

Real-world attitudes among allergists/immunologists regarding oral immunotherapy and preferred terminology

Bradley E. Chipps, MD^a, Christina E. Ciaccio, MD^b, Karin Rosén, MD, PhD^{c,*}, Tmirah Haselkorn, PhD^d, Ellen Zigmont, PharmD, BCOP^e, and Thomas B. Casale, MD^f



Clinical Implications

- Real-world data from a diverse sample of allergists/immunologists specified patient factors for initiating immunotherapy. Physicians also indicated the need for consensus regarding terminology used in food allergy clinical trials, including “tolerated dose,” which was felt to be most clinically meaningful.

TO THE EDITOR:

Peanut allergy is increasing in prevalence¹ and may also be more severe compared with other food allergies,² as evidenced by a greater number of food-related anaphylactic events leading to emergency and hospital care.³ Clinical trials of oral immunotherapy (OIT) for peanut allergy with various products have reported successful desensitization with acceptable safety and tolerability.⁴ A 2015 survey found that among 442 allergists, use of OIT varied across different practices and that more data were needed on the different approaches.⁵ Given these observations, we surveyed a diverse sample of US allergists/immunologists to understand their attitudes regarding immunotherapy, with a focus on preferred terminology for OIT and peanut allergy.

An online, self-administered survey (see this article's Online Repository at www.jaci-inpractice.org) was developed with input from experts in medicine, epidemiology, health economics, and psychometrics. Potential respondents were identified via bibliometric desk research by SteepRock, Inc (Washington Depot, Conn), and from PatientSource, a deidentified and Health Insurance Portability and Accountability Act-compliant patient claims database, for the year 2016 (N = 1500). This geographically and payor-type-representative US healthcare claims database is licensed by Symphony Health, a PRA HealthSciences company. Email invitations were sent from December 28, 2017, to January 27, 2018, to physicians with the appropriate specialty (allergy and/or immunology) and those with a minimum of 15 claims, until the target sample size (n = 100) was achieved. Respondents were blinded to the company sponsoring the survey (Aimmune Therapeutics, Brisbane, Calif). Criteria for participation in the survey included the following: licensed to practice medicine in the US; board-certified/-eligible in allergy and/or immunology; completion of training (residency/fellowship) 5 years or more before study start date; spends more than 20% of practice/professional time in direct patient care; and managed 50 or more patients with food

allergy in the past year. Questions consisted of multiple-choice and free-text questions.

A total of 101 allergists/immunologists, representing both community-based and specialist-based practices from all US regions and more than 25 urban centers, completed the survey. Respondent characteristics can be found in [Tables E1](#) and [E2](#) in this article's Online Repository at www.jaci-inpractice.org. OIT and other forms of immunotherapy for allergy were widely used in the previous year (subcutaneous immunotherapy, 71.3%; sublingual immunotherapy, 58.4%; OIT, 47.5%; none, 12.9%). When asked “When considering a patient with allergies, what clinical and behavioral factors would most likely make you initiate immunotherapy? Please select all that apply,” respondents indicated patient/caregiver motivation (94.1%) and no compliance concerns (85.2%) as “extremely important” or “very important” (see [Figure E1](#) in this article's Online Repository at www.jaci-inpractice.org). Lack of Food and Drug Administration (FDA) approval (73.3%) and safety concerns (61.4%) were the most important reasons for not implementing OIT. Extremely/very important factors for improving comfort level with OIT included additional safety data (87.1%), FDA approval (81.2%), and OIT treatment recommendations/guidelines (79.2%) ([Figure 1](#)). Respondents indicated they would most likely offer OIT to those patients who they felt would be adherent (45.5%) (see [Figure E2](#) in this article's Online Repository at www.jaci-inpractice.org).

Respondents were asked to consider the following hypothetical situation:

You have administered an active food challenge to patient A who has been on 6 months of maintenance OIT at 300 mg/d (~1 peanut kernel). In the food challenge to assess efficacy of OIT therapy for this patient, the patient took the following doses without dose-limiting symptoms: 3 mg, 10 mg, 30 mg, 100 mg, 300 mg, and 600 mg of peanut protein, but had dose-limiting symptoms at 1000 mg of peanut protein.

Respondents were asked, “How would you communicate this result to patient A?” Using multiple-choice answers, most respondents (64.4%) indicated that 600 mg was the “tolerated dose”; 20.8% said that 1000 mg was the “reactive dose”; 7.9% said that 1000 mg was the “tolerated dose.”

