Low-Income Households of Children With Autism and the Economic Safety Net

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Abstract

Objective: This paper examines the distribution, parameters, and determinants of safety net program use among a nationally representative sample of low-income children with autism spectrum disorder (ASD).

Methods: We used data from the 2021 National Survey of Children's Health to produce population estimates of material hardship and safety net program use among 554 low-income households of children with ASD, ages 3 to 17 years, relative to 2831 children with other special health care needs (SHCN) and 8758 children with no SHCN of the same age. Design-adjusted multivariate logistic regression models identified predictors of cash assistance, Supplemental Nutrition Assistance Program, and disconnection from both.

Results: There were few significant differences in material hardship between children with ASD and those with other SHCN, although children with ASD experienced significantly higher levels of hardships compared to children with no SHCN. Having a child with ASD did not significantly increase the odds of safety net use. Health insurance and household income were stronger predictors of use than disability. Nine percent of disconnected children lived in households under 100% federal poverty level and experienced some type of material hardship.

Conclusions: Future research about the economic security of children with ASD and their families could focus on the following 3 areas of inquiry: assess how race, ethnicity, or socioeconomic position interact with disability to influence safety net program use; examine the intersection between Medicaid and safety net programs at the state and national levels; and identify specific subgroups of children at risk for disconnection and understand why they are not accessing benefits.

Keywords: material hardship; poverty; safety net; social determinants of health

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What's New

We provide new information about the material hardships and safety net program use among low-income children with autism. Our findings raise important questions regarding sociodemographic disparities, program disconnection, and the impact of public health insurance on program use and nonuse.

Autism spectrum disorder (ASD) is characterized by deficits in social communication and repetitive or restrictive behavior patterns that lead to impairments in functioning.[1] Families of children with ASD are more likely to report financial problems and to need additional income for their child's medical care compared to families of children with non-ASD developmental disabilities, mental health conditions, or both.[2,3] Outcomes are especially poor among low-income households with a child with ASD, with over three fourths reporting at least 1 material hardship in 2017.[4] Recent estimates indicate that 1 in 36 American children meet case criteria for ASD[5] and over half (56%) of children with ASD live in low-income households.[4] However, we know few details about the economic conditions and use of financial supports among low-income households of children with ASD.

The growing commitment to create social and physical environments that promote health has led to widespread recognition of the importance of social determinants of health.[6,7] Social determinants are the "conditions in the environments in which people are born, live, learn, work, play, worship, and age."[8] Material hardship, or the deprivation of basic needs such as food, housing, and health[9], is a known social determinant that leads to challenges in accessing health care and further exacerbates other determinants.[10,11] The large population of low-income children with ASD, coupled with poor health outcomes and high levels of material hardship, underscores the importance of policies and practices that mitigate the adverse effects of poverty for this subpopulation.

Federal safety net programs, such as the Supplemental Security Income (SSI) program and the Supplemental

Nutrition Assistance Program (SNAP), may help to alleviate the adverse effects of poverty among children with ASD and their families. For instance, SSI and SNAP participation has been shown to significantly reduce the odds of poverty, hardships, and food insecurity among broader samples of children.[12,13] A review of empirical evidence also found that safety net participation positively impacts health outcomes and reduces health-related spending.[14] Since the 2000s, ASD caseloads have increased dramatically across a wide range of safety net programs[15–17]; however, the extent of use is still far less than what is expected given population estimates of low-income children with ASD.[15] Underutilization of public benefits among eligible households is a concern for policymakers, as it reduces the probability that safety net programs will achieve their goal to reduce poverty and its associated consequences. The field would benefit from in-depth information on the population of recipients themselves and what leads to program use.

This paper examined the distribution, parameters, and determinants of safety net program use among a nationally representative sample of children, ages 3–17 years, from low-income households (under 200% federal poverty level [FPL]). We addressed the following 2 aims: 1) to compare the material hardships and use of safety net programs (cash assistance and SNAP) among low-income children with ASD relative to those of low-income children with and without other SHCN, and 2) to identify predictors of safety net program use and nonuse among all low-income children. Given the high rates of medical expenditures documented in studies of children with ASD,[18] we hypothesized that material hardships would be more common among children with ASD than children with other SHCN (who also experience complex health needs and health-related consequences) and particularly worse than children with neither ASD nor SHCN. We also anticipated that public health insurance coverage will have a positive relationship to safety net program use among low-income households of children. This was based on the significant overlap between Medicaid coverage and safety net program enrollment observed among broader populations.[19]

