Research and Asthma: Where Do We Go From Here?

Howard Bauchner, MD, and Suzanne Steinbach, MD

ABBREVIATIONS. NIH, National Institutes of Health; PAS, Pediatric Academic Societies.

In this issue of the Journal, Finkelstein and colleagues1 have outlined the failure of pediatricians and family practitioners to adhere to many of the recommendations of the National Institutes of Health (NIH) asthma guideline.2 Although more detailed than previous reports, this study is consistent with a number of others that have documented inconsistencies between physician practice and the NIH asthma guideline.3,4 Where do we stand with respect to clinical and health services research and asthma in children? There are a number of important questions that remain unanswered.

The diagnosis of asthma in children <2 to 3 years old can be complicated and elusive. Unfortunately, the NIH asthma guideline is not helpful with respect to making the diagnosis in young children.2 The majority of diagnostic criteria are only relevant for older children, adolescents, and adults. If an 18-month-old child wheezes twice, 6 months apart, does he or she have asthma? Does the diagnosis change if there is a family history of asthma and the child has atopy? Ensuring appropriate therapy for asthma is obviously dependent on a secure diagnosis. It is not yet clear how we make the diagnosis of asthma in young children.

The NIH guideline is predicated on diagnosing asthma accurately and then categorizing the patient appropriately with respect to severity. The most important groups to distinguish between are those with intermittent and persistent disease. The NIH guideline is quite clear in recommending antiinflammatory therapies for children with persistent disease. Nevertheless, correctly categorizing children using traditional health services databases (number of hospitalizations, number of emergency department visits, pharmacy fills) is inadequate. Categorization is dependent on knowing how often children have symptoms of disease, not health care utilization resulting from those symptoms. Health care utilization reflects many issues, including parent perception of disease, access to care, and adherence to appropriate therapy. In addition, correctly categorizing children who wheeze intermittently is quite complicated. Many of the children we care for wheeze periodically during the winter months, but then rarely during the spring and summer. It is unclear what category these children should be placed in and if antiinflammatory therapy is indicated. We need more research in delineating how to categorize children accurately.

We believe that more young children with asthma are being placed on antiinflammatory medications, particularly inhaled steroids. This is in response to the NIH guidelines and recommendations of many asthma experts. The data indicating that the long-term use of inhaled steroids is safe are quite limited.5 Certainly inhaled steroids are safer and have less complications than the regular use of oral steroids, but little information is known about morbidity associated with use over 5 to 10 years. We are particularly concerned that there may be differences between types of inhaled steroids, and that their impact may be different based on gender.6 The impact on females may be far more serious than males, particularly because osteoporosis is gender-specific. Although inhaled steroids are a key component of asthma therapy, it is critically important that additional data are collected about long-term consequences.

Ultimately, the most important aspect of asthma research from a clinical standpoint is to find creative approaches to improving quality of care, and impact on both health processes and outcomes. We were encouraged by a recent report that suggested that clinicians in practice, attending an interactive seminar based on the theory of self-regulation, improved how they treat children with asthma.7 At the recent Pediatric Academic Societies (PAS) meeting, there was an additional report about the positive effect of practice-based continuous quality improvement techniques on processes of care.8 It will be far easier to improve the quality of inpatient asthma care than ambulatory care. During hospitalization, it is possible to improve quality using either clinical paths or physician order entry with specific computer prompts. These techniques are generally not available in the outpatient setting, and the approaches to improving quality of care will have to be far more creative. Although disease management techniques may be successful, the majority of children with asthma are not going to be cared for in specialty programs.9

From the Department of Pediatrics, Boston University School of Medicine/Boston Medical Center, Boston, Massachusetts.
Address correspondence to Howard Bauchner, MD, 91 E Concord St, Boston Medical Center/Maternity 415, Boston, MA 02118. E-mail: howard.bauchner@bmc.org

PEDIATRICS (ISSN 0031 4005). Copyright © 2000 by the American Academy of Pediatrics.
Although the NIH report is usually referred to as a guideline, it should be more accurately described as a mixture of guideline and consensus statement. A number of the key recommendations of the report, although based on a comprehensive review of the medical literature, really reflect a combination of data and wisdom, because there is limited information on which to base some of the recommendations. For example, the report recommends that certain patients be referred for specialty care. Although it would be hard to argue with referring a child with a life-threatening asthma event, the other criteria for referral are not evidence-based, but rather consensus-based. Unfortunately, in the report, there is no “strength of evidence” statements about the various recommendations. Physicians have indicated that they are more likely to follow guidelines if they are based on evidence, rather than consensus. In the next rendition of the NIH asthma guideline, it would be helpful if “strength of evidence” followed each recommendation.

Finkelstein and colleagues surveyed pediatricians and family practitioners. Although there are always concerns if physician responses in surveys reflect actual care, the study is strengthened by the inclusion of clinical vignettes. There was recently a report indicating that responses to clinical vignettes may be as accurate as standardized patients, and abstraction of medical records in measuring quality of care. The Finkelstein study also indicates that there are differences between how pediatricians and family practitioners behave with respect to caring for children with asthma. These results are not surprising. There was a recent report that found that pediatricians and family practitioners deal with consensus statements and guidelines related to oral antibiotic use differently. The approach to changing physician behavior may have to reflect the speciality of the target physicians.

At the recent PAS meeting there were numerous reports of physician failure to adhere to the NIH asthma guidelines. At this point, we no longer need to describe our failures to comply with these recommendations. We need to answer some of the important and far more complicated questions, such as: when should a young child with recurrent wheeze be labeled asthmatic; which children should be referred for specialty care; are there any early therapies that will prevent long-term morbidity of asthma; how does housing impact on asthma morbidity and can we effectively intervene; and how do we change physician behavior, either at the individual or organizational level, and improve the health outcomes of children. Our talented clinical and health services research community needs to focus on answering these important questions.

REFERENCES

Research and Asthma: Where Do We Go From Here?
Howard Bauchner and Suzanne Steinbach
Pediatrics 2000;106:897

Updated Information & Services
including high resolution figures, can be found at:
/content/106/Supplement_3/897.full.html

References
This article cites 10 articles, 7 of which can be accessed free at:
/content/106/Supplement_3/897.full.html#ref-list-1

Subspecialty Collections
This article, along with others on similar topics, appears in the following collection(s):
Allergy/Immunology
/cgi/collection/allergy:immunology_sub
Asthma
/cgi/collection/asthma_sub

Permissions & Licensing
Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
/site/misc/Permissions.xhtml

Reprints
Information about ordering reprints can be found online:
/site/misc/reprints.xhtml
Research and Asthma: Where Do We Go From Here?
Howard Bauchner and Suzanne Steinbach
*Pediatrics* 2000;106;897

The online version of this article, along with updated information and services, is located on the World Wide Web at:
/content/106/Supplement_3/897.full.html