

for medications, choosing an in-network pharmacy, switching to 90-day supply of medications from 30 days, and switching medications within therapeutic class to one that is in a preferred tier on a patient's health plan formulary are other strategies to lower patient paid medication costs.⁵

We see this discussion of medication affordability challenges and of strategies to lower patient costs as a valuable addition to the findings of our paper on out-of-pocket spending. Whether medications are affordable for patients can affect adherence and is thus clinically meaningful. Discussing medication costs and helping patients access affordable medications can be part of efforts to maximize adherence and health outcomes.

Clinicians need resources to support patients through affordability challenges. Information about what a patient would pay for a prescription, which depends on the medication and on the patient's health plan formulary and benefit design, is needed. Only with the patient's cost information can clinicians and patients together think about the ideal care plan to maximize adherence and health outcomes.

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No funding was received for this work.

Conflicts of interest: A. C. Wu receives funding from GlaxoSmithKline for separate research. The rest of the authors declare that they have no relevant conflicts of interest.

Received for publication February 24, 2022; accepted for publication February 26, 2022.

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<https://doi.org/10.1016/j.jaip.2022.02.046>

Food allergy: One more book rather than one less pen



To The Editor:

We read with great interest the article by Shaker et al¹ on the analysis of the cost-effectiveness of risk stratification for prescription of the epinephrine autoinjector (EAI) for patients

with food allergies. The authors conclude that limiting the prescription of 2 EAI to patients with a history of anaphylaxis would be significantly more cost-effective than the current strategy of routinely prescribing 2 EAI to any patient with suspected anaphylaxis.

First, it is probably simplistic to extrapolate general results for food allergies from studies of peanut allergy alone. Moreover, it is likely that better knowledge of anaphylactic symptoms, and particularly gastrointestinal symptoms,² by patients would lead to an increase in the incidence of diagnosing acute anaphylaxis, and therefore in the costs inherent in their management and, ultimately, in the prescription of additional EAI after the initial episode. Although this is not a financially profitable strategy in the short term, educating the population about this chronic condition through a national prevention program would very probably reduce its morbidity/mortality and thus the long-term costs. In the end, it is probably more cost-effective to educate patients by giving them a book rather than to take away a pen.

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No funding was received for this work.

Conflicts of interest: The authors declare that they have no relevant conflicts of interest. Received for publication January 19, 2022; accepted for publication March 2, 2022.

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<https://doi.org/10.1016/j.jaip.2022.03.011>

Reply to "Food allergy: One more book rather than one less pen"



To the Editor:

We appreciate the interest of Drs Cazes and Briquet¹ in cost-effective approaches to anaphylaxis management. The authors raise several important points.

In our evaluation of peanut allergy, universal prescription of 2 epinephrine autoinjectors for all allergic children was associated with an incremental cost of \$10,696,036/quality-adjusted life-year (QALY), compared with prescribing 2 devices for all children with a history of peanut anaphylaxis and only 1 device to those without a history of prior anaphylaxis.² Given a standard cost-effectiveness threshold of \$100,000/QALY, routine prescription of 2 devices for all patients with peanut allergy does not promote value-based care at current epinephrine device prices or costs of anaphylaxis care.^{3,4}

The model of childhood peanut allergy is an appropriate surrogate for any childhood food allergy.²⁻⁴ Peanut allergy is prevalent, frequently associated with anaphylaxis, and often

lifelong.⁵⁻⁷ Outcomes of allergic reactions to cow milk, egg, tree nut, seed, or any other number of allergens are likely to be nested within the estimates for peanut, making this a good “representative” item for the purposes of modeling.²⁻⁴ To enhance the generalizability of this model, very broad ranges of all variables were used in sensitivity analyses, which acts as a failsafe to ensure that any single point estimate/input is explored robustly to verify if a small or large shift in the value would change the analysis.²⁻⁴ Thus, based on the fact that the costs and outcomes for peanut allergy tend to incorporate outcomes likely experienced for other allergens, combined with very broad sensitivity around these inputs to deliberately ensure that the investigation is not narrow, peanut is an appropriate choice.²⁻⁴ No model can be perfect, but we feel that ours represents a highly plausible reality and has accounted for considerable uncertainty.²⁻⁴