At present, the development of policies that facilitate safety net program access among households of children with ASD is impeded by 3 critical gaps in research. First, the existing evidence base on safety net program access is largely based on studies that focus on broad, heterogeneous samples of children with disabilities, with many studies focusing on a wide range of mental health disorders. It is unclear if the findings presented in the literature translate to the subpopulation of children with ASD. Second, the bulk of research is primarily descriptive and does not include a comparison group of nonusers. Consequently, much of our understanding captures the experiences of only a portion of the households that safety net policies are designed to serve. Finally, many studies aggregate safety net programs into 1 group. Although a growing body of research has focused on the use of SNAP among the subgroup of children with autism,[20–22] there has been comparatively much less research on other programs such as cash assistance. Our study extends the current literature by disaggregating our sample according to ASD status, including a comparison group of children who do not receive benefits, and focusing on both cash assistance and SNAP as programs of interest.

METHODS

DATA AND STUDY POPULATION

This study used data from the 2021 National Survey of Children's Health (NSCH),[23] a repeated cross-sectional design that provides national and state-level data on the health and well-being of US children, ages 0 to 17 years. Data for the 2021 NSCH were collected from June 2021 to January 2022 and includes 50,892 children.[24] We restricted the study sample to children, ages 3 to 17 years, from low-income households. (Combined income of all household members was below 200% of the FPL.) We excluded children under 3 years of age because the NSCH does not indicate current ASD status for children 0 to 2 years. We chose 200% of the FPL because it corresponds with eligibility thresholds for many programs included in this study and has been used in prior research about safety net program use among low-income children.[15,25] The income for a household of 4 at 100% of the FPL was $26,500 in 2021.[26]

Children were considered to have ASD if parents responded affirmatively to 2 survey questions: (1) has a doctor or other health care provider ever told you that this child had autism or ASD? and (2) does this child currently have the condition? Children classified as not having ASD but with a positive response to the children with SHCN screener [27] were classified as children with *other SHCN* and children with neither ASD nor other SHCN were classified as children with *no SHCN*. Our study draws from the Maternal Child Health Bureau's definition of children with SHCN and is based on the presence of an underlying health condition and greater need for health and related services (Appendix A). This definition applied the same set of qualifying criteria to all children with an ongoing medical, behavioral, or other health condition, regardless of their specific underlying diagnosis or health issue.[28] As a result of this approach, children classified as "other SHCN" in this study are similar in terms of health needs and health-related consequences.

MEASURES

Refer to Appendix A for a detailed description of study variables.

Safety Net Program Use. We used dichotomous variables to measure cash assistance and SNAP receipt during the past 12 months (0 = no, 1 = yes). We also constructed a dichotomous measure of *safety net disconnection* in which 0 = receipt of either cash assistance or SNAP and 1 = received neither cash assistance nor SNAP during the past 12 months.

Material Hardships. Indicators of material hardship included: *general hardship,* whether the family had difficulty paying for basics like food or housing; *food insecurity,* whether the family was unable to afford adequate food; and *medical hardship,* whether the family had difficulty paying for their child's medical care. *Any hardship* referred to families who reported at least one of the 3 hardships presented above.

Covariates. We used past research and Andersen's Behavioral Model of Health Services Use[29] to identify and organize determinants of safety net program use. Andersen's model organizes multilevel factors that influence the use of health services into 3 categories: *predisposing factors* make an individual more likely to need services; *enabling factors* either facilitate or impede the use of services; and *need factors* include measures of need.[29,30] Several studies have adopted or modified Andersen's model to explore safety net program access.[31,32] In this study, *predisposing factors* included disability group, number of functional difficulties, child's age, child's race/ethnicity, household education, and household composition; *enabling factors* included type of health insurance and household income; and *need factors* included out-of-pocket medical expenditures, foregone parent employment, and material hardship.

