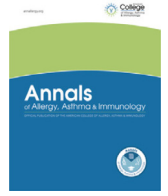


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Special Series

Proposed solutions by the American College of Allergy, Asthma, and Immunology and advocacy experts to address racial disparities in atopic dermatitis and food allergy

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ABSTRACT

Atopic dermatitis (AD) and food allergies are more prevalent and more severe in people with skin of color than White individuals. The American College of Allergy, Asthma, and Immunology (ACAAI) sought to understand the effects of racial disparities among patients with skin of color with AD and food allergies. The ACAAI surveyed its members (N = 200 completed), conducted interviews with health care providers and advocacy leaders, and hosted a roundtable to explore the challenges of diagnosis and management of AD and food allergies in people with skin of color and to discuss potential solutions. Most of the survey respondents (68%) agreed that racial disparities make it difficult for people with skin of color to receive adequate treatment for AD and food allergies. The interviews and roundtable identified access to care, burden of costs, policies and infrastructure that limit access to safe foods and patient education, and inadequate research involving people with skin of color as obstacles to care. Proposed solutions included identifying ways to recruit more people with skin of color into clinical trials and medical school, educating health care providers about diagnosis and treating AD and food allergy in people with skin of color, improving access to safe foods, creating and disseminating culturally appropriate materials for patients, and working toward longer appointment times for patients who need them. Challenges in AD and food allergy in persons with skin of color were identified by the ACAAI members. Solutions to these challenges were proposed to inspire actions to mitigate racial disparities in AD and food allergy.

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Introduction

Atopic dermatitis (AD) and food allergies are atopic diseases that affect individuals of all ages and races.^{1,2} Approximately 7% of adults in the United States are living with AD,³ and its prevalence among people under age 18 years has increased from 8% to 12% in the last 25 years.³ In the United States, AD affects a higher percentage of Black and multiracial children than White children,⁴ and Black and Hispanic children tend to have more severe AD than White children.⁵ In addition, urgent care or emergency department visits for AD are more common in Black or Hispanic adults and children alike than White adults and children with AD.^{6,7} Despite its relatively high prevalence, AD is often misdiagnosed, or the diagnosis is delayed, in people with skin of color because the erythema of AD appears differently on dark and light skins.⁸

Food allergy affects approximately 7% to 8% of children in the United States,^{2,9} and similar to AD, a higher proportion of Black children than White children are affected.^{9–11} Black children are twice as likely to have multiple food allergies than White children.⁹ Furthermore, similar to AD, evidence suggests that food allergy outcomes in the United States are more severe among Black and Hispanic children than White children, including higher levels of anaphylaxis and emergency department visits.¹²

In 2003, the Institute of Medicine published a report that concluded US racial and ethnic minorities received a lower quality of health care compared with nonminorities, even after controlling for insurance status and income.¹³ The report also concluded that this health care disparity was associated with poorer outcomes.¹³ The report committee provided several recommendations for interventions to eliminate disparities,¹³ yet regrettably, they have resulted in few widespread changes. Awareness of racial disparities in medicine as a whole, including in the field of allergy, has become more prominent since the onset of the coronavirus disease 2019 pandemic, a focus that will only grow in significance as most of the US population will be people with skin of color by 2050.¹⁴ In light of these disparities in health care, the American College of Allergy, Asthma, and Immunology (ACAAI) sought to better understand the effects of racial disparities specifically among patients with AD and food allergies served by its own members. To this end, the ACAAI surveyed its

members, conducted interviews with health care providers and advocacy leaders, and hosted a roundtable discussion to further explore the challenges and to discuss potential solutions.

Membership Survey

A survey with 24 questions was available between December 28, 2021, and January 9, 2022, to the 4820 physician members of ACAAI (eTable 1). Survey questions were designed to determine the level of awareness among ACAAI members of the diagnostic and treatment challenges people with skin of color face when it comes to accessing care for AD or food allergy, understanding the problems and challenges their patients with skin of color may report, and discovering what resources, if any, health care providers find helpful for their patients with skin of color.

