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Household food insufficiency, health status, and emergency healthcare utilization among children with and without special health care needs

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Abstract

Objective: To compare among children with and without special health care needs (SHCN) exposure to household food insufficiency and the relationship between household food insufficiency and both health status and emergency healthcare utilization.

Design: Analyzing pooled data from the 2016–2017 iterations of the National Survey of Children’s Health, we conducted multivariate logistic regressions on household food insufficiency, health status, and emergency healthcare utilization. We assessed interactions between household food insufficiency and children’s SHCN status in our models of health status and utilization.

Setting: United States

Participants: Parents of a nationally representative sample of non-institutionalized children (ages 0–17)

Results: Children with SHCN were more likely to experience household food insufficiency (70% vs. 56%), non-excellent health status (67% vs. 28%), and emergency healthcare utilization (32% vs. 18%) than other children. Household food insufficiency was associated with 37% (children with SHCN) and 19% (children without SHCN) reductions in the likelihood of having excellent health. Household food insufficiency was associated with roughly equal (16–19%) increases in the likelihood of emergency department utilization across groups.

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Authorship:

Formulated research questions and designed research: RAS, A C-J, SLP

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Conclusions: Compared with other children, children with SHCN have an elevated risk of exposure to household food insufficiency and experience greater reductions in health status when exposed.

Keywords

Food insufficiency; children; SHCN; health status; healthcare utilization

Children with special health care needs (SHCN) are children ages 0–17 who “have or are at increased risk for chronic physical, developmental, behavioral or emotional conditions and who also require health and related services of a type or amount beyond that required by children generally.”⁽¹⁾ Families including children with SHCN experience multiple economic hardships^(2,3) and disproportionately drive healthcare utilization and spending among children.⁽⁴⁾ Broadly, elevated hardships in this population appear to be driven primarily by the added direct (e.g., copays and coinsurance, equipment, support services) and indirect (i.e., time demands and associated opportunity loss) costs of addressing various healthcare and related needs.^(2,3)

Food-related hardships, in particular, are associated with poor health outcomes⁽⁵⁾ and increased healthcare utilization⁽⁶⁾ generally, but evidence among children with SHCN is limited. Preliminary evidence from studies in focused geographic areas suggests children with SHCN are more likely to experience household food insecurity, and household food insecurity may affect healthcare outcomes in this population.^(7–9) A study of two-year-old children in Oregon found that SHCN status was associated with 2.6–2.9 times the odds of experiencing household food insecurity.⁽⁷⁾ In another study, among children with SHCN in a single urban area, household food insecurity was associated with nearly twice the odds of having unmet healthcare needs, although associations with emergency department utilization and hospital admissions were not statistically significant.⁽⁸⁾ In a national sample, children with disabilities (a group related to but distinct from children with SHCN) faced an elevated burden of household food insecurity.⁽⁹⁾ More broadly, experiences of household food insecurity among children—regardless of SHCN status—is associated with poorer outcomes on general and specific health indicators,^(5,10) as well as greater odds of being hospitalized.⁽¹⁰⁾

Despite these findings, neither the prevalence of food-related hardships nor the relationship between such hardships and health or healthcare outcomes have been reported among children with SHCN in a nationally representative sample. The National Research Council has also concluded there was a dearth of robust evidence on the correlates, causes, and consequences of food-related hardships for children with disabilities.⁽¹¹⁾ We sought to provide evidence on these topics using the nationally representative National Survey of Children’s Health, which includes a measure of household food-insufficiency (we note here that household food insufficiency is a narrower and more conservative measure of food-related hardship than household food insecurity, as the latter incorporates both experiencing food insufficiency *and* concerns related to the potential risk of experiencing food insufficiency).⁽¹²⁾ We hypothesized that (1) children with SHCN would be more likely than children without SHCN to experience household food insufficiency; (2) household food

insufficiency would be associated with worse health status and greater emergency healthcare utilization among all children; and (3) the association between household food insufficiency and both health status and emergency healthcare utilization would be stronger among children with SHCN as compared to children without SHCN.

METHODS

Data.