Analyses

This study produced weighted estimates that generalize to the population of US children, 3 to 17 years. All analyses were performed by STATA/SE version 18.0. We first used weighted proportions and 95% confidence intervals to produce population estimates of material hardships and safety net program use for the 3 disability groups. We then used logistic regression with dummy coding to test for significant group differences with the ASD group as the referent. The Taylor series linearization method accounted for the complex survey design and multiply imputed income-to-poverty data were analyzed using STATA's multiple imputation commands. To identify significant predictors of safety net program use among all low-income children, we employed design-adjusted multivariate logistic regression models for 3 safety net outcomes (received cash assistance, received SNAP, and disconnected from both cash assistance and SNAP). The overall design-adjusted F-statistic determined overall fit of the fully adjusted regression models. STATA v. 18 does not include commands to test for multicollinearity on multiply imputed survey data. Therefore, we used unimputed, weighted data to calculate the variance inflation factor and tolerance on model variables. We also used bivariate logistic regression models to examine relationships among dummy coded covariates on weighted, imputed data. In accordance with Sullivan and Feinn's[33] criteria, adjusted odds ratios (aOR) above 3.0 and below 0.3 were considered problematic. Finally, we reported the distribution of extreme poverty and material hardship of all low-income children and among the subset of children who were disconnected from the safety net. This study was approved as exempt by the Institutional Review Board at Drexel University.

Results

Our study population consisted of 12,143 low-income children, aged 3 to 17 years (weighted sample size of 24,171,712). Among them, 4.6% of children in the sample were classified as having ASD (unweighted n = 554, weighted n = 911,982), 23.3% were classified as having other SHCN (unweighted n = 2831, weighted n = 4,627,328), and the remaining 72.1% were classified as having no SHCN (unweighted n = 8758, weighted n = 18,632,402).

Sociodemographic Characteristics by Disability

The sociodemographic characteristics of the study sample are presented in Table 1. There were relatively few group differences across sociodemographic characteristics, although children with ASD had a significantly higher number of functional difficulties than comparison groups. Household income was evenly distributed across disability groups with 21.1% of children with ASD living in households under 50% FPL, 24.0% between 51% and 99% FPL, 3.9% between 100% and 149%, and 26.7% between 150% and 199% FPL. Children with ASD were the least likely to be uninsured of the 3 disability groups and most likely to be covered by public insurance. Conversely, children with no SHCN were at the greatest risk of being uninsured of all the disability groups and were the most likely to be covered by private insurance only. A significantly larger proportion of parents of children with ASD had to quit or reduce work hours to care for their child compared to parents of children with no SHCN but not compared to parents of children with other SHCN.

Material Hardship and Safety Net Use by Disability

Table 2 presents national estimates of material hardships and safety net program use among low-income children, broken down according to disability. Contrary to our hypothesis, there were few significant differences in material hardship between children with ASD and those with other SHCN. However, when compared to the no SHCN group, children with ASD had significantly higher rates of hardship in 3 of the 4 indicators. Just under half (45.0%) of children with ASD were disconnected from both cash assistance and SNAP. ASD children experienced significantly greater levels of general hardship than those of children with and without other SHCN (40.0% vs 28.9% and 19.6%, respectively); however, they were not significantly more likely to receive cash assistance than either comparison group. ASD children were also more likely than children with no SHCN to be food insecure (14.0% vs 7.9%) despite having higher rates of SNAP participation (54.0% vs 44.0%). There were no differences in safety net use between children with ASD and children with other SHCN.

Predictors of Safety Net Use Among All Children

Table 3 presents multivariate logistic regression results for the 3 safety net outcomes (cash assistance, SNAP, and disconnection) among all low-income children. Contrary to our second hypothesis, having a child with ASD did not

Table 1. Characteristics of Low-Income Children by ASD and SHCN Status: Weighted Proportions and 95% Confidence Intervals