Answers varied when respondents were asked to define, in their own words, “reactive dose.” The most common response was the “dose at which symptoms occur” (63.4%), followed by “lowest dose at which symptoms occur” (13.9%) (see [Figure E3, A](#), in this article's Online Repository at www.jaci-inpractice.org). There was less agreement for the definition of “tolerated dose.” The most common definitions were “highest dose tolerated without symptoms” (31.7%) and “dose at which no symptoms occur” (29.7%) ([Figure E3, B](#)). Responses to these terminology questions indicate that one-third to two-thirds of the allergists/immunologists have understandings inconsistent with American College of Allergy, Asthma and Immunology recommendations.⁶

Of respondents who reported conducting an oral food challenge on completion of OIT up dosing and achievement of maintenance therapy (n = 44), 54.6% indicated that they communicate the tolerated dose to their patient, 20.5%

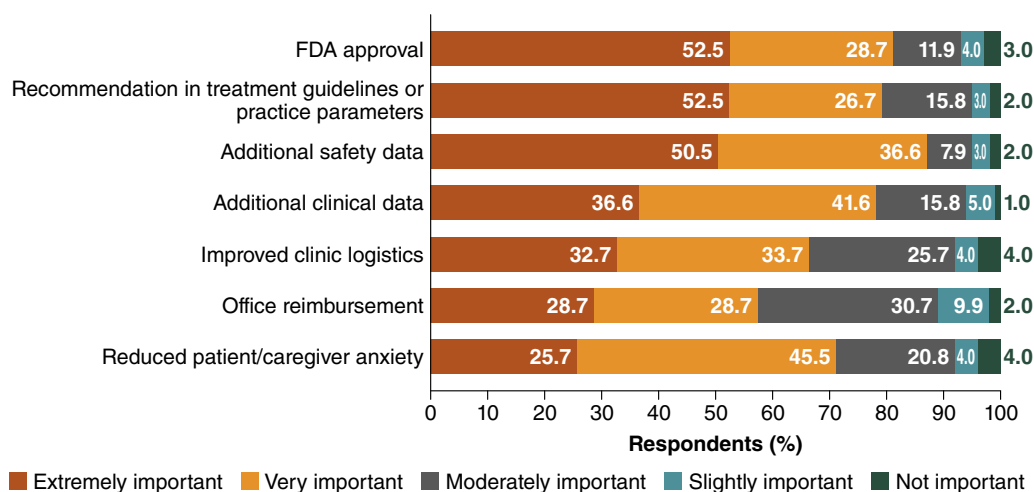


FIGURE 1. Factors that would improve participating allergists/immunologists' comfort level with using OIT in practice.

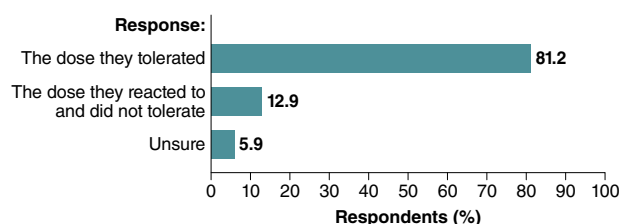


FIGURE 2. Responses to the question: "In your experience, what do you think is more clinically meaningful for a patient to know: the dose they tolerated or the dose they reacted to and did not tolerate?"

communicate both the tolerated and reactive doses, and 15.9% communicate the reactive dose (2.3% do not communicate a specific dose to the patient; 2.3% unsure; 4.6% other). All respondents ($N = 101$) were asked, "In your experience, what do you think is more clinically meaningful for a patient to know, the dose they tolerated or the dose they reacted to and did not tolerate?"; 81.2% of participants indicated "the dose they tolerated" (Figure 2).

Most respondents (88.1%) stated that a stronger consensus among clinicians regarding the different terminology used in food allergy terminology would be "extremely" or "very" useful, indicating uncertainty among allergists/immunologists regarding these terms and concepts. Similarly, 85.1% of respondents stated that it would be useful to educate patients on the specific terminology used in food allergy immunotherapy. Indeed, there have been previous calls for standardizing various aspects of food allergy practice and terminology.⁷⁻⁹

Respondents were asked whether they advise patients with peanut allergy to avoid certain activities. Two-thirds (66.3%) of respondents answered "Yes" and were asked, "How important is it to discuss with your peanut allergy patient any risks associated with the following activities?" Percentages of respondents indicating "extremely important" or "very important" for each of these activities were as follows: eating at restaurants (57.4%), vacations (47.5%), exercise (44.5%), and infections (36.6%). Almost all respondents (98.0%) said they advise patients to check food labels.

Study limitations include the potential for response bias, because allergists/immunologists were aware of the subject matter when invited to participate, and those who agreed to participate may be different than those who did not. In addition, respondents' interpretations of importance levels may have varied.