We analyzed pooled data from the 2016 and 2017 iterations of the nationally representative National Survey of Children's Health, which were the first survey versions to measure household food insufficiency. The surveys were conceptualized by the Health Resources and Services Administration's Maternal and Child Health Bureau and administered by the US Census Bureau.⁽¹³⁾ Starting in 2016, the survey combined elements from the previously separate National Survey of Children's Health and National Survey of Children with Special Health Care Needs.⁽¹³⁾ Randomly selected households were contacted by mail and invited to participate in the survey if there were any children under 18 years of age present (if multiple children were present, one was randomly selected, with the exception that younger children and children with SCHN were oversampled).⁽¹³⁾ Participants then completed surveys online or via mail, depending on their preference. Probability weights were calculated such that the sample would be representative of non-institutionalized 0–17 year-old children in the United States.⁽¹³⁾ The weighted response rates were 40.7% in 2016 and 37.4% in 2017, with respective sample sizes of 50,212 and 21,599 (total n = 71,811).

Measures.

SHCN status was determined using a validated screener.⁽¹⁴⁾ The screener utilizes five items that ask about a child's: need or use of medicine; greater than average need or use of medical/mental health care or educational services; limitations regarding abilities common to other children the same age; need for specialized therapy; and emotional, developmental, or behavioral problems that require treatment or counseling. If an affirmative response is noted for any of these items—and if a parent or guardian notes that the affirmative reply is due to an underlying condition expected to last at least a year—then the child is identified as having SHCN. In total, there were 16,304 children with SHCN (weighted, 18.8%) and 55,507 children without SHCN (weighted, 81.2%) in the sample.

Dependent variables.—Household food insufficiency was measured using a single item, which asked whether the respondent could afford the food they needed over the previous year. There were four potential responses: “we [i.e., the respondent and others in their household] could always afford to eat good nutritious meals,” “we could always afford enough to eat but not always the kinds of food we should eat,” “sometimes we could not afford enough to eat,” and “often we could not afford enough to eat.” Having any of the latter three responses to this measure has been associated with measurably worse health outcomes,⁽¹⁵⁾ and so we used a dichotomized version of this variable in our multivariate models that distinguished between no household food insufficiency and any household food insufficiency.

Parents could report a child's health status as excellent, very good, good, fair, or poor. For adults, dichotomizing this measure as good or better versus fair or poor is associated with mortality.⁽¹⁶⁾ However, the most appropriate dichotomization for children has not been assessed. In our multivariate models, we dichotomized this variable as excellent versus less-than-excellent for two reasons: first, this dichotomization was the most strongly correlated with emergency healthcare utilization, indicating a greater predictive value for healthcare outcomes; and second, there was a relatively low prevalence of children with fair or poor health.

Finally, we defined emergency healthcare utilization as having visited a hospital emergency room once or more in the previous year. This variable was derived from an item asking if a child had visited the emergency room "never," "1 time," or "2 or more times" in the past 12 months.

Covariates.—We utilized demographic covariates, including age, gender, race/ethnicity (non-Hispanic white, non-Hispanic black, non-Hispanic other, or Hispanic), and income in relation to the federal poverty level. Participation in the Supplemental Nutrition Assistance Program (SNAP, formerly the Food Stamp Program) at any time in the previous year was also measured. However, given the endogeneity concerns with assessing effects of SNAP,⁽¹⁷⁾ we did not include this measure in our final models (sensitivity analyses including this variable did not alter findings). Participation in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and school lunch programs were not relevant for all age groups and were therefore excluded. Finally, we included measures of whether or not someone smoked inside the child's home, whether or not the child had health insurance for all of the previous year, and whether or not the child had any unmet medical or mental health care needs in the previous year, given strong associations between these factors and health and healthcare outcomes.

Analyses.

We first conducted bivariate comparisons of children with and without SHCN on demographic variables and other covariates. We made similar comparisons on each of the dependent variables. We also conducted subanalyses for children in households with income below 200% of the federal poverty level as a sensitivity analysis to assess whether results were primarily driven by the lower income that households that include children with SHCN are known to have.^(2,3) Finally, we estimated multivariate logistic regression models for each dependent variable (again including subanalyses with low-income households). Our models adjusted for all covariates except for SNAP participation as described above. In models with child health status and emergency healthcare utilization as the dependent variables, we also included interactions between household food insufficiency status and SHCN status. Also, in the models with emergency healthcare utilization as the dependent variable, we included health status as an additional covariate. Given limitations regarding the interpretation of interaction terms in logistic regression models, we also calculated marginal predicted probabilities to assess the average effects of SHCN status, household food insufficiency, and their interaction. We used Stata (version 15.1) for all analyses, and all analyses utilized weights provided by the survey.