	ASD		Other SHCN		No SHCN	
Unweighted n	554		2831		8758	
Weighted n	911,982		4,627,328		18,632,402	
	%	(95%CI)	%	(95%CI)	%	(95%CI)
Predisposing						
Functional difficulties						
None	21.4	(15.4–27.5)	33.5	(29.9–37.2)**	84.7	(83.1–86.3)***
1	26.9	(19.0–34.8)	33.8	(30.0–37.5)	10.9	(9.5–12.2)***
2 or more	51.6	(42.5–60.8)	32.7	(28.6–36.8)***	4.4	(3.5–5.3)***
Child age						
3–5 y	18.5	(12.5–24.5)	11.9	(9.4–14.3)*	22.2	(20.3–24.1)*
6–11 y	37.5	(28.8–46.3)	40.2	(36.4–44.1)	38.4	(36.0–40.7)
12–17 y	44.0	(34.5–53.4)	47.9	(43.8–52.0)	39.4	(37.0–41.8)
Child race/ethnicity						
White, non-Hispanic	39.5	(31.3–47.7)	39.9	(36.2–43.5)	31.1	(29.2–32.9)
Black, non-Hispanic	20.9	(13.6–28.3)	23.6	(20.0–27.2)	19.1	(17.4–20.9)
Other, non-Hispanic[†]	7.9	(4.7–11.1)	7.1	(5.8–8.4)	10.2	(9.0–11.3)
Hispanic, any race	31.7	(21.3–42.1)	29.4	(25.0–33.8)	39.6	(37.0–42.2)
Household education						
High school or less	49.0	(39.6–58.3)	46.7	(42.5–50.8)	57.2	(54.9–59.4)
Some college	31.8	(24.0–39.6)	30.1	(26.8–33.4)	22.6	(20.9–24.3)*
College degree or higher	19.3	(13.2–25.3)	23.2	(20.2–26.2)	20.2	(18.7–21.7)
Single-parent household	44.0	(34.4–53.7)	43.4	(39.3–47.4)	37.2	(34.8–39.6)
Enabling						
Household income						
0%–50% FPL	21.1	(14.1–28.1)	21.7	(18.5–24.8)	24.7	(22.6–26.7)
51%–99% FPL	24	(14.4–33.6)	23.9	(20.2–27.6)	23	(20.9–25.2)
100%–149% FPL	3.9	(20.6–35.8)	29.7	(26–33.4)	25.8	(23.8–27.8)
150%–199% FPL	26.7	(18.9–34.4)	24.7	(21.4–28.1)	26.5	(24.4–28.7)
Child health insurance type						
Uninsured	3	(3–0.6)	8.1	(8.1–4.8)*	14.2	(14.2–12.2)***
Private only	12.1	(12.1–7.4)	16.7	(16.7–14.2)	24.8	(24.8–22.8)***
Any public[‡]	84.9	(84.9–79.6)	75.3	(75.3–71.6)**	61	(61–58.6)***
Public only	74.2	(74.2–67.3)	68.1	(68.1–64.1)	55.7	(55.7–53.3)***
Public and private	10.6	(10.6–5.9)	7.2	(7.2–4.9)	5.3	(5.3–4.5)**
Need						
Out-of-pocket costs $1k or more	7	(7–2.9)	8.9	(8.9–6.4)	4.4	(4.4–3.5)
Foregone family employment	22.7	(22.7–15.9)	19.4	(19.4–15.9)	3.8	(3.8–2.9)***

ASD indicates autism spectrum disorder; CI, confidence interval; FPL, federal poverty level; and SHCN, special health care needs.
***$P < .00$, **$P < .01$, *$P < .05$.
Tests of significance versus ASD Group.
Source: 2021 National Survey of Children's Health.
[†] Includes children of other races and multiple races.
[‡] Public only or public and private insurance (versus uninsured or private only).

significantly increase the odds of safety net use among low-income children. Children with a greater number of functional difficulties, those from single-parent households, and from minoritized backgrounds had higher adjusted odds of program use. Black children and children from other or multiple races were the most connected to the safety net, with just 12.7% and 9.9% reporting disconnection, respectively. Enabling factors were important predictors of safety net use and nonuse. Children from households under 100% FPL were more likely than children from households at or above 100% FPL to receive cash assistance and SNAP and were 65% less likely to be disconnected from both programs. Consistent with our second hypothesis, there was a positive relationship between public health insurance and cash assistance and SNAP. The adjusted odds of disconnection were 70% lower among publicly insured children than uninsured children or children with private coverage only. In terms of need factors, the adjusted odds of disconnection were significantly higher among children with expenditures of $1000 or more and significantly lower among children who experienced any hardship.

Poverty and Hardship Among Disconnected Children

Although disconnected children had higher income and fewer material hardships than the total sample of children, 8.7% (or 981,285) of disconnected children lived in households under 100% FPL and experienced some type of material hardship (unweighted n = 489; Figure).