In all, 200 ACAAI members completed the survey (response rate of 4.6%). Of the survey respondents, 68% identified as White and 21% identified as Asian/Pacific Islander. Less than 6% identified as Latino or Black/African American. The respondents were geographically diverse from across the United States and worked primarily in private practice (73%) and in a suburban location (61%).

Approximately a third of the respondents indicated that they diagnose AD (32%) and food allergy (39%) in people with skin of color several times per week. Furthermore, most of the respondents (69%) agreed that racial disparities contribute to underdiagnosis of AD and food allergies in people with skin of color. When asked to provide their level of confidence in recognizing AD in people with skin of color, the average response was 79 (scale 0 to 100).

Most of the respondents (68%) agreed that racial disparities make it difficult for people with skin of color to receive adequate treatment for AD and food allergies. The respondents indicated that their level of awareness of the challenges people with skin of color face in getting a diagnosis and receiving treatment for either AD or food allergy as an average response was 73 (scale 0 to 100). In all, 40% of the respondents indicated that their patients with skin of color had shared specific challenges with them. The main challenge shared was access to a specialist who takes Medicaid, followed closely by patients' lack of awareness and education about symptoms and conditions (Fig 1). More than half

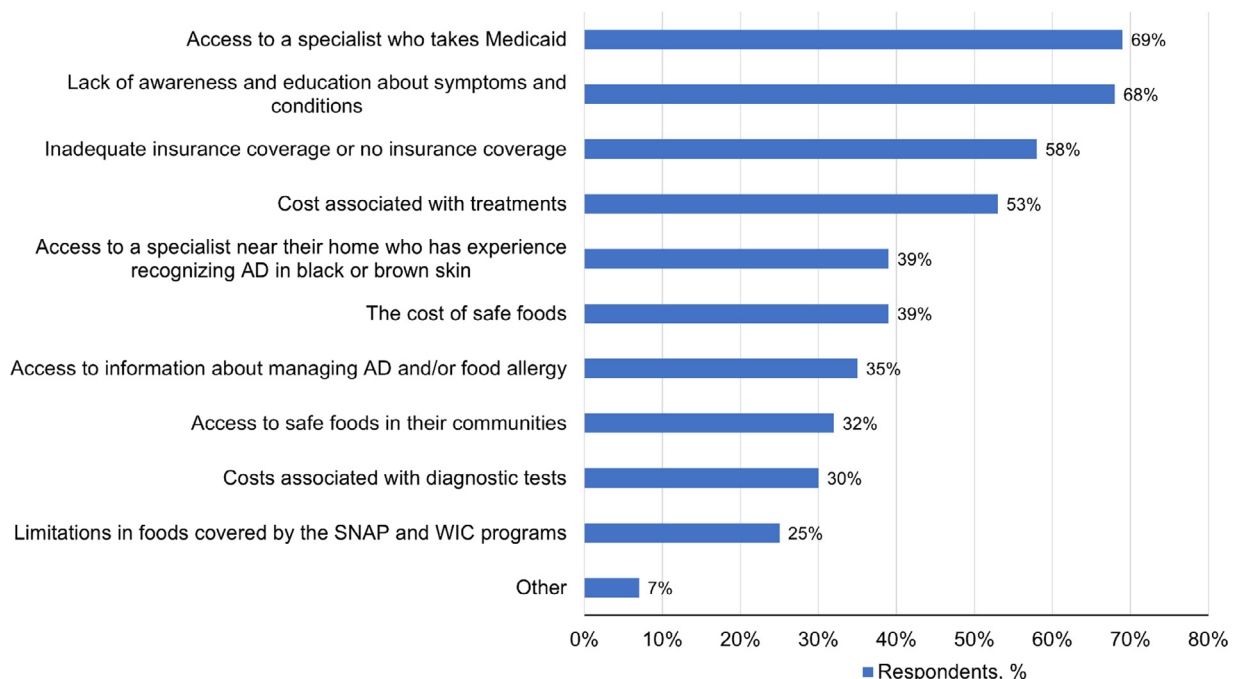


Figure 1. Percentage of respondents indicating challenges reported by their patients of color in getting a diagnosis or treatment for AD or food allergy. AD, atopic dermatitis; SNAP, Supplemental Nutrition Assistance Program; WIC, women, infants, and children.

of the respondents indicated that lack of insurance coverage or treatment costs were reported by their patients with skin of color as challenges to treatment (Fig 1).