RESULTS

Descriptive comparisons of children with and without SHCN are presented in Table 1 and Table 2. Children with SHCN were about two years older on average than children without SHCN (Table 1). Children with SHCN were more likely to: be boys, be non-Hispanic black, be non-Hispanic generally, live in a low-income household, live in a household receiving SNAP benefits, have unmet medical or mental health care needs (despite being slightly more likely to have health insurance), and live in a household where smoking occurred (Table 1). Additionally, children with SHCN were more likely to live in a household experiencing any level of food insufficiency, to have less-than-excellent health status, and to have any emergency healthcare utilization, in both the entire sample and among a subsample of children living in households with income below 200% of the federal poverty level (Table 2).

Raw results from weighted logistic regression models using both all children and only those in households with income below 200% of the federal poverty level are presented in Table 3. Marginal predicted probabilities stemming from these models are presented in Table 4 to facilitate interpretation of the regression results. Utilizing these probabilities, we found SHCN status was associated with a 31.7% increase in the probability of exposure to any household food insufficiency (from 30.8% [95% CI: 29.9%, 31.7%] to 40.6% [95% CI: 38.8%, 42.3%]) (Table 4). Household food insufficiency was associated with an 18.5% decrease in the probability of having excellent health status among children without SHCN (from 76.9% [95% CI: 75.7%, 78.1%] to 62.7% [95% CI: 60.9%, 64.4%]), as compared to a 36.7% decrease among children with SHCN (from 41.1% [95% CI: 39.2%, 42.9%] to 26.0% [95% CI: 23.6%, 28.3%]) (Table 4). Finally, household food insufficiency was associated with a 19.3% increase in the probability of having any emergency healthcare utilization among children without SHCN (from 16.8% [95% CI: (15.6%, 17.9%)] to 20.0% [95% CI: 18.6%, 21.3%]), as compared to a 16.5% increase among children with SHCN (from 26.6% [95% CI: 24.7%, 28.5%] to 31.0% [95% CI: 27.8%, 34.2%]) (Table 4). Relative values from models that were restricted to children living in households with income below 200% of the federal poverty level were similar.

DISCUSSION

In a nationally representative sample, and compared to other children, we found that children with SHCN have elevated risks of exposure to household food insufficiency, less-than-excellent health status, and emergency healthcare utilization, all despite being slightly more likely to have health insurance coverage. We also found that exposure to household food insufficiency was associated with a greater reduction in the probability of experiencing excellent health among children with SHCN versus children without SHCN. Associations between household food insufficiency and increased emergency healthcare utilization were similar in both groups, suggesting SHCN status and household food insufficiency are *independent risk factors* for increased healthcare utilization. This in itself is notable: the independent nature of these risk factors means that the elevated levels of exposure to household food insufficiency among children with SHCN are more troubling than they would be if SHCN status subsumed some or all of the effects of household food

insufficiency on emergency healthcare utilization (i.e., through a negative interaction). The presence of such an interaction was plausible given the much greater baseline levels of emergency healthcare utilization among children with SHCN, but it was not found here. Further, our finding that household food insufficiency was associated with a significantly increased likelihood of emergency healthcare use among children with SHCN differed from a prior study that suggested no such association (although that prior study was limited to a single city).⁽⁸⁾

The parent-reported nature of the data in the National Survey of Children's Health utilized here was a limitation. Consequently, social stigmas related to health conditions and economic hardships may have led to underreporting of these phenomena. Also, generalizability of the survey to children in households with parents who are immigrants and/or do not speak English has been questioned,⁽¹⁸⁾ potentially leading to undercounts of groups with heightened social vulnerabilities.⁽¹⁹⁾ Such misclassifications and underrepresentations, however, would have conservatively biased results by making the relevant comparison groups appear more similar than they were. Additionally, the household food insufficiency measure in the survey was not as broad or nuanced as common measures of household food insecurity, which capture concerns about having adequate amounts of culturally acceptable food that the measure used here does not.⁽¹²⁾ Potential assessments of experiences of food-related hardships that did not rise to the level of directly experiencing household food insufficiency were thus not possible. It is possible that these less severe food-related hardships are more common and less stigmatized, leading to greater statistical power and more accurate data for comparisons using such a measure. However, given that a prior study using a more robust household food insecurity measure found that child disability status was associated with food-related hardships (similar to our findings here),⁽⁹⁾ it is unlikely that using such a measure would have qualitatively altered our results.