Discussion

This study used recent national data to compare the material hardships of low-income children with ASD relative

Table 2. Material Hardships and Safety Net Use Among Low-Income Children by Autism and SHCN Status: Weighted Proportions and 95% Confidence Intervals

	ASD		Other SHCN		No SHCN	
Unweighted n	554		2831		8758	
Weighted n	911,982		4,627,328		18,632,402	
	%	(95% CI)	%	(95% CI)	%	(95% CI)
Material Hardship						
General hardship	40	(30.2–49.6)	28.9	(25.4–32.5)*	19.6	(17.6–21.6)***
Food insecurity	14	(7.6–21)	10.6	(7.8–13.5)	7.9	(6.5–9.3)*
Medical hardship	8.2	(4.1–12.2)	11.6	(9.5–13.8)	6.1	(5–7.2)
Any hardship[†]	46	(36.9–55.9)	36.9	(33–40.7)	26.5	(24.3–28.7)***
Safety Net Use						
Cash assistance	14	(4.9–23.8)	13	(9.8–16.1)	12.1	(10.4–13.9)
SNAP	54	(44.4–62.6)	53.9	(49.9–58)	44	(41.6–46.5)*
Disconnected[‡]	45	(35.7–53.6)	42.5	(38.5–46.5)	52.2	(49.7–54.7)

ASD indicates autism spectrum disorder; CI, confidence interval; FPL, federal poverty level; SHCN, special health care needs; and SNAP, Supplemental Nutrition Assistance Program.

***$P < .00$, **$P < .01$, *$P < .05$.

Tests of significance versus ASD Group.

Source: 2021 National Survey of Children's Health.

[†] Reported general hardship, food insecurity and/or medical hardship.

[‡] Received neither cash assistance nor SNAP.

to those of low-income children with and without other SHCN, and to identify predictors of access to cash assistance and SNAP. Contrary to our hypothesis, there were few significant differences in material hardship between children with ASD and those with and without other SHCN, although children with ASD experienced significantly higher levels of hardships compared to children with no SHCN. The study also found that having a child with ASD does not significantly increase the odds of safety net use among low-income children. Health insurance and household income were stronger predictors of program use than disability group. Findings from this study raise important questions regarding sociodemographic disparities, safety net program disconnection, and the impact of public health insurance on program use and nonuse.

There were few significant differences in material hardship between children with other SHCN and ASD. However, the proportion of children with ASD who experienced general hardship and food insecurity was nearly twice that of children in the no SHCN group. These group differences were present despite having similar sociodemographic characteristics and household incomes. It is possible that differences in hardship between children with ASD and those with no SHCN are due to variability in health insurance across groups. Notably, children with no SHCN were the least likely to be covered by public health insurance, which protects against material hardship[4,34] and its risk factors.[34–36] Children with ASD had the highest rates of public coverage of all disability groups, which is likely due to the fact that autism is a qualifying condition for Medicaid coverage in some states.[37]

Significant predictors of safety net program use among low-income children included: having 1 or more functional difficulties, living in a single-parent household, having a household education level of high school education or less, and living under 100% FPL. These findings are consistent with empirical observations of children from low-income households[38] and the broader population of children with SHCN.[39,40] We also found notable differences in safety net use across race/ethnic categories. Although all minoritized racial and ethnic groups had higher rates of safety net use relative to white, non-Hispanic children, Black children and children of other or multiple races were the least disconnected from the safety net, even when compared to Hispanic children and children of other or multiple races. These findings show that poverty and race/ethnicity warrant additional study as potential risk factors for material hardship and safety net disconnection both individually and in combination. To move this area of inquiry forward, future research can explore how race, ethnicity, and/or socioeconomic position interact with disability to influence safety net program use. Research could also assess whether sociodemographic disparities exist in predicting health insurance coverage and material hardship. Identifying differences in the types of predisposing, enabling and need factors that predict safety net program use across race and social class may increase our understanding of structural disadvantage.

Public health insurance coverage stood out as an important predictor of safety net use among low-income children. As expected, the adjusted odds of safety net program use were substantially higher among children who received public health insurance versus those who were either uninsured or were covered by public health insurance only. These findings are consistent with previous studies that document high levels of cross participation between Medicaid and safety net programs.[19,35] The large overlap between public insurance and safety net program use may be explained by categorical eligibility across programs: SSI awardees are categorically eligible for Medicaid in most states, for instance.[41] It is also possible that households of children who receive public health insurance are more aware of other available programs and are, therefore, more likely to apply for other

Table 3. Multinomial Logistic Regression Models of Safety Net Use Among Low-Income Children: Weighted Proportions and Adjusted Odds Ratios and 95% Confidence Intervals