Most of the respondents (74%) indicated that resources at the federal, state, local, or association levels are not helpful in addressing the identified challenges in the diagnosis and treatment of AD and food allergy for people with skin of color. Of the 26% who reported that resources were helpful, patient advocacy organizations and ACAAI were identified as the most common providers of these helpful resources.

Interviews

One-on-one interviews with 7 ACAAI leaders and advocacy experts expanded on the information gathered in the survey. The interviews revealed the following 4 major categories that contribute to barriers and limitations to medical care for individuals with skin of color: (1) access to care; (2) burden of costs; (3) policies and infrastructure that limit access to safe foods and patient education; and (4) inadequate research involving people with skin of color.

Access to Care

Access to care is the first obstacle identified for people with skin of color. Getting an appointment with an allergist or dermatologist can take months, and appointments may be delayed even longer if the patient is covered by Medicaid or is uninsured because many specialists limit the number of these patients that they will accept.^{15,16} Some health care providers do not accept uninsured or Medicaid patients at all.¹⁷ Better payment rates and simplifying medical billing practices regarding patients covered by Medicaid may improve access to care.¹⁸

Once an appointment is scheduled, the specialist office may not be easily accessible by public transportation, if that is needed. Patients or patient caregivers may need to take time off work, find childcare, and travel a distance for their appointments, which can present significant barriers for patients in rural or inner-city environments who are on Medicaid, uninsured, or who have limited financial resources. Telemedicine visits can relieve some of these obstacles and may be a helpful alternative to in-person follow-up visits.¹⁹ However, telemedicine visits require technology that is not easily accessible for some patients.²⁰ Furthermore, the impersonal perception of a telemedicine visit may be a barrier to establishing trust with the specialist. The ACAAI recommends that allergists already have an existing physician-patient relationship or establish a relationship through in-office visits before using telemedicine.¹⁹

Burden of Costs

The costs associated with both AD and food allergy are significant. A survey conducted among members of the National Eczema Association found that out-of-pocket expenses place a significant financial burden on individuals with AD.²¹ The study also revealed that Black survey respondents faced a more severe or devastating impact on household finances than non-Black respondents, partly because of increased out-of-pocket expenses for prescription medications, emergency department visits, nonprescription anti-itch medications, and laboratory testing.²²

Food allergy presents a financial burden as families strive to find and pay for safe alternatives to foods that trigger an allergic response, which are often very expensive. Overall, food allergy in the United States costs \$24.8 billion annually or \$4184 per child, including annual medical costs, out-of-pocket expenses, lost labor productivity, and lost job opportunities.²³ These costs can mean the difference between buying safe food for a child with an allergy or buying enough food to feed a family.

Policies and Infrastructure That Limit Access to Safe Foods and Patient Education

Access to safe foods is an obvious need for patients with food allergy. Yet “food deserts” (geographic areas with few or no stores offering affordable, healthy foods) are a growing problem across the United States. The Department of Agriculture estimates that 19 million people in the United States have limited access to a supermarket or grocery store,²⁴ and food deserts are disproportionately found in Black communities.²⁵ In addition, 38.3 million people in the United States in 2020 lived in food-insecure households.²⁶ Food insecurity disproportionately affects households with children, with Black or Hispanic members, and with incomes below 185% of the poverty threshold.²⁶ Therefore, many of these individuals and households in need rely on the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), Supplemental Nutrition Assistance Program (SNAP) benefits, and community food pantries. These programs offer limited options for safe foods. Tailoring of individual WIC benefits is possible with a physician’s note documenting food allergies, but safe food options remain limited. For example, dried or canned beans are the only allowed substitute for peanut butter (Table 1).²⁷

Neither health care providers nor patients are fully informed about the prevalence and severity of AD and food allergy among people with skin of color or about the impact of racial disparities on access to care. There are few culturally competent patient education materials for AD and food allergy. Furthermore, health care providers are allowed little time to prepare for and address the challenges faced by their patients, which makes it difficult to establish a trusting relationship.