Our findings are quite troubling. Children with SHCN represent a vulnerable population requiring public policy interventions. Some children with SCHN also have specialized nutritional needs that can specifically add to the expense of food, further increasing the risk of household food insufficiency specifically.⁽²⁰⁾ SHCN status is defined by a greater need for health care services, but—consistent with prior findings^(2,3)—we found this population to have elevated social vulnerabilities despite mostly having health insurance coverage. While health insurance coverage is surely important, particularly given the elevated medical expenses and out-of-pocket expenditures incurred by families raising children with SHCN,^(2,3) this finding suggests that policy solutions beyond the healthcare system may be needed. Moreover, the social ill examined here—household food insufficiency—was associated with risks to these children's health and healthcare outcomes over and above risks caused by their underlying conditions directly. A deleterious cycle is possible if a child with SHCN's baseline need for healthcare services increases vulnerability to household food insufficiency in such a way that worsens nutrition and health and then further increases the child's need for healthcare services. We were unable to explore such cycles given the cross-sectional nature of the data, but future longitudinal studies should examine this possibility (including the role of hardships such as household food insufficiency in increasing the likelihood of developing SHCN such as type 2 diabetes in the first place). Regardless, successful

interventions will need to account for the potential of such cycles and the complex relationships between social ills and health-related needs among children with SHCN.

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Table 1.

Demographic characteristics of children with and without SHCN in pooled data from the 2016 and 2017 National Survey of Children's Health.

Variable (all values weighted)	Children without SHCN (n = 55,507)	Children with SHCN (n = 16,304)	F ^a	p
Prevalence (% , 95% CI)	81.2 (80.6, 81.9)	18.8 (18.1, 19.4)		
Age (y, 95% CI)	8.2 (8.1, 8.3)	10.3 (10.1, 10.4)	458.8	<0.001
Female (% , 95% CI)	50.5 (49.5, 51.5)	42.0 (40.2, 43.9)	62.4	<0.001
Non-Hispanic white (% , 95% CI)	51.5 (50.5, 52.5)	51.2 (49.3, 53.0)	0.1	0.78
Non-Hispanic black (% , 95% CI)	12.0 (11.3, 12.7)	17.8 (16.1, 19.6)	46.5	<0.001
Non-Hispanic other (% , 95% CI)	11.2 (10.7, 11.8)	8.8 (8.0, 9.7)	20.7	<0.001
Hispanic (% , 95% CI)	25.3 (24.2, 26.4)	22.2 (20.4, 24.2)	7.0	0.008
Income <100% FPL (% , 95% CI)	20.2 (19.3, 21.2)	25.7 (23.8, 27.6)	27.7	<0.001
Income <200% FPL (% , 95% CI)	41.8 (40.8, 42.8)	48.0 (46.2, 49.9)	32.9	<0.001
SNAP receipt, ^b (% , 95% CI)	18.4 (17.5, 19.3)	27.5 (25.6, 29.4)	80.8	<0.001
Insured, ^c (% , 95% CI)	91.6 (90.9, 92.3)	92.9 (91.9, 93.9)	4.2	0.04
Unmet care needs, ^d (% , 95% CI)	0.8 (0.6, 1.0)	5.2 (4.2, 6.3)	192.6	<0.001
Smoking in house, ^e (% , 95% CI)	2.0 (1.8, 2.3)	3.4 (2.7, 4.4)	14.8	<0.001

SHCN, special health care needs; CI, confidence interval; FPL, federal poverty level (USA);

SNAP, Supplemental Nutrition Assistance Program

^aStata (version 15.1) utilizes design-based F-tests for weighted comparisons

^bAny participation in the past year indicated receipt

^cHealth insurance coverage for all of the past year indicated insured status

^dHaving any unmet medical or mental health care needs in the past year indicated an unmet care need

^eIf someone living in the child's household used cigarettes, cigars, or pipe tobacco *and* smoked inside the home, then "smoking in house" was indicated

Table 2.

Household food insufficiency, child health status, and emergency healthcare utilization by SHCN status and income in pooled data from the 2016 and 2017 National Survey of Children's Health.