Findings indicate that OIT is commonly used in the US and implementation may increase following FDA approval. Although definitions of key OIT terms varied, most allergists/immunologists expressed a desire for greater standardization of terminology.

Acknowledgments

Aimmune Therapeutics sponsored the survey and appreciates the participation of the respondents to the survey. We thank Adria Stapleton of SteepRock, Inc. for conducting the survey. Editorial assistance and medical writing support was provided by Larry Deblinger of The Curry Rockefeller Group, LLC, and was funded by Aimmune Therapeutics.

^aCapital Allergy & Respiratory Disease Center, Sacramento, Calif

^bThe University of Chicago Medicine, Chicago, Ill

^cAimmune Therapeutics, Brisbane, Calif

^dEpiMetrix, Inc, Los Altos, Calif

^eAimmune Therapeutics, Brisbane, Calif

^fDivision of Allergy and Immunology, University of South Florida, Tampa, Fla

^gK. Rosén is no longer affiliated with Aimmune Therapeutics, but she was at the time of the writing of this article.

Aimmune Therapeutics, Inc. provided financial support for the conduct of the research and preparation of the article. K.R. (former employee) and E.Z., an employee of Aimmune Therapeutics, Inc. collaborated with the remaining authors on the study design, the collection, analysis, and interpretation of data, the writing of the report, and in the decision to submit the article for publication.

Conflicts of interest: B. E. Chipps reports consulting and speakers' bureau fees from AstraZeneca, Boehringer Ingelheim, Circassia, Genentech, Novartis, and Teva, and consulting fees from Regeneron and Sanofi. C. E. Ciccio has received consulting and advisory board fees from Aimmune Therapeutics. K. Rosén was formerly an employee of Aimmune Therapeutics. T. Haselkorn is a consultant for Aimmune Therapeutics. E. Zigmont is an employee of and owns stock in Aimmune Therapeutics. T. B. Casale is a consultant and has received research funding from Aimmune Therapeutics.

Received for publication September 5, 2018; revised December 5, 2018; accepted for publication December 7, 2018.

Available online December 14, 2018.

Corresponding author: Bradley E. Chipps, MD, Capital Allergy & Respiratory Disease Center, 5609 J St, Ste C, Sacramento, CA 95819. E-mail: bchipps@capitalallergy.com.

2213-2198

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<https://doi.org/10.1016/j.jaip.2018.12.009>

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ONLINE REPOSITORY**SURVEY INSTRUMENT****Food Allergy Attitudes and Current Clinical Practices****Survey****INDISCRIMINATE****Study scope and participants.****Specialties and quotas:**

100 allergists/immunologists:

- 50 academicians
- 50 community-based allergists

Screening criteria:

Licensed to practice medicine in the United States

Board-eligible or board-certified in allergy and/or immunology

Must have completed training (residency/fellowship) more than 5 years ago

Must spend more than 20% of their professional time in direct patient care

Must have managed at least 50 patients with food allergy in the past year

[BRACKETED TEXT IN ALL CAPS IS FOR PROGRAMMING PURPOSES ONLY AND IS NOT TEXT SEEN BY RESPONDENTS]

[STANDARD INTRO TEXT]

Thank you for your participation in our research. Your opinions are very important to us.

The purpose of this study is to collect information about your attitudes regarding immunotherapy and oral immunotherapy, attitudes toward peanut allergy and treatment, and the sources from which you gather clinical and scientific knowledge regarding these therapies. If you qualify, the survey should take **no more than 20 minutes** to complete.

For completion of the survey, you will receive the confirmed honorarium in appreciation of your time.

Screening questions.

[PLEASE COLLECT ANSWERS TO ALL SCREENING QUESTIONS BEFORE DETERMINING RESPONDENT ELIGIBILITY]

S1. Are you a physician licensed to practice in the U.S.?

- A) Yes
- B) No [TERMINATE]

S2. What is your primary specialty? [DROPDOWN MENU]

- A) Pediatrics [TERMINATE]
- B) Family Medicine [TERMINATE]
- C) Dermatology [TERMINATE]
- D) Critical Care Medicine/Emergency Department [TERMINATE]
- E) Internal Medicine [TERMINATE]
- F) Allergy/Immunology
- G) Pediatric Allergy/Immunology
- H) Other [TERMINATE]

S3. Are you currently board-certified or board-eligible in your area of specialty?

