,034), for the base case time horizon of nine years. The QALY gains are a result of increased quality of life related to effective symptom management. The sensitivity analysis carried out around key parameters (e.g. unit costs, medication costs, probabilities, utilities) shows that the results estimated by the model remain robust. CONCLUSIONS: Grazax has been shown to improve patient outcomes, at an increased cost. The resulting incremental cost per QALY falls below commonly accepted willingness to pay thresholds. Therefore, Grazax is a cost-effective option for the treatment of grass pollen induced rhinoconjunctivitis in the UK paediatric population.

**ASTHMA-RELATED PRODUCTIVITY LOSSES IN ALBERTA, CANADA**

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**OBJECTIVES:** To estimate the number and cost of asthma-related productivity loss days due to absenteeism and presenteeism in Alberta in 2005.

**METHODS:** Using data from the 2005 Canadian Community Health Survey, this study focused on people of working age (18–64 years). Total asthma-related disability days, including in-bed days and activity-restricted days, were estimated by multiplying the difference in the means of total disability days between asthmatics and non-asthmatics adjusted for socio-demographic characteristics and other health conditions by a multivariate linear regression, with the number of asthmatics in the population. The number of productivity loss days was a sum between the number of in-bed days (absenteeism) and the number of activity-restricted days multiplied by a reduction in functional level (presenteeism), adjusted for 5 working days per week. Other data from Alberta or Canadian published literature, such as a reduction in functional level of 20%–30%, a labour participation rate of 71%, and an average wage of $118 per day in 2005, were also used for analyses.

**RESULTS:** The prevalence of asthma was estimated at 8.5% among approximately 2.1 million people of working age in Alberta in 2005. The difference in the means of total disability days between asthmatics and non-asthmatics was 0.887 (95% CI: 0.286–0.666) in a period of two weeks or 12.7 (7.5–17.9) in one year. With the reduction in functional level of 20%–30%, the number of asthma-related productivity loss days was estimated from 442 (259–624) to 533 (313–753) thousand, respectively. The corresponding cost was from $70 ($41–$99) to $84 ($49–$119) million each year. CONCLUSIONS: The improvement in controlling asthma could have a significant economic impact in Alberta. Presenteeism plays an important role in asthma-related productivity losses and therefore employers should not only pay attention to absenteeism, but also to presenteeism, to minimize productivity loss.