Variable (all values weighted; reported as %, 95% CI)	Full sample			Household income <200% FPL		
	Children without SHCN (n = 55,507)	Children with SHCN (n = 16,304)	<i>F</i> ^a <i>p</i>	Children without SHCN (n = 14,061)	Children with SHCN (n = 4,843)	<i>F</i> ^a <i>p</i>
Household food sufficiency in past year						
Always afford nutritious meals	69.8 (68.8, 70.7)	56.4 (54.5, 58.3)	57.6 <0.001	52.8 (50.9, 54.7)	36.1 (33.3, 39.1)	29.9 <0.001
Afford enough, but not the kinds we should	24.6 (23.8, 25.5)	32.4 (30.5, 34.3)		35.8 (34.1, 37.6)	45.3 (42.1, 48.6)	
Sometime could not afford enough	4.7 (4.2, 5.3)	8.9 (7.9, 10.1)		9.5 (8.4, 10.7)	14.9 (12.9, 17.1)	
Often could not afford enough	0.9 (0.7, 1.1)	2.2 (1.7, 2.9)		1.9 (1.5, 2.4)	3.7 (2.7, 5.1)	
Child health status						
Excellent	72.1 (71.2, 73.1)	33.5 (31.9, 35.1)	32.1.8 <0.001	64.1 (62.3, 65.9)	24.4 (22.2, 26.8)	139.8 <0.001
Very good	22.0 (21.2, 22.9)	37.1 (35.4, 38.8)		26.4 (24.8, 28.0)	35.5 (32.7, 38.4)	
Good	5.2 (4.7, 5.8)	23.5 (21.6, 25.5)		8.6 (7.5, 9.9)	31.4 (28.1, 35.0)	
Fair	0.5 (0.4, 0.7)	4.9 (4.0, 6.0)		0.8 (0.6, 1.2)	7.4 (5.7, 9.6)	
Poor	0.1 (0.0, 0.2)	1.0 (0.6, 1.6)		0.1 (0.0, 0.4)	1.3 (0.7, 2.4)	
Emergency healthcare utilization in past year ^b	17.5 (16.7, 18.3)	31.6 (29.8, 33.4)	241.4 <0.001	22.3 (20.8, 23.9)	39.3 (36.2, 42.5)	103.0 <0.001

SHCN, special health care needs; FPL, federal poverty level (USA); CI, confidence interval

^aStata (version 15.1) utilizes design-based F-tests for weighted comparisons

^bOne or more visits to a hospital emergency room indicated utilization of emergency healthcare

Table 3.

Weighted logistic regression models for household food insufficiency, excellent child health status, and emergency healthcare utilization.