- A) Yes, board-certified or -eligible in area of specialty
- B) No, not board-certified or -eligible in area of specialty [TERMINATE]
- C) Do not know [TERMINATE]

S4. How many years have you practiced in the field of allergy/immunology after completing your last year of formal training? [DROPDOWN MENU]

- A) Less than 1 year [TERMINATE]
- B) 1 to 5 years [TERMINATE]
- C) 6 to 10 years
- D) 11 to 20 years
- E) 21 to 30 years
- F) 31 to 40 years
- G) More than 40 years [TERMINATE]

S5. Approximately what percent of your professional time is spent in direct patient care (as opposed to teaching, research activities, and administrative work)? [DROPDOWN MENU]

- A) Less than 20% of my time [TERMINATE]
- B) 21% to 40% of my time

- C) 41% to 60% of my time
D) 61% to 80% of my time
E) 81% to 100% of my time
- S6. How would you describe the practice site where you spend the greatest amount of time seeing your patients (inpatient and outpatient)? Please select one answer.
A) Academic medical center or affiliated teaching hospital
B) Non-academic community hospital or outpatient clinic
C) Outpatient clinic associated with hospital or academic institution
D) Private practice office
E) Other, please specify:
- S7. In the past year, approximately how many patients with food allergy have you managed in your practice?

Number of patients with food allergy in your practice: _____ [POSITIVE INTEGERS ONLY]

[TERMINATE IF S7 < 50]

<END OF SCREENER>

<DISQUALIFY TEXT>

Thank you for your time. Although you do not qualify for this particular study, we will keep you in mind for future research opportunities.

<QUALIFY TEXT>

Your responses to the previous questions indicate that you are eligible to participate in our study.

Thank you for taking the time to participate in this survey. The questions you are about to complete will gather important information about your attitudes regarding immunotherapy and oral immunotherapy, attitudes regarding peanut allergy and treatment, and the sources from which you gather clinical and scientific knowledge regarding these therapies. We understand that your time and experience are valuable and we greatly appreciate your willingness to participate in this study.

The survey should take you approximately 20 minutes to complete. Upon completion, you will receive the confirmed honorarium.

Survey questions.

Section I: Attitudes Towards Immunotherapy and Oral Immunotherapy

Q1. How many years of experience do you have diagnosing and managing patients with food allergy?

Number of years: _____ [RANGE 0 TO 50]

Q2. What proportion of your patients are between the ages of 4 and 17 years and have food allergy?

Percent of patients: _____ [RANGE 0% TO 100%]

Q3. Have you treated patients with allergy with any of the following treatments in the past year? Please select all that apply.

- A) Sublingual immunotherapy (SLIT)
B) Subcutaneous immunotherapy (SCIT)
C) Oral immunotherapy (OIT)
D) None of the above [SKIP TO Q6]

Q4. When considering a patient with allergies, what clinical and behavioral factors would most likely make you initiate immunotherapy? Please select all that apply.

[RANDOMIZE LIST]	Extremely Important 1	Very Important 2	Moderately Important 3	Slightly Important 4	Not Important 5
History of anaphylaxis due to food allergy	☐	☐	☐	☐	☐
Multiple allergic triggers (environmental and/or multiple foods)	☐	☐	☐	☐	☐
Evidence of bronchial hyperresponsiveness	☐	☐	☐	☐	☐
Comorbid conditions (ie, asthma, atopic dermatitis, other uncontrolled conditions)	☐	☐	☐	☐	☐
No compliance concerns or challenges	☐	☐	☐	☐	☐
Patient/caregiver motivation	☐	☐	☐	☐	☐
Dual caregiver household	☐	☐	☐	☐	☐
Other, please specify	☐	☐	☐	☐	☐

Q5. In what percent of your patients do you use OIT?

Percent of patients: _____% [RANGE 0 TO 100]

Q6. [ASK IF Q3 = D or Q3 = C NOT SELECTED] What are the reasons for not implementing OIT in your practice? Please select all that apply. [RANDOMIZE LIST]

- A) Risk of anaphylaxis
B) Efficacy concerns

- C) Safety concerns
 D) Lack of FDA approval
 E) Patient/caregiver not motivated
 F) Other, please specify:
 Q7. [ASK IF Q3 = D or Q3 = C NOT SELECTED] How important are the following factors in improving your comfort level with implementing OIT in your practice?

