1	**Online Supplement**

2	**Methods**

3	 The National Health Interview Survey (NHIS) is an annual survey conducted by the

4	National Center for Health Statistics (NCHS) of the Centers for Disease Control (CDC). This

5	survey is designed to monitor trends in illness and disability among civilian non-institutionalized

6	persons in the United States. It is a cross-sectional, household survey that draws samples

7	through a multistage area probability design from all fifty states and the District of Columbia,

8	designed to be representative of the United States. The current NHIS sample design oversamples

9	African Americans, Hispanic, and Asian persons in order to obtain greater precision of estimates

10	for these groups. A nationally representative sample of approximately 35,000 households are

11	surveyed each year. Children younger than 17 years old were included in this study.

12	 For this study, urbanization was assessed by merging state and county Federal

13	Information Processing Standard (FIPS) codes with the 2006 NCHS Urban-Rural Classification

14	Scheme for Counties, which categorizes urbanization as "large central metro," "large fringe

15	metro (suburban)" "medium metro," "small metro," "micropolitan," and "noncore (rural)." Due

16	to small sample sizes, "small metro," "micropolitan," and "noncore (rural)" categories were

17	combined. Neighborhood-level poverty was assessed by linking census tract of residence to data

18	from the 2000 US Census. Census tracts are small statistical subdivisions of a county,

19	comprising 1200 – 8000 inhabitants. Census tracts are designed to be relatively permanent over

20	time, but they can be split or merged every 10 years with changes in the population.[1]

21	 Household income was assessed as the ratio of family income to the corresponding

22	federal poverty threshold and was used in all analyses as a continuous variable. As 24% of

23	households were missing data for individual-level income, multiply imputed income, provided

24   by the CDC, were used for these analyses. These data were generated by the CDC using

25   sequential regression multivariate imputation, implemented by the module IMPUTE using

26   IVEware (www.isr.umich.edu/src/smp/ive)[2] and were analyzed using the MI ESTIMATE

27   commands in Stata.

28   Access to health care services was defined as a positive response to the question "Has

29   your child had a well-child check-up in the past 12 months?" and was dichotomized as "yes" and

30   "no." Race/ethnicity was by self-report and was recoded in the NHIS data in the following

31   categories: Hispanic, Non-Hispanic White, Non-Hispanic Black, Non-Hispanic, and Other, a

32   group comprising less than 1% of the total population. Risk factors for self-reported food allergy

33   were assessed using multiple logistic regression. A post-estimation margins command was used

34   to assess the predicted prevalence in poor and non-poor neighborhoods, adjusting for age,

35   gender, geographic region, race/ethnicity, and access to health care.

36   Because census tract information is not available in the public NHIS dataset, these

37   analyses were done at the Research Data Center with approval from the NCHS Research Ethics

38   Review Board (ERB).   Data collection for the NHIS was approved by the NCHS Research ERB.

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40 **eTable 1: Prevalence of self-reported food allergy by urbanization and poverty***

Urban Location	Poor (n = 7,475)	Not Poor (n = 27, 653)	Total Study Population (n = 35,128)
Urban	3.1 (2.4 – 4.0)	5.2 (4.6 – 5.9)	4.7 (4.2 – 5.2)
Suburban	6.7 (4.4 – 10.0)	6.0 (5.3 – 6.7)	6.0 (5.4 – 6.8)
Medium Metro	4.9 (2.9 – 5.6)	5.1 (4.6 – 5.8)	4.9 (4.4 – 5.6)
Small Metro/Rural	5.0 (4.0 – 6.2)	4.9 (4.3 – 5.5)	5.1 (4.8 – 5.4)

41 Values reported as % (95% CI)
42 * Poverty was defined as neighborhoods in which ≥20% of households were below the poverty level.
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44   **eTable 2: Predicted prevalence of self-reported food allergy by urbanization and poverty***

Urban Location	Poor (n = 7,475)	Not Poor (n = 27, 653)
Urban	3.9 (3.3 – 4.5)	5.1 (4.4 – 5.7)
Suburban	4.8 (3.9 – 5.7)	6.0 (5.4 – 6.7)
Medium Metro	4.0 (3.2 – 4.8)	5.1 (4.5 – 5.8)
Small Metro/Rural	4.3 (3.6 – 5.1)	5.1 (4.5 – 5.7)

45   Values reported as % (95% CI)
46   * Poverty was defined as neighborhoods in which ≥20% of households were below the poverty level.
47   Model was adjusted for age, gender, geographic region, race/ethnicity, and access to health care
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50 **eTable 3: Demographic Characteristics of Children by Urban Location**

	Urban (n=11,862)	Suburban (n=8,043)	Medium Metro (n=7,337)	Rural (n=7,886)
Gender				
Male	51 (49 – 52)	52 (51 – 54)	50 (49 – 51)	51 (50 –53)
Female	49 (48 – 51)	48 (46 – 49)	50 (49 – 51)	49 (47 – 50)
Age (years)				
0 – 5	35 (34 – 37)	33 (31 –34)	34 (33 – 35)	35 (34 – 36)
6 – 10	26 (25 – 27)	28 (26 – 29)	28 (27 – 30)	27 (26 – 28)
11 – 17	38 (37 – 39)	39 (38 – 41)	38 (37 – 39)	38 (37 – 40)
Race/Ethnicity				
White	35 (33 – 37)	64 (62 – 66)	58 (56 – 61)	70 (67 – 73)
Black	21 (20 –23)	14 (12 – 15)	14 (12 – 16)	11 (10 – 13)
Asian	7 (6 – 8)	6 (5 – 6)	3 (3 – 4)	2 (1 – 3)
Hispanic	36 (34 – 37)	16 (15 – 17)	24 (21 – 26)	15 (12 – 18)
Other	0.6 (0.4 – 0.8)	0.7 (0.4 – 1.3)	1.2 (1 – 2)	2 (1 – 3)
Well-Child Visit				
Yes	80 (79 – 81)	84 (83 – 85)	79 (77 – 80)	75 (72 – 76)
No	20 (19 – 21)	16 (15 – 17)	21 (19 – 22)	25 (24 – 27)
Income to Poverty Ratio				
< 1	21 (20 – 22)	10 (9 – 12)	18 (16 – 20)	22 (20 – 24)
1-2	20 (19 – 21)	15 (13 – 16)	18 (17 – 19)	24 (23 – 25)
2-3	13 (12 – 14)	14 (13 – 15)	14 (13 – 16)	16 (15 – 17)
>3	46 (45 – 48)	61 (60 – 63)	49 (47 – 52)	38 (36 – 40)

51 Values reported as % (95% CI)

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57 **References**

58 1.   Geographic Terms and Concepts - Census Tract. Washington, DC: United States Census
59 Bureau; 2012. Available at: https://www.census.gov/geo/reference/gtc/ gtc_ct.html. Accessed:
60 September 1, 2014
61 2.   Multiple Imputation of Family Income and Personal Earnings in the National Health
62 Interview Survey: Methods and Examples. Division of Health Interview Statistics, National
63 Center for Health Statistics. 2011.
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