

2 weeks were present for the last 9 months of the study (Sheares and colleagues' Figure 1A). Similarly, an average of about 3 symptomatic nights per 2-week period occurred (Sheares and colleagues' Figure 1B). Emergency department visits for asthma averaged about two per 3 months for the year (Sheares and colleagues' Figure 4). Hospitalizations, although infrequent, changed little during the 12 months of the study (Sheares and colleagues' Figure 5). Thus, all one can say about the study is that the treatment plan used that did not result in control of asthma was not benefited by a written asthma action plan.

In fact, these patients required more care to meet current standards for asthma control, including virtual absence of day or night symptoms and absence of need for urgent medical care (2). That would have required more frequent visits to the specialists to assess criteria for control and determine the need for additional measures to attain daily absence of symptoms. An "action plan" can then be limited to management of exacerbations, avoiding the complexity of the action plan described in the manuscript by Sheares and colleagues (1). In a critical examination of action plans, Gibson and Powell found no advantage to complex plans with traffic light cartoon or color illustrations (3). Using the language of the National Asthma Education and Prevention Program, reduction of impairment requires physician evaluation with sufficient frequency to make therapeutic decisions that can eventually result in control (2). Although exacerbations, predominantly from viral respiratory infections (4), will still occur, it is there that a simple written asthma action plan is likely to be a useful reference for the patient or family, as those occur episodically, and verbal instructions alone may be insufficiently retained when the exacerbations actually occur.

Before discarding the use of a written asthma action plan, as suggested by the study of Sheares and colleagues (1), consider the specifics of both the treatment and the action plan, whether verbal or written. The devil is in the details. ■

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Written Action Asthma Plans: Not Such a Simple Issue in Subspecialist Care?

To the Editor:

Our monthly Twitter-based University of Toronto Respiriology and Sleep Journal Club (@respandsleepjc #rjsc) recently discussed the study by Sheares and colleagues on use of written action asthma plans (WAAPs) in subspecialist practice (1).

Although the authors examined asthma symptom frequency, some of the audience felt a more robust assessment of asthma control using other objective measures such as peak flows, FEV₁, or the Asthma Control Questionnaire would have been helpful (2, 3). The broad age range (5–80 yr) and the pooled analysis of adult and pediatric populations raised questions regarding whether benefits of WAAPs might differ among age groups (4).

Many of the patients surveyed were taking systemic steroids, which itself suggests a need for patient education, including the use of a WAAP (5, 6). Sheares and colleagues' Figures 3 and 4 show that many patients did not have good asthma control, raising questions of generalizability (perhaps a WAAP may have greater use in patients whose asthma is usually well controlled) (7). Additionally, the study mainly enrolled female patients, and it has been previously shown that women seek healthcare more often than men (8).

Several factors might have biased toward a finding of no difference, including the high attrition rate and the (appropriate) use of an intention-to-treat analysis. In addition, because of the nature of the 3-month follow-up period capturing both WAAP use and subspecialty care, it is difficult to tease out the contribution from each: the effect of WAAP may have been diluted by the mere act of attending subspecialist care (9). Verbal education was given by subspecialists to both groups and may have been reinforced by the exit interview immediately after and telephone follow-up every 3 months, perhaps leaving little room for the WAAP to exert an effect (10). Caution was expressed not to generalize these findings to primary care or emergency room settings.

Although there was no difference between the groups, both groups did improve on several important clinical outcomes. It may be that subspecialty care itself provided benefit independently. Ultimately, we feel that this study mainly confirms the efficacy of subspecialty care for asthma, and although written asthma action plans may not hurt, a paper handout might not be necessary when seeing subspecialists. ■

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Reply

From the Authors:

We appreciate the thoughtful comments provided by Dr. Weinberger related to our study of written asthma action plans in subspecialty care (1). Our study enrolled a population of mostly urban, Latino and black, low-income patients with poorly controlled asthma who had no previous experience in ambulatory subspecialty asthma care. Our results showed that after visits with a subspecialist physician (pulmonologist or allergist), there was a significant reduction in daytime and nocturnal symptoms, β -agonist use, emergency visits, and improvement in asthma quality of life during a 12-month period. Although patients in both groups (those with and without a written asthma action plan) improved significantly, we agree with Dr. Weinberger that at the end of the 12 months, they did not achieve optimal asthma control as outlined in National Asthma Education and Prevention Program guidelines. However, asthma control was not the primary objective of our study. The point of our study was that adding a written asthma action plan made no significant contribution to the substantial reduction in asthma

morbidity that was observed. In fact, we believe that the asthma education and medical care received during visits with subspecialist physicians were major contributors to the improvement in outcomes. As we stated, because our patients were all new to specialty care, the marked improvement in outcomes we saw in both groups may have overwhelmed any beneficial effects of the written action plan.

We agree with Dr. Weinberger's point that our study population of mostly poor, minority patients may have required even more care, and we make the point that increased access to subspecialty care for high-risk populations is needed. However, although more frequent visits to the subspecialists may have achieved better asthma control, the study was not designed to determine the intensity of care needed to bring a previously poorly controlled population of patients with asthma under optimal control. We designed a pragmatic trial of usual care such that patients made appointments as recommended by their physicians and sought additional care (in emergency departments) as they deemed necessary. The researchers did not attempt to control patient behavior around appointment keeping, medication use, or health services use. Moreover, physicians used their discretion with regard to the amount and complexity of information that was provided on the written asthma action plan, based on what they deemed appropriate for the level of care needed.

The plan form itself was not complex. It was designed and pilot tested in patients with a range of literacy skills and was able to be understood and used by persons with marginal functional health literacy skills. The layout and color illustrations were preferred by patients. It was personalized based on the individual patient's triggers, and the primary instructions were for care during exacerbations, which is the same as what Dr. Weinberger says patients should receive.

Finally, we are not advocating discarding the written asthma action plan. As we stated in our article, we believe written asthma action plans should be tested in a variety of clinical settings to determine where the plan will have optimal effectiveness. However, our data suggest that instead of focusing on the written asthma action plan, improving access and referrals of high-risk patients with asthma to subspecialist physicians and making efforts to keep them engaged in care would be more beneficial (2–4) because the asthma education and medical care that occurred during visits with subspecialists provided significant and sustained reductions in asthma morbidity.

We thank Dr. Anand and colleagues for their interest in our article, which examined the efficacy of written asthma action plans in subspecialty care. Our study was designed to determine if there was an independent contribution of written asthma action plans to improving asthma outcomes in a group of pediatric and adult patients with persistent asthma who were new to subspecialty care. We agree that more objective measures of asthma control could have been used but doubt that those measures would have changed our outcomes. We used the more subjective outcomes of asthma symptom frequency and β -agonist use because we wanted to incorporate outcomes that participants identified as important to them in our pilot studies.

We pooled the data from the pediatric and adult participants in the final analysis, which showed that the use of the written asthma action plan did not have an independent effect on asthma outcomes.