[RANDOMIZE LIST]	Extremely Important 1	Very Important 2	Moderately Important 3	Slightly Important 4	Not Important 5
Additional clinical data	☐	☐	☐	☐	☐
Additional safety data	☐	☐	☐	☐	☐
FDA approval	☐	☐	☐	☐	☐
Recommendation in treatment guidelines or practice parameters	☐	☐	☐	☐	☐
Improved clinic logistics	☐	☐	☐	☐	☐
Office reimbursement	☐	☐	☐	☐	☐
Reduced patient/caregiver anxiety	☐	☐	☐	☐	☐
Other, please specify	☐	☐	☐	☐	☐

- Q8. Have you participated as an investigator in a clinical trial for peanut allergy?
 A) Yes
 B) No

Section II: Terminology Used in Oral Immunotherapy

- Q9. Let's review a hypothetical situation with a peanut OIT patient. You have administered an active food challenge to patient A who has been on 6 months of maintenance OIT at 300 mg/d (~1 peanut kernel). In the food challenge to assess efficacy of OIT therapy for this patient, the patient took the following doses without dose-limiting symptoms: 3 mg, 10 mg, 30 mg, 100 mg, 300 mg, and 600 mg of peanut protein, but had dose-limiting symptoms at 1000 mg of peanut protein. How would you communicate this result to patient A?
 A) 1000 mg is the tolerated dose
 B) 600 mg is the tolerated dose
 C) 1000 mg is the reactive dose
 D) 600 mg is the reactive dose
 E) Other, please specify:

- Q10. What is your definition of reactive dose? What is your definition of tolerated dose?

Definition of reactive dose	[OPEN TEXT]
Definition of tolerated dose	[OPEN TEXT]
I don't know/uncertain	☐

- Q11. [ASK IF Q3 = C] Upon completion of OIT up dosing and achievement of maintenance therapy in a patient, do you conduct an oral food challenge?
 A) Yes
 B) No
 Q12. [ASK IF Q11 = YES] Following OIT up dosing and maintenance therapy in a patient, how do you communicate efficacy results based on the food challenge to your patients? Do you communicate the dose they reacted to, or the dose they tolerated without any dose-limiting symptoms?
 A) I communicate the dose they reacted to in the food challenge
 B) I communicate the dose they tolerated in the food challenge
 C) I do not communicate a specific dose to the patient
 D) Unsure
 E) Other, please specify:
 Q13. In your experience, what do you think is more clinically meaningful for a patient to know, the dose they tolerated or the dose they reacted to and did not tolerate?
 A) The dose they tolerated
 B) The dose they reacted to and did not tolerate
 C) Unsure

Q14. How useful would a stronger consensus be among clinicians regarding the different terminology used in food allergy immunotherapy?

- A) Extremely useful
- B) Very useful
- C) Somewhat useful
- D) Slightly useful

Q15. Do you think it is useful to educate patients on the specific terminology used in food allergy immunotherapy?

- A) Yes
- B) No
- C) Unsure

Section III: Attitudes Towards Peanut Exposure and Treatment

Now we would like to focus specifically on peanut allergy patients for the next several questions.

Q16. When treating a patient with peanut allergy in your practice, do you advise the patient/caregiver to avoid certain activities?

- A) Yes
- B) No [SKIP TO Q18]
- C) Unsure [SKIP TO Q18]

Q17. [ASK IF Q16 = A] How important is it to discuss with your peanut allergy patients any risks associated with the following activities?

[RANDOMIZE LIST]	Extremely Important 1	Very Important 2	Moderately Important 3	Slightly Important 4	Not Important 5
Vacations	☐	☐	☐	☐	☐
Exercise	☐	☐	☐	☐	☐
Eating at restaurants	☐	☐	☐	☐	☐
Infections	☐	☐	☐	☐	☐
Other, please specify	☐	☐	☐	☐	☐

Q18. When caring for a patient with peanut allergy in your practice, which of the following advice do you provide to the patient/caregiver? Please select all that apply.

- A) I advise the patient to check food labels
- B) I advise the patient/caregiver to consult a patient advocacy group, such as Food Allergy Research & Education (FARE), or a patient support group
- C) I advise the patient/caregiver that just one bite of food containing peanut can kill
- D) I advise the patient/caregiver to sit at a peanut-free table at school
- E) I advise the patient/caregiver that even incidental skin contact with peanut is dangerous
- F) None of the above
- G) Other, please specify:

Q19. Do you feel that peanut-free tables at schools are necessary?

- A) Yes
- B) No
- C) Unsure

Q20. If an approved oral immunotherapy treatment for peanut allergy becomes available, to which type of patient would you most likely offer the treatment?

- A) I would offer it to all my patients with peanut allergy
- B) I would offer it only to those patients who I feel would be adherent
- C) I would offer it to only those patients who have experienced a peanut-allergy—related severe systemic reaction (eg, anaphylaxis) in the past
- D) I would offer it only to those patients who have no other food-allergy—mediated lifestyle restrictions
- E) I would offer it only to those patients who have a parent or caregiver at home to supervise daily dosing
- F) Other, please specify:

Section IV: Information Sources

Q21. What do you think are most important sources for *patient education* for the treatment of peanut allergy? Please rank the below options, with “1” being most important and “5” being the least important.

