267 The Impact of Grass-Allergen Tablet-Based Immunotherapy on Work Productivity

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RATIONALE: Allergic rhinitis has high costs to employers in terms of productivity losses. Treatment with a new allergen-specific tablet-based immunotherapy product (Grazax® 75,000 SQ-T (2,800 BAU) ALK-Abelló A/S, Denmark) may reduce productivity losses by decreasing costs associated with absenteeism and presenteeism.

METHODS: A recent economic study (N = 8267) estimated costs of productivity losses to US employers from selected medical conditions including allergic rhinitis. Both absenteeism (hours away from work) and presenteeism (unproductive at work) were assessed. By combining data on cost of absenteeism related to allergic rhinitis and the impact that this grass-allergen tablet-based immunotherapy has shown on reducing productivity losses, an estimate on potential savings to employers associated with tablet-based immunotherapy treatment was calculated. The impact on productivity losses was measured as "hours away from work" in a multicentre, double-blind and placebo controlled clinical GT-08 trial including 634 subjects with allergic rhinitis (presenteeism was not assessed).

RESULTS: From an employer perspective, the cost of allergic rhinitis was $593 per employee per year due to lost productivity (absenteeism = $183; presenteeism = $410). Patients treated with this tablet-based immunotherapy showed a significant reduction (72%) in productivity losses due to absenteeism compared with patients treated with symptomatic medication alone ($P < 0.0001$).

CONCLUSIONS: Treatment of allergic rhinitis with this tablet-based immunotherapy is predicted to have significant impact on workplace productivity. Findings from the GT-08 study suggest that this tablet-based immunotherapy treatment may yield savings of $132 per employee per year. The positive effects of this treatment on presenteeism (not modelled here) are likely to result in additional savings.

Funding: ALK-Abelló A/S

268 Performance of a Brief Self Administered Six Item Questionnaire to Test Rhinitis Control

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RATIONALE: To develop a cut-point for a newly developed patient-based tool for identifying patients at risk of rhinitis symptom control problems.

METHODS: A 26 item survey was administered to 410 allergic rhinitis (seasonal or perennial) patients during office visits to allergy specialists. Physicians rated the patient's rhinitis symptom control on a 5 point scale (completely controlled to uncontrolled) and were blinded to the patient's questionnaire responses. Item reduction phase identified 6 items most predictive of specialist rated control. Logistic regression evaluated the ability of these items to discriminate between patients differing in the physician's assessment of rhinitis symptom control. These 6 items were scored on a 5 point scale (range 6-30) with higher scores indicating better symptom control.

RESULTS: The continuous score correctly classified 79.3% of patients as well-controlled and poorly controlled in accordance with the physician's rhinitis symptom control assessment. Sensitivity and specificity were 95.9% and 19.1%, respectively, and the area under the ROC curve was 0.76 (Total score as a continuous measure). Various cutpoints resulted in varying degrees of sensitivity and specificity that can be matched to a specific purpose. A cutpoint score of $\leq$19 had the highest area under the ROC curve (0.697) among all cutpoints. The sensitivity and specificity at this cutpoint was 60.8% and 78.7%, respectively, and 65% of patients were correctly classified.

CONCLUSION: We developed a brief and easy to administer tool to test rhinitis symptom control to help physicians and patients in effectively managing rhinitis symptoms. Scores $\leq$19 suggest lack of control of rhinitis symptoms.

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269 Assessment of Healthcare Utilization Associated with Integrated Healthcare Association's Pay For Performance (P4P) Asthma Measure, Appropriate Use of Rescue Inhalers

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RATIONALE: Using the 2005 HEDIS definition, patients who received appropriate asthma treatment had increased rates of asthma-related hospitalizations/emergency department (ED) visits compared to those who did not receive appropriate treatment. We assessed the association between IHA's P4P measure, Appropriate Use of Rescue Inhalers and asthma-related hospitalizations/ED visits.

METHODS: We used HIPAA-compliant pharmacy and medical claims data from >13 million individuals to identify commercial health plan enrollees, aged 5-56 years, with persistent asthma during calendar years (CYs) 2004 and 2005. Patients with $\leq$6 dispensing events for inhaled short-acting beta agonists (SABAs) during CY2005 were defined as having appropriate use. We classified patients as with or without appropriate use, and compared rates of asthma-related hospitalizations/ED visits.

RESULTS: Among 61,812 identified patients, 85.6% had appropriate use. Among patients aged 5-9, 10-17, and 18-56 years, appropriate use rates were 96.7%, 92.5%, and 81.1% respectively. Within each group, patients with appropriate use had lower rates of hospitalizations/ED visits than those who did not (10.5% vs 23.1%, 7.4% vs 14.0%, 5.8% vs 11.9%, respectively; all P-values <0.0001). Overall, patients with HEDIS-measure adherence had lower rates of asthma-related hospitalizations/ED visits than those without HEDIS-measure adherence (6.9% vs 12.5%; respectively; $P < 0.0001$).

CONCLUSION: Of persistent asthmatics, 86% had appropriate use and 14% were dispensed more than the recommended amount of SABA. Patients with >6 dispensing events for SABA had almost double the risk of asthma-related hospitalizations/ED visits than those with $\leq$6 events. Appropriate Use of Rescue Inhalers, provides another method to assess quality of care and is complementary to the HEDIS asthma measure.

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270 Prospective Analysis of an Abdominal Symptom Scoring Tool's Efficacy in the Clinical Distinction of Pediatric Eosinophilic Esophagitis from Gastroesophageal Reflux Disease

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RATIONALE: To evaluate if an abdominal symptom scoring tool can distinguish children with eosinophilic esophagitis (EE) from those with GERD.

METHODS: A clinical scoring tool that evaluates the presence and severity of 7 abdominal symptoms consisting of heartburn/regurgitation, nausea/vomiting, abdominal pain, nocturnal awakening, anorexia/early satiety, gastrointestinal (GI) bleeding, and dysphagia on a scale of 0-2 (0, not present; 1, intermittent; 2, persistent) was administered to 24 control children (none with eczema) seen in the Dermatology clinic, 24 children with allergic rhinitis and/or asthma seen in the Allergy clinic, 24 children with GERD not on acid reducing medications, and 36 children with histologically defined EE (>20 eosinophils per hpf) not on therapy. The scores were compared between the patient groups.

RESULTS: The mean total symptom scores from each group were 1.24 (SEM = 0.23), 0.92 (SEM = 0.31), 5.43 (SEM = 0.49), and 6.58 (SEM = 0.49) for the dermatology, allergy non-EE, GERD, and EE groups, respectively. Although the EE patients complained of more heartburn/regurgitation (means 1.31 $\pm$ 0.12 vs 0.96 $\pm$ 0.14), abdominal pain (means