Limited Research Involving People With Skin of Color

Standards of care for both AD and food allergy are on the basis of studies that are not always representative of people with skin of color. People with skin of color are greatly underrepresented in food allergy and AD clinical trials. In a review of 135 published food allergy immunotherapy clinical trials,²⁸ only 12% included information on participant race, and of these, 82% of the participants were White, 8% were Asian, 3% were Black, and 1% identified as Hispanic. In a review of 27 published AD clinical trials conducted in children,²⁹ 60% reported ethnic and racial demographic information with 60% identified as White, 21% Asian, 10% Black, and 18% Hispanic.

Real-world challenges for people with skin of color to participate in clinical research include time and transportation constraints, lack of access to technology to participate, lack of opportunity, and mistrust of the health care system.³⁰ In particular, mistrust of the health care system and fear of being a “guinea pig” by people with skin of color are deeply rooted barriers to participation in clinical research.^{30,31} Partnerships and cooperation between the health care community and trusted individuals or organizations in the

Table 1

Foods Allowed for Children (ages 1–4 y) and Pregnant, Postpartum, or Breastfeeding Women Through the Special Supplemental Nutrition Program for WIC²⁷

Food	Allowed substitutions
Juice, single strength	None
Milk	Yogurt, cheese, soy beverage, tofu
Breakfast cereal	None
Cheese	None
Eggs	None
Fruits and vegetables	None
Whole wheat bread	Whole-grain bread, brown rice, bulgur, oatmeal, whole-grain barley, soft corn or whole wheat macaroni products, or soft corn or whole wheat tortillas
Fish (canned)	Light tuna, salmon, sardines, and mackerel
Peanut butter	Legumes, dry, or canned

Abbreviation: WIC, women, infants, and children.

community (eg, clergy, community leaders, faith-based organizations) can help overcome this barrier.³²

Although participation in clinical research is low among people with skin of color, much research needs to be done. For example, surveys of patients with AD or food allergy and skin of color would be of interest to obtain the patient perspective of racial disparities in these diseases and compare with the ACAAI member survey. In addition, research is needed to better understand the reasons for the racial disparities in AD and food allergies. Research for specific treatments is also needed among racially diverse populations to determine how treatments affect individuals who may have variable environmental influences and ancestry-related polymorphisms that may predispose them to allergy or atopy.

Roundtable Recommendations

Using the survey results and interview insights, the ACAAI created a discussion framework for a virtual roundtable, which involved the interviewees and 12 clinical and patient advocacy experts. Panelists in the roundtable proposed and prioritized solutions and action items for addressing racial disparities in the diagnosis and treatment of AD and food allergy in people with skin of color. These recommendations are meant to spur discussion among members of the allergy and asthma community, health care systems, payers, advocacy organizations, policymakers, and academic leaders, all of whom have the opportunity to play a role, individually or in partnerships, in creating change.

Explore Ways to Enroll More People With Skin of Color Into Clinical Trials

Although panelists recognized that this is a long-term solution, they believe that the importance of building trust between people with skin of color and medical researchers is vital to prevention, early detection, and treatment.

Recruit More People With Skin of Color Into Medical School, Particularly Into the Specialty of Allergy, Asthma, and Immunology

People with skin of color are needed as health care providers to ensure that these perspectives are considered in care, and education related to AD and food allergy addresses the full spectrum of patients affected by these conditions. Patients may also feel more comfortable putting their trust in a health care provider that looks like them or who understands and speaks their preferred language.³³

Increase Outreach to High School Students

To increase interest in recruiting people with skin of color to medical school, panelists recommended working more closely with high school students in Science, Technology, Engineering, and Math programs. They suggested reaching out to students in their own communities and in areas where they travel to generate interest in medical careers.

Increase Awareness and Education Among Specialists

Panelists recommended that ACAAI and its partners continue to develop webinars, videos, and podcasts for asthma and allergy specialists about diagnosing and treating AD and food allergy in people with skin of color and understanding the impact of racial disparities on costs and access to care.