Variable ^a	Any household food insufficiency in past year (log-odds, 95% CI)		Excellent health status (log-odds, 95% CI)		Any emergency healthcare utilization in past year (log-odds, 95% CI)	
	Full sample	Household income <200% FPL	Full sample	Household income <200% FPL	Full sample	Household income <200% FPL
SHCN	0.49 ^{***} (0.39, 0.58)	0.62 ^{***} (0.46, 0.77)	-0.70 ^{***} (-0.81, -0.60)	-0.66 ^{***} (-0.82, -0.50)	0.22 ^{**} (0.10, 0.35)	0.30 ^{**} (0.11, 0.49)
Any FI ^b			-1.61 ^{***} (-1.71, -1.51)	-1.67 ^{***} (-1.90, -1.44)	0.61 ^{***} (0.48, 0.75)	0.65 ^{***} (0.39, 0.90)
SHCN * FI ^c			0.08 (-0.10, 0.27)	0.14 (-0.17, 0.44)	0.13 (-0.08, 0.34)	0.15 (-0.19, 0.48)
<100% FPL	1.38 ^{***} (1.26, 1.50)	0.12 (-0.01, 0.26)	-0.48 ^{***} (-0.60, -0.35)	-0.21 ^{**} (-0.35, -0.07)	0.56 ^{***} (0.43, 0.70)	0.35 ^{***} (0.20, 0.50)
100-199% FPL	1.29 ^{***} (1.18, 1.39)		-0.28 ^{***} (-0.39, -0.17)		0.22 ^{***} (0.09, 0.34)	
Age	0.01 [*] (0.00, 0.02)	0.01 [*] (0.00, 0.03)	-0.03 ^{***} (-0.03, -0.02)	-0.05 ^{***} (-0.06, -0.04)	-0.06 ^{***} (-0.07, -0.05)	-0.07 ^{***} (-0.09, -0.05)
Female	0.00 (-0.09, 0.09)	0.03 (-0.11, 0.16)	-0.03 (-0.12, 0.05)	-0.02 (-0.16, 0.12)	-0.16 ^{**} (-0.26, -0.07)	-0.08 (-0.24, 0.07)
Non-Hispanic black	0.36 ^{***} (0.23, 0.49)	0.05 (-0.12, 0.22)	-0.36 ^{***} (-0.48, -0.24)	-0.27 ^{**} (-0.45, -0.10)	0.40 ^{***} (0.26, 0.54)	0.40 ^{***} (0.22, 0.59)
Non-Hispanic other	0.09 (-0.03, 0.21)	0.01 (-0.17, 0.19)	-0.38 ^{***} (-0.50, -0.26)	-0.33 ^{**} (-0.52, -0.13)	-0.03 (-0.17, 0.11)	-0.06 (-0.26, 0.14)
Hispanic	0.26 ^{***} (0.13, 0.38)	-0.02 (-0.19, 0.14)	-0.35 ^{***} (-0.47, -0.23)	-0.38 ^{***} (-0.55, -0.22)	0.17 [*] (0.03, 0.31)	0.14 (-0.05, 0.33)
Insured ^d	-0.30 ^{**} (-0.48, -0.12)	-0.17 (-0.39, 0.05)	0.14 (-0.04, 0.32)	0.08 (-0.15, 0.31)	0.22 [*] (0.02, 0.41)	0.14 (-0.11, 0.39)
Unmet care needs ^e	0.99 ^{***} (0.66, 1.33)	0.82 ^{**} (0.36, 1.29)	-0.39 [*] (-0.74, -0.04)	-0.23 (-0.68, 0.22)	0.16 (-0.17, 0.49)	0.08 (-0.34, 0.49)
Smoking in house ^f	0.63 ^{***} (0.37, 0.89)	0.36 [*] (0.08, 0.64)	-0.23 (-0.47, 0.00)	-0.20 (-0.49, 0.09)	0.47 ^{***} (0.24, 0.71)	0.56 ^{***} (0.28, 0.84)
Excellent health status					-0.40 ^{***} (-0.51, -0.30)	-0.36 ^{***} (-0.52, -0.19)

CI, confidence interval; SHCN, special health care needs; FPL, federal poverty level; FI, household food insufficiency

^aConstant term omitted from table

^bAny FI indicated any response other than that the household “could always afford to eat good nutritious meals” over the past year

^cSHCN*FI indicated an interaction between SHCN status and the presence of any FI

^dHealth insurance coverage for all of the past year indicated insured status

^eHaving any unmet medical or mental health care needs in the past year indicated an unmet care need

f. If someone living in the child's household used cigarettes, cigars, or pipe tobacco *and* smoked inside the home, then "smoking in house" was indicated

* $p < 0.05$;
** $p < 0.01$;
*** $p < 0.001$

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Table 4.

Marginal predicted probabilities^a derived from weighted logistic regression models for household food insufficiency, excellent child health status, and emergency healthcare utilization.

Variable	Any household food insufficiency in past year (% 95% CI)		Excellent health status (% 95% CI)		Any emergency healthcare utilization in past year (% 95% CI)	
	Full sample	Household income <200% FPL	Full sample	Household income <200% FPL	Full sample	Household income <200% FPL
No SHCN	30.8 (29.9, 31.7)	46.4 (44.5, 48.3)				
Has SHCN	40.6 (38.8, 42.3)	61.5 (58.3, 64.7)				
No SHCN, no FI ^b			76.9 (75.7, 78.1)	73.8 (71.3, 76.2)	16.8 (15.6, 17.9)	17.7 (15.6, 19.8)
No SHCN, has FI			62.7 (60.9, 64.4)	59.7 (57.3, 62.1)	20.0 (18.6, 21.3)	22.3 (20.3, 24.2)
Has SHCN, no FI			41.1 (39.2, 42.9)	35.6 (31.5, 39.7)	26.6 (24.7, 28.5)	28.5 (24.6, 32.5)
Has SHCN, has FI			26.0 (23.6, 28.3)	22.5 (18.4, 26.6)	31.0 (27.8, 34.2)	34.7 (28.8, 40.6)

CI, confidence interval; FPL, federal poverty level; SHCN, special health care needs; FI, household food insufficiency

^a Predicted probabilities were calculated using the margins command in Stata (version 15.1)

^b Any FI indicated any response other than that the household “could always afford to eat good nutritious meals” over the past year