The authors suggest that gastrointestinal symptoms are potentially pivotal in establishing anaphylaxis diagnosis, which is supported by both the National Institute of Allergy and Infectious Diseases and World Allergy Organization anaphylaxis criteria.^{5,7} However, this argument has no bearing on our model and findings regarding when a single- versus 2-device prescription would be most cost-effective.^{1,2} We applaud the authors on their advocacy for anaphylaxis education. Appropriate trigger avoidance, preparedness, and rapid treatment of anaphylaxis are cornerstones in prevention and management of severe allergic reactions.⁵⁻⁷ Education is not antagonistic to value-based care, and such a rigorous provision of education by the prescribing allergist is already nested within our model.²⁻⁷ We agree that the role of the allergist-immunologist is to provide individualized care in a patient-preference sensitive context. There certainly exist settings where providing multiple epinephrine devices for a patient at risk for anaphylaxis (but who has never experienced anaphylaxis) is appropriate.² Our message is that identification of low-value practices can be used as a navigation signal to invite shared decision-making into the clinical conversation to facilitate the right care to each patient in every setting.

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No funding was received for this work.

Conflicts of interest: M. Shaker has a family member who is CEO of Altrix Medical, is a member of the Joint Taskforce on Allergy Practice Parameters, and serves as a member of the editorial boards of the *Journal of Allergy and Clinical Immunology In Practice*, the *Annals of Allergy, Asthma, and Immunology*, and the *Journal of Food Allergy*. Paul J. Turner reports grants from UK Medical Research Council, National Institute for Health Research/Health Research/Imperial Biomedical Research Centre, UK Food Standards Agency, and JM Charitable Foundation outside the submitted work; and personal fees from UK Food Standards Agency, DBV Technologies, Aimmune Therapeutics, Allergenics, and ILSI Europe, outside the submitted work. Matthew Greenhawt was supported by grant #5K08HS024599-02 from the Agency for Healthcare Quality and Research during the preparation of this manuscript; is an expert panel and coordinating committee member of the National Institute of Allergy and Infectious Diseases-sponsored Guidelines for Peanut Allergy Prevention; has served as a consultant for the Canadian Transportation Agency, Thermo Fisher, Intromune, and Aimmune Therapeutics; is a member of physician/medical advisory boards for

Aimmune Therapeutics, DBV Technologies, Nutricia, Kaleo Pharmaceutical, Nestle, and Monsanto; is a member of the scientific advisory council for the National Peanut Board; has received honorarium for lectures from Thermo Fisher, Before Brands, multiple state allergy societies, the American College of Allergy, Asthma & Immunology, and the European Academy of Allergy and Clinical Immunology; is an associate editor for the *Annals of Allergy, Asthma, and Immunology*; and is a member of the Joint Taskforce on Allergy Practice Parameters.

Received for publication March 1, 2022; Revised March 6, 2022; accepted for publication March 7, 2022.

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<https://doi.org/10.1016/j.jaip.2022.03.010>

Experience monitoring adverse events in a commercial early allergen introduction product



To the Editor:

We thank Cox et al¹ for their report of 12 infants who developed food allergies despite use of a range of commercial early allergen introduction products. Allergic reactions occurred either on first introduction of the product, or at a later stage when exposed to the natural food and/or the commercial product. We acknowledge the value of these data to help better understand the growing category of early introduction products.

Commercially prepared multiallergen introduction products contain intact proteins from multiple food groups.² It is therefore expected that some infants with pre-existing, but not yet manifest, food allergies may react to a product at the time of first introduction. Food-allergic reactions that occur at a later stage despite using a multiallergen product for some time are more difficult to assess. We agree with the authors that there is a need to study the efficacy of individual allergen introduction products, acknowledging the varying allergen composition and protein integrity in this category.

Because of the rising incidence of food allergies, many parents have become hesitant to introduce food allergens into the diet of their young infants that may contribute to an increased risk of food allergies.³ To guide parents in this context, the child's pediatrician should have a conversation about the potential risks and