

tional Asthma Education and Prevention Program (NAEPP) guidelines. The primary outcome evaluated at each injection visit was the number of symptomatic days in the previous 2 weeks. Numerous secondary outcomes were evaluated.

RESULTS. Compared with placebo, omalizumab treatment significantly reduced the mean number of symptomatic days per 2-week interval from 1.96 to 1.48, which is a 24.5% difference ($P < .001$). Significantly fewer exacerbations occurred during the treatment period in the omalizumab group; 30.3% of patients had an exacerbation compared with 48.8% of patients in the placebo group ($P < .001$). Similarly, the percentage of hospitalizations caused by asthma was 1.51% vs 6.3% in the placebo group ($P = .02$). Asthma control in the omalizumab group required significantly lower doses of inhaled glucocorticoids ($P < .001$) and long-acting β_2 agonists ($P = .003$). Finally, posthoc analysis revealed that omalizumab prevented the seasonal spikes in exacerbations seen in the placebo group. No differences in safety were seen.

CONCLUSIONS. Omalizumab improved asthma control in inner-city children, adolescents, and young adults when added to their previous guideline-based therapy.

REVIEWER COMMENTS. Omalizumab is an effective treatment option for patients with asthma and allergies whose conditions are not adequately controlled on guideline-based therapy. In this study, the effectiveness of omalizumab was shown at all levels of asthma severity. According to NAEPP guidelines, omalizumab is indicated for patients older than 11 years as a step 5 or 6 treatment option. Further data on the long-term safety of omalizumab in children is needed before we can fully advocate adjusting these current recommendations. Overall, this study provides us with further proof that the allergic component of asthma plays a key role in controlling this population's asthma. Further research to investigate the potential use of omalizumab for preventing seasonal peaks would also be beneficial at this time.

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2011-2107PPP

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Cost-effectiveness of Metered-Dose Inhalers for Asthma Exacerbations in the Pediatric Emergency Department

Doan Q, Shefrin A, Johnson D. *Pediatrics*. 2011;127(5). Available at: www.pediatrics.org/cgi/content/full/127/5/e1105

PURPOSE OF THE STUDY. To compare the incremental cost and effects (eg, averted admission to hospital) of using a

metered-dose inhaler (MDI) against wet nebulization to deliver bronchodilators for the treatment of mildly to moderately severe asthma in pediatric emergency departments (EDs).

STUDY POPULATION. The population was obtained from a Cochrane systematic review in which the efficacy of using MDIs versus nebulizers for the delivery of albuterol to children who presented to the ED with asthma were compared.

METHODS. Cost data were obtained from hospitals and regional authorities involved in the Cochrane review studies. The incremental cost-effectiveness ratio was determined, and Monte Carlo simulations were used to perform probabilistic sensitivity analyses.

RESULTS. Using MDIs in the ED versus wet nebulization might result in a net savings of \$154.95 (Canadian dollars [CAN\$]) per patient. Models suggest that using MDIs is both more effective and less costly than wet nebulization. Sensitivity analyses revealed that MDIs would remain the better strategy even if the net cost of using an MDI was CAN\$70 more expensive than using nebulized bronchodilators.

CONCLUSIONS. Using MDIs with spacers instead of wet nebulizers to deliver albuterol to treat children with mild-to-moderate asthma exacerbations in the ED could lead to significant cost savings.

REVIEWER COMMENTS. Although not statistically significant ($P = .062$), the MDI protocol was more likely to prevent hospital admission than using nebulized bronchodilators. Each hospitalization averted would save CAN\$2499. At the same time, using albuterol MDI (CAN\$262.73) versus albuterol via nebulizer (CAN\$417.68) for acute asthma in the ED would also be less expensive (net cost savings: CAN\$154.95). The authors noted that these results are only generalizable to single-payer health care models similar to those assessed in Canada.

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2011-2107QQQ

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Cost-effectiveness Analysis of Fluticasone Versus Montelukast in Children With Mild-to-Moderate Persistent Asthma in the Pediatric Asthma Controller Trial

Wang L, Hollenbeak CS, Mauger DT, et al; Childhood Asthma Research and Education Network of the National Heart, Lung, and Blood Institute. *J Allergy Clin Immunol*. 2011;127(1):161-166

PURPOSE OF THE STUDY. To compare the cost-effectiveness of 2 commonly used asthma controllers, fluticasone and

Cost-effectiveness of Metered-Dose Inhalers for Asthma Exacerbations in the Pediatric Emergency Department

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Pediatrics 2011;128;S133

DOI: 10.1542/peds.2011-2107QQQ

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