Increase Awareness and Understanding Among Primary Care Providers—and Leverage Community Outreach to Educate Patients

Panelists also recommended increasing education among primary care providers, who are often the first point of contact for

patients with AD and food allergy. Because it often takes time for patients to schedule an appointment with a specialist, educating primary care providers would help ensure that patients receive appropriate diagnostic tests and treatments as early as possible. Culturally competent handouts need to be developed to support health care providers who are caring for patients early in diagnosis and treatment.

Advocate for Revised Women, Infants, and Children and Supplemental Nutrition Assistance Program Policies to Increase Access to Safe Foods

Although SNAP covers a wide range of foods, benefits are calculated based on factors such as household size, but they do not take into consideration cost differences to buy safe foods. For families managing food allergy, those costs can be considerable.

Develop a Photo Library of Atopic Dermatitis in People With Skin of Color

Much of the information in medical school textbooks regarding AD is focused on white skin. Thus, panelists recognized the need to develop and promote a comprehensive resource of images that educate health care providers about what AD looks like in skin of color. Some of the participants have existing resources that can be combined and added to over time. Images may be used in informal learning activities, such as online forums.

Create Culturally Appropriate Patient Education Materials and Partnerships to Reach Communities of Color

Participants agreed that few culturally appropriate, engaging, multilanguage resources currently exist to educate patients with AD and food allergy. School nurses were suggested as invaluable partners in this effort as they already have the trust of teachers, parents, and children and are accessible throughout the school year.

Work Toward Longer Appointment Times for Patients Who Need Them

Panelists suggested the need for an analysis to reveal the long-term cost savings that would result if health care providers had more time upfront with patients with complex AD and food allergy issues. They, then, recommended using this information to communicate with payers and health systems to allow health care providers more time with patients who may face unique challenges with their diagnosis and treatment.

Leverage This Research and the Roundtable Participants' Insights to Increase Awareness and Create Change

Panelists expressed that the roundtable made them realize that they need to ask their patients more probing and specific questions about their AD or food allergy issues. Panelists also expressed their desire to use information gathered in the survey, interviews, and roundtable to make a difference in their patients with skin of color.

Conclusion

The information gathered from this ACAAI initiative helped to identify real-world challenges faced by people with skin of color with AD and food allergy. It is hoped that the proposed solutions to these challenges will inspire actions by health care systems, advocacy organizations, policymakers, payers, the allergy and asthma community, and academia that will make a difference in the lives of people with skin of color and mitigate racial disparities in AD and food allergy.

