

# The Prevalence, Severity, and Distribution of Childhood Food Allergy in the United States

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## Abstract

**Objective:** The goal of this study was to better estimate the prevalence and severity of childhood food allergy in the United States.

**Methods:** A randomized, cross-sectional survey was administered electronically to a representative sample of US households with children from June 2009 to February 2010. Eligible participants included adults (aged 18 years or older) able to complete the survey in Spanish or English who resided in a household with at least 1 child younger than 18 years. Data were adjusted using both base and poststratification weights to account for potential biases from sampling design and nonresponse. Data were analyzed as weighted proportions to estimate prevalence and severity of food allergy. Multiple logistic regression models were constructed to identify characteristics significantly associated with outcomes.

**Results:** Data were collected for 40 104 children; incomplete responses for 1624 children were excluded, which yielded a final sample of 38 480. Food allergy prevalence was 8.0% (95% confidence interval [CI]: 7.6–8.3). Among children with food allergy, 38.7% had a history of severe reactions, and 30.4% had multiple food allergies. Prevalence according to allergen among food-allergic children was highest for peanut (25.2% [95% CI: 23.3–27.1]), followed by milk (21.1% [95% CI: 19.4–22.8]) and shellfish (17.2% [95% CI: 15.6–18.9]). Odds of food allergy were significantly associated with race, age, income, and geographic region. Disparities in food allergy diagnosis according to race and income were observed.

**Conclusions:** Findings suggest that the prevalence and severity of childhood food allergy is greater than previously reported. Data suggest that disparities exist in the clinical diagnosis of disease.

*CHICAGO (AP) - Food allergies affect about one in 13 U.S. children, double the latest government estimate, a new study suggests.*

The researchers say about 40 percent of them have severe reactions - a finding they hope will erase misconceptions that food allergies are just like hay fever and other seasonal allergies that are troublesome but not dangerous.

*Overall, 8 percent of the children studied had food allergies; peanuts and milk were the most common sources. That translates to nearly 6 million U.S. children.*

The most recent government estimate, from the Centers for Disease Control and Prevention, was based on in-home interviews and found that about 3 million children were affected, or about 4 percent. Other estimates based on different methods have ranged from 2 percent to 8 percent.

The new study, funded by an advocacy group, is based on online interviews with parents of kids younger than age 18 and involved 40,104 children. Research firm Knowledge Networks conducted the survey. Families were recruited through random telephone dialing.

Results were released online Monday in Pediatrics.

The findings suggest that food allergies affect two kids per classroom, said lead author Dr. Ruchi Gupta, a pediatrician and researcher with Chicago's Children's Memorial Hospital.

Dr. Calman Prussin, an investigator with the National Institute of Allergy and Infectious Diseases, said the study "confirms that food allergy is a substantial public health problem."

Prussin said differences in estimates are due to different survey methods and definitions of what constitutes a food allergy. He said the only way to know for sure how many kids are affected would be lab tests on scores of children, which isn't practical.

Because the new figure is within the range of previous estimates, he said the study doesn't mean prevalence has increased, although experts generally believe allergies including those to food are on the rise, Prussin noted.

He said some people mistake food intolerances for food allergies. For instance, many people are lactose intolerant, meaning they can't properly digest milk. That can cause bloating and digestive problems, but not an allergic reaction.

Typical signs of a true food allergy include skin rashes, wheezing, tightness in the throat or difficulty breathing.

The new survey asked parents whether their children had those symptoms - a big strength of the study, Prussin said.

Many children outgrow allergies to some foods, including eggs and wheat, but they're less likely to outgrow allergies to peanuts and other nuts.

The study was funded by the Food Allergy Initiative, a nonprofit advocacy group founded by parents of children with allergies.

Mary Jane Marchisotto, the group's executive director, said the study "paints a more comprehensive picture" of food allergies, and should help raise awareness.

The group, funded privately but without industry money, is working with the CDC on national guidelines on how to manage food allergies in schools, she said.

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