METHODS. Pediatric office health care providers and personnel in 6 Connecticut communities were trained in an asthma-management program entitled "Easy Breathing," which was based on NAEPP guidelines. Quality parameters encompassed enrollment census, relevant use of anti-inflammatory medications, and provision of a written action plan. Utilization of medical services was confirmed for Medicaid-covered children and compared by using relative rates and 95% confidence intervals (CIs) before and after enrollment.

RESULTS. There were 51 practices and 297 health care providers who enrolled 32 680 children from 2002 to 2007; 10 467 of these children had asthma according to history, 4354 of whom were insured by Medicaid. Children with persistent asthma according to history had a decline in the number of hospitalizations (relative rate: 0.51 [95% CI: 0.39–0.65]) and emergency department encounters (relative rate: 0.70 [95% CI: 0.68–0.84]) but no decline in the number of outpatient visits (relative rate: 0.99 [95% CI: 0.9–1.10]). The use of inhaled corticosteroids doubled with an increment in relevant utilization of anti-inflammatory medications to 96%, and a written action plan was provided to 94% of enrolled children with asthma.

CONCLUSIONS. The authors concluded that general pediatricians can effectively institute an asthma-management program, using NAEPP guidelines, that enhances asthma care for a large population of children.

REVIEWER COMMENTS. The limitations of this study that affect its generalizability were (1) claims data were only available for Medicaid-insured children, (2) the intermittent character of state funding, and (3) the fact that both the number of outpatient visits and the filled-prescription rate were low. Therefore, the actual number of children who both filled prescriptions and received them is unknown. However, these results indicate that a disease-management program for pediatric asthma can be implemented successfully in a community pediatric setting with a subsequent significant decrease in the number of hospitalizations and emergency department visits in a large Medicaid-insured population of children.

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Genetic Variations in Nitric Oxide Synthase and Arginase Influence Exhaled Nitric Oxide Levels in Children

Salam MT, Bastain TM, Rappaport EB, et al. *Allergy*. 2011;66(3):412–419

PURPOSE OF THE STUDY. Elevated fractional exhaled nitric oxide (FeNO) has been shown to be a sensitive biomarker for airway inflammation in children with asthma. This study examined whether a relationship could be demonstrated between genetic variants in nitric-oxide synthase and arginase genes and FeNO in asthma.

STUDY POPULATION. Subjects aged 5 to 7 years were recruited from 13 Southern California communities for a Children's Health Study cohort established in 2003. Although FeNO data were available irrespective of race/ethnicity, genetic data were only available from Hispanic and non-Hispanic white children, and data from 2773 children were available for the combined analysis.

METHODS. FeNO measurements were made with breath-sample collections that followed American Thoracic Society guidelines and took place in 2 consecutive school years. Variations in 5 genetic loci were characterized by tag single-nucleotide polymorphisms. Repeated-measures analysis of variance was used to evaluate the association between these genetic variants and FeNO.

RESULTS. Sequence variations in the *NOS2A* and *ARG2* loci were globally associated with FeNO ($P = .0002$ and 0.001, respectively) but in opposite directions regarding FeNO levels. The *ARG2* association was tagged by intronic variant rs3742879 with stronger association with lower FeNO levels. The directional change noted between FeNO levels and the above-mentioned genetic variants was more pronounced in the children with asthma than in those without asthma.

CONCLUSIONS. Variants in the nitric-oxide synthesis pathway genes jointly contribute to the differences in FeNO concentrations. Some of these genetic influences were stronger in children with asthma. Further studies are required to confirm these findings.

REVIEWER COMMENTS. Exhaled nitric oxide has become a more widely used tool in asthma patient care and clinical research settings. This report points out that there are genetic variants that could influence the interpretation of FeNO results. More studies are needed to determine the potential role of these genetic variants in the pathogenesis of asthma.

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MEDICAL THERAPIES

Leukotriene Antagonists as First-Line or Add-on Asthma-Controller Therapy

Price D, Musgrave SD, Shepstone L, et al. *N Engl J Med*. 2011;364(18):1695–1707

PURPOSE OF THE STUDY. To evaluate the real-world efficacy of leukotriene-receptor antagonists (LTRAs) for the