	Extremely Important 1	Very Important 2	Moderately Important 3	Slightly Important 4	Least Important 5
[RANDOMIZE LIST]					
Media/social media coverage	☐	☐	☐	☐	☐
Internet/Google search	☐	☐	☐	☐	☐
Upfront comprehensive patient education	☐	☐	☐	☐	☐
Treating physician	☐	☐	☐	☐	☐
Nurse or nurse practitioner	☐	☐	☐	☐	☐
Specialty pharmacy personnel	☐	☐	☐	☐	☐
Company-sponsored patient call center	☐	☐	☐	☐	☐
Information from advocacy groups	☐	☐	☐	☐	☐
Information generated by you/your practice	☐	☐	☐	☐	☐
Other, please specify:	☐	☐	☐	☐	☐

Q22. What are the most important sources for *your education* regarding peanut allergy? Please rank the below options, with “1” being most important and “5” being the least important.

	Extremely Important 1	Very Important 2	Moderately Important 3	Slightly Important 4	Least Important 5
[RANDOMIZE LIST]					
Scientific congresses	☐	☐	☐	☐	☐
Scientific literature	☐	☐	☐	☐	☐
General medical journals	☐	☐	☐	☐	☐
Allergy journals	☐	☐	☐	☐	☐
Continuing medical education (CME) events — online	☐	☐	☐	☐	☐
Continuing medical education (CME) events — live	☐	☐	☐	☐	☐
Independent medical education (non-CME) events, please specify	☐	☐	☐	☐	☐
Other scientific/medical websites, please specify	☐	☐	☐	☐	☐
White papers	☐	☐	☐	☐	☐
Other, please specify:	☐	☐	☐	☐	☐

Q23. If a new drug has been approved by the Food and Drug Administration (FDA), which resources do you use to seek information about the drug? Please select all that apply.

- A) Live medical education (eg, CME events)
- B) Scientific literature/online publications
- C) Professional societies
- D) Scientific conferences/congresses
- E) Practice parameters and/or treatment guidelines
- F) Other, please specify:

Q24. Which scientific congresses do you rely on most for information regarding recent advances in the practice of allergy? Please rank the below congresses, with “1” being relied on most and “3” being infrequently relied on.

	Relied on most 1	Occasionally relied on 2	Infrequently relied on 3
[RANDOMIZE LIST]			
American Academy of Allergy, Asthma & Immunology (AAAAI)	☐	☐	☐
American College of Allergy, Asthma and Immunology (ACAAI)	☐	☐	☐
Eastern Allergy Conference (EAC)	☐	☐	☐
Aspen Allergy Conference (AAC)	☐	☐	☐
Western Society of Allergy, Asthma & Immunology (WSAAI)	☐	☐	☐
European Academy of Allergy and Clinical Immunology (EAACI)	☐	☐	☐
World Allergy Organization (WAO)	☐	☐	☐
CME events at the _____ conference	☐	☐	☐
Other, please specify:	☐	☐	☐

Q25. Which medical journals do you read most often? Please rank the below journals, with “1” being read the most often and “3” being read the least often.

[RANDOMIZE LIST]	Most often 1	Occasionally 2	Least often 3
<i>The Journal of Allergy and Clinical Immunology (JACI)</i>	☐	☐	☐
<i>The Journal of Allergy and Clinical Immunology: In Practice (JACI: In Practice)</i>	☐	☐	☐
<i>Clinical and Experimental Allergy</i>	☐	☐	☐
<i>Allergy</i>	☐	☐	☐
<i>Annals of Allergy, Asthma & Immunology</i>	☐	☐	☐
<i>Allergy and Asthma Proceedings</i>	☐	☐	☐
<i>JAMA</i>	☐	☐	☐
<i>JAMA Pediatrics</i>	☐	☐	☐
<i>New England Journal of Medicine (NEJM)</i>	☐	☐	☐
<i>Lancet</i>	☐	☐	☐
<i>Annals of Internal Medicine</i>	☐	☐	☐
Other, please specify:	☐	☐	☐