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Supplementary Data

eTable 1

ACAAI Member Survey Questions

- Q1. Which of the following issues do you experience in your practice today? (check all that apply)
- Reimbursement challenges
 - Complexity of coding
 - Increasing complexity of cases
 - Staying current with the latest research findings
 - An increase in air pollution and indoor irritants
 - Racial disparities in early diagnosis and treatments
 - An increase in uninsured or underinsured patients
 - Dealing with increasing paperwork
 - Challenges with getting certain treatments covered by managed care, for example, prior authorization, step therapy approval
- Q2. Of all of these issues, please check the 3 issues most important to you professionally.
- Reimbursement challenges
 - Complexity of coding
 - Increasing complexity of cases
 - Staying current with the latest research findings
 - An increase in air pollution and indoor irritants
 - Racial disparities in early diagnosis and treatments
 - An increase in uninsured or underinsured patients
 - Dealing with increasing paperwork
 - Challenges with getting certain treatments covered by managed care, for example, prior authorization, step therapy approval
- Q3. Please check the one issue that has the most impact on your patients.
- Inadequate insurance and/or denial
 - Increasing deductibles and co-pays
 - Access to expert care
 - Ability to comply with/complete treatment regimen
- Q4. How frequently do you diagnose AD?
- Several times per day
 - Several times per week
 - Several times per month
 - Several times per year
- Q5. How frequently do you diagnose AD in people of color?
- Several times per day
 - Several times per week
 - Several times per month
 - Several times per year
- Q6. Using the slider tool below, select your level of confidence in recognizing AD in people of color (0-100 scale)
- Q7. How frequently do you diagnose food allergy?
- Several times per day
 - Several times per week
 - Several times per month
 - Several times per year
- Q8. How frequently do you diagnose food allergy in people of color?
- Several times per day
 - Several times per week
 - Several times per month
 - Several times per year
- Q9. Using the slider tool below, select your level of awareness of the challenges people of color face in getting a diagnosis and receiving treatment for either AD or food allergy (0-100 scale)
- Q10. Have your patients of color ever shared the challenges they face getting a diagnosis or treatment for AD or food allergy?
- Yes
 - No
- Q11. If yes to the previous question, what are the challenges your patients of color have described to you? Please check any of the challenges below that your patients have shared with you in your experience.
- Inadequate insurance coverage or no insurance coverage
 - Access to a specialist who takes Medicaid
 - Access to a specialist near their home who has experience recognizing AD in black or brown skin
 - Costs associated with diagnostic tests
 - Costs associated with treatments
 - Access to safe foods in their communities
 - The costs of safe foods
 - Access to information about managing AD and/or food allergy
 - Limitations in foods covered by the SNAP and WIC programs
 - Lack of awareness and education about symptoms and conditions
 - Other (please specify)
- Q12. Do you provide or does your practice provide any case management support for patients who describe any of the challenges listed above?
- Yes
 - No
- Q13. If a patient describes any of these challenges, have you found any of the resources at the federal, state, local, or association levels to be helpful?
- Yes
 - No
- Q14. If yes, which of the following provide helpful resources for your patients of color? Please check all that apply.
- Federal government
 - State government

(continued)

- c) Local government
- d) Advocacy organization
- e) Schools
- f) Churches
- g) ACAAI
- h) Other (please specify)

Q15. What kinds of resources have been most valuable to you? Please check all that you have used yourself or shared with your patients.

- a) Patient education brochures
- b) Advocacy organization websites
- c) Safe food videos
- d) AD treatment videos
- e) Community education classes
- f) ACAAI journal articles
- g) ACAAI fact sheets
- h) Case management resources
- i) Pharmaceutical company support programs
- j) Medicaid web-based resources
- k) Health department websites
- l) Other (please specify)

Q16. Indicate your level of agreement or disagreement with the following statements.

- a) Food allergies are more prevalent in White children than children of color (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
- b) My practice provides practical information and guidance to patients when a food allergy is diagnosed (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
- c) Racial disparities contribute to underdiagnosis of AD and food allergies in people of color (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
- d) Racial disparities make it difficult for people of color to receive adequate treatment for AD and food allergies (strongly agree, somewhat agree, somewhat disagree, strongly disagree)

Q17. Using the slider tool below, answer the following question: How aware are your patients of color of AD and food allergies overall? (scale 0-100)

Q18. Does your practice currently have any cultural competency initiatives?

- a) Yes
- b) No

Q19. Have you used the materials available on the racial disparities resource center on the ACAAI website?

- a) Yes
- b) No
- c) Was not aware of this resource center

Q20. Which best describes your practice location?

- a) Urban
- b) Suburban
- c) Rural

Q21. Which best describes your current practice setting?

- a) Academic
- b) Health system practice
- c) Private practice: single specialty
- d) Private practice: multispecialty
- e) Solo practitioner

Q22. What percentage of your patients are covered by Medicaid?

- a) Less than 10%
- b) 10%-25%
- c) 26%-50%
- d) Greater than 50%

Q23. Which of the following best describes you? (optional)

- a) Asian or Pacific Islander
- b) Black or African American
- c) Hispanic or Latino
- d) Native American or Alaskan Native
- e) White
- f) Multiracial or biracial
- g) A race or ethnicity not listed here (please specify)

Q24. What is your primary referral source for all patients?

- a) Other physicians
- b) Friends or family
- c) Self-referral
- d) NP or PA
- e) School nurse

Abbreviations: ACAAI, American College of Allergy, Asthma, and Immunology; AD, atopic dermatitis; NP, nurse practitioner; PA, physician assistant; Q, question; SNAP, Supplemental Nutrition Assistance Program; WIC, women, infants, and children.