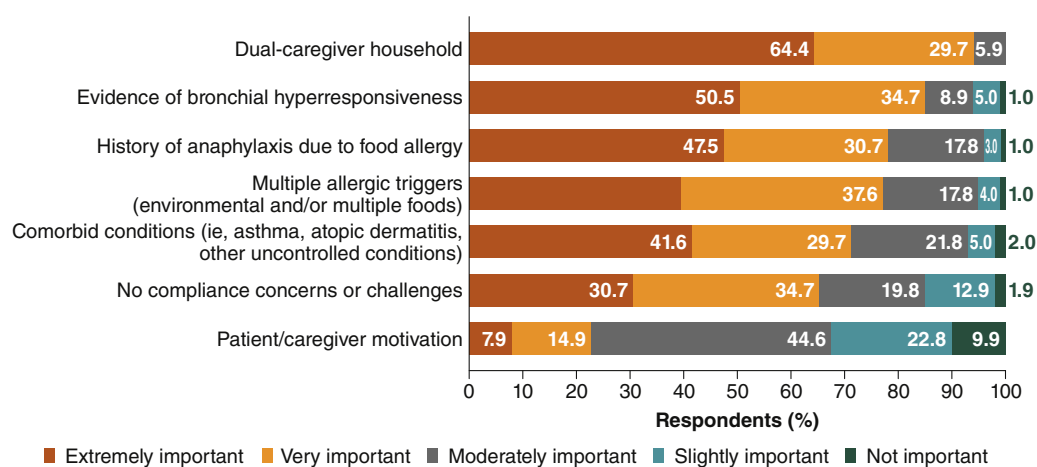


FIGURE E1. Clinical and behavioral factors that would most likely make you initiate immunotherapy.

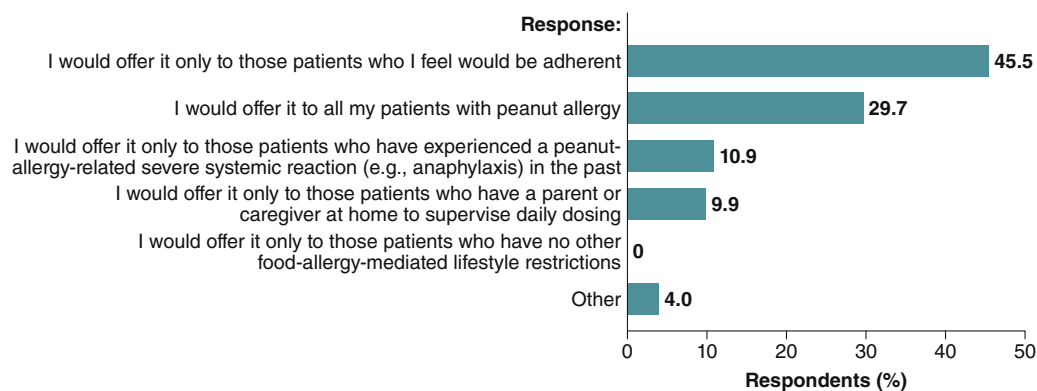
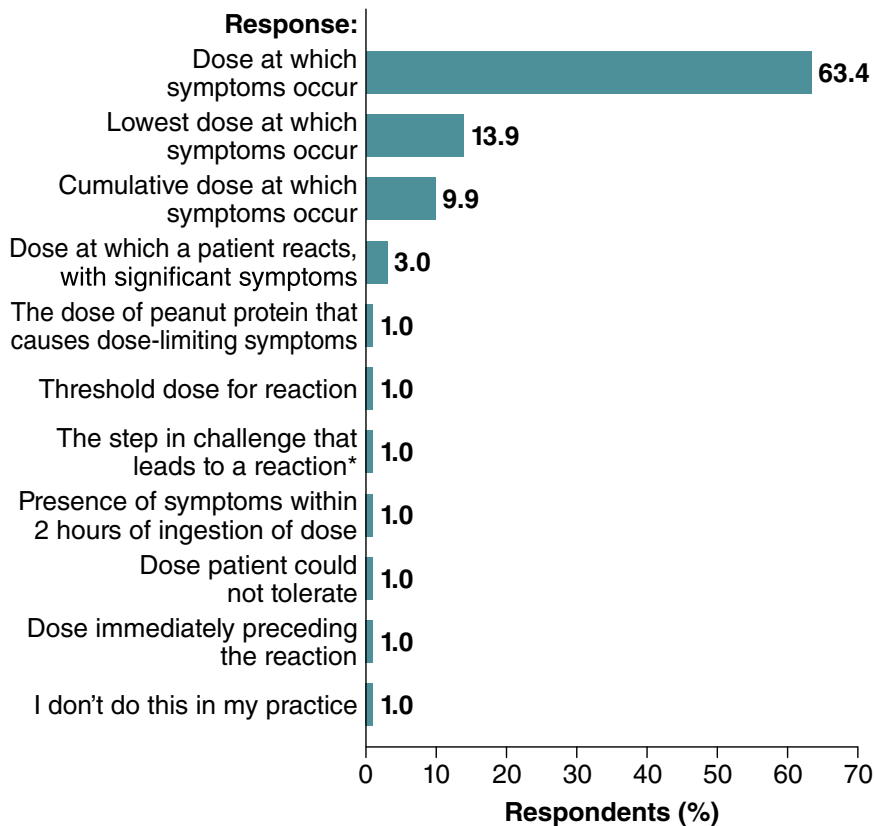


FIGURE E2. Responses to multiple-choice question: "If an approved OIT treatment for peanut allergy becomes available, to which type of patient would you most likely offer the treatment?"

A Reactive Dose



B Tolerated Dose

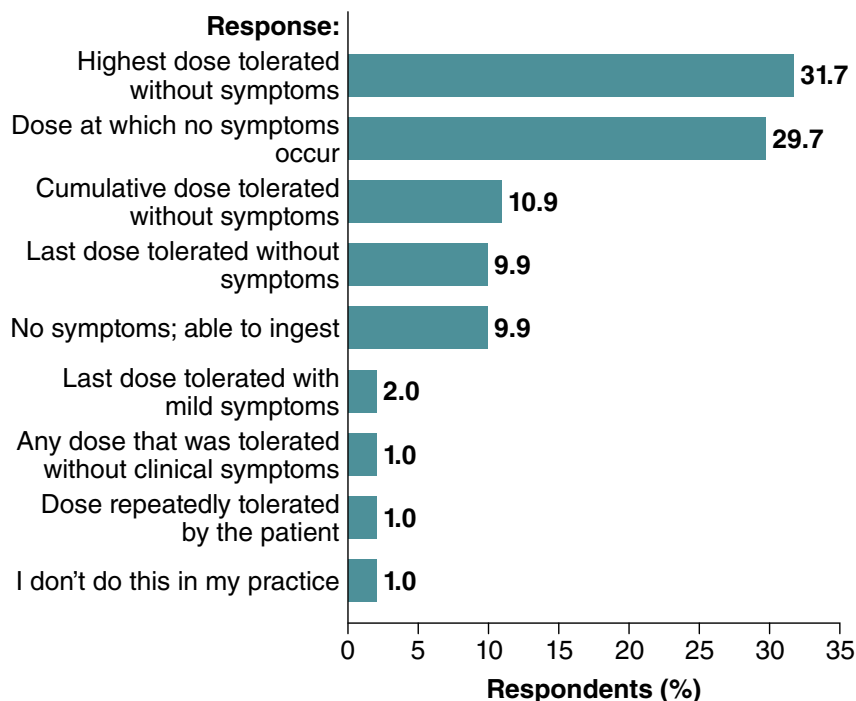


FIGURE E3. Responses to (free-text) question: **A**, “What is your definition of reactive dose?” **B**, “What is your definition of tolerated dose?” *Note:* Three respondents answered 1000 mg to the first question. *The step in challenge that leads to a reaction; cannot rule out possibility that a dose that causes a reaction is not because of a cumulative effect including previous doses.

TABLE E1. Respondent characteristics

Characteristic	All respondents (N = 101)
Length of time in allergy/immunology practice following last year of formal training (y), n (%)	
6-10	24 (23.8)
11-20	47 (46.5)
21-30	20 (19.8)
31-40	10 (9.9)
Approximate portion of professional time spent in direct patient care, n (%)	
21%-40%	3 (3.0)
41%-60%	6 (5.9)
61%-80%	13 (12.9)
81%-100%	79 (78.2)
Primary practice setting, n (%)	
Private practice office	49 (48.5)
Outpatient clinic associated with hospital or academic setting	26 (25.7)
Academic medical center or affiliated teaching hospital	20 (19.8)
Nonacademic community hospital or outpatient clinic	6 (5.9)
Respondents who served as investigators in clinical trial for peanut allergy, n (%)	22 (21.7)
Average % of respondents' patients using OIT	9%
Average estimated number of patients with food allergy in respondents' practices	714
Average % of respondents' patients aged 4-17 y who have food allergy	57%
Average years of experience managing patients with food allergy	16

TABLE E2. Geographic distribution of respondents

Arizona	2	Kansas	2	North Carolina	2	Texas	6
California	8	Kentucky	1	New Jersey	12	Utah	1
Colorado	3	Louisiana	1	New York	11	Virginia	4
Florida	2	Massachusetts	5	Ohio	5	Washington	1
Georgia	4	Maryland	3	Oregon	1	Wisconsin	2
Iowa	1	Michigan	4	Pennsylvania	4		
Illinois	8	Minnesota	1	South Carolina	1		
Indiana	1	Missouri	4	Tennessee	1		