	Cash Assistance			SNAP			Disconnected[†]		
Yes, Unweighted n	1159			4650			6704		
Yes, Weighted n	2,840,456			10,689,524			11,546,862		
	Cash	Weighted Logistic Regression		SNAP	Weighted Logistic Regression		Disconnected	Weighted Logistic Regression	
	%	aOR	(95% CI)	%	aOR	(95% CI)	%	aOR	(95% CI)
Predisposing									
Disability group									
ASD	4.6%	0.9	(0.4–1.9)	4.5%	0.9	(0.6–1.3)	3.5%	1.3	(0.8–1.9)
Other SHCN	20.3%	0.8	(0.6–1.2)	22.5%	1.2	(0.9–1.5)	16.5%	0.9	(0.7–1.1)
No SHCN	75.1%	I	I	72.9%	I	I	80.0%	I	I
Functional difficulties									
None	64.7%	I	I	66.8%	I	I	77.1%	I	I
1	20.9%	1.8	(1.2–2.6)**	18.3%	1.3	(1.0–1.7)	14.1%	0.8	(0.6–1.0)
2 or more	14.4%	1.4	(0.9–2.1)	14.9%	1.5	(1.1–2.1)**	8.7%	0.7	(0.5–0.9)**
Child age									
3–5 y	18.1%	I	I	22.0%	I	I	17.5%	I	I
6–11 y	33.6%	0.9	(0.7–1.4)	39.1%	0.8	(0.6–1.1)	40.2%	1.3	(1.0–1.7)*
12–17 y	48.4%	1.3	(0.9–1.9)	39.0%	0.7	(0.5–0.9)	42.3%	1.3	(1.0–1.7)*
Child race/ethnicity									
White, non-Hispanic	19.6%	I	I	26.9%	I	I	40.4%	I	I
Black, non-Hispanic	21.5%	1.7	(1.2–2.4)**	27.9%	2.5	(2.0–3.3)***	12.7%	0.4	(0.3–0.5)***
Other, non-Hispanic[‡]	9.2%	1.6	(1.1–2.4)*	9.2%	1.2	(0.9–1.6)	9.9%	0.8	(0.6–1.0)*
Hispanic, any race	49.7%	2.1	(1.6–2.9)***	36.3%	1.0	(0.8–1.2)	37.0%	0.9	(0.7–1.1)
Household education									
High school or less	69.3%	I	I	61.4%	I	I	46.9%	I	I
Some college	18.8%	0.7	(0.5–0.9)**	25.6%	0.9	(0.7–1.1)	0.2%	1.3	(1.1–1.7)**
College degree or higher	11.9%	0.6	(0.4–0.8)**	13.0%	0.6	(0.4–0.7)***	28.7%	2.0	(1.6–2.4)***
Single-parent household	42.9%	1.1	(0.8–1.5)	46.2%	1.3	(1.1–1.6)*	31.1%	0.8	(0.6–0.9)**
Enabling									
Under 100% FPL	59.0%	1.4	(1.1–1.9)*	60.0%	2.4	(2.0–2.9)***	35.6%	0.5	(0.4–0.6)***
Any public health insurance[§]	76.8%	1.6	(1.2–2.3)**	82.4%	3.9	(3.1–4.9)***	49.5%	0.3	(0.2–0.4)***
Need									
Out-of-pocket costs $1k or more	3.5%	0.8	(0.3–2.4)	2.2%	0.5	(0.3–0.7)***	8.3%	1.9	(1.1–3.1)*
Foregone family employment	8.1%	0.9	(0.6–1.6)	8.5%	0.9	(0.6–1.2)	6.3%	1.0	(0.7–1.5)
Any hardship[‖]	31.0%	1.0	(0.7–1.4)	35.7%	1.7	(1.4–2.2)***	23.4%	0.6	(0.5–0.8)***
Constant		*0.0*	*(0.0–0.1)***		*0.2*	*(0.1–0.3)***		*4.0*	*(2.9–5.5)***
Model F-test		F(1,749,626) = 5.46			F(1,749,666) = 29.77			F(1,649,844) = 29.43	
		P < .00			*P* < .00			*P* < .00	

ASD indicates autism spectrum disorder; CI, confidence interval; FPL, Federal Poverty Level; SHCN, special health care needs; and SNAP, Supplemental Nutrition Assistance Program.
***$P < .00$, **$P < .01$, *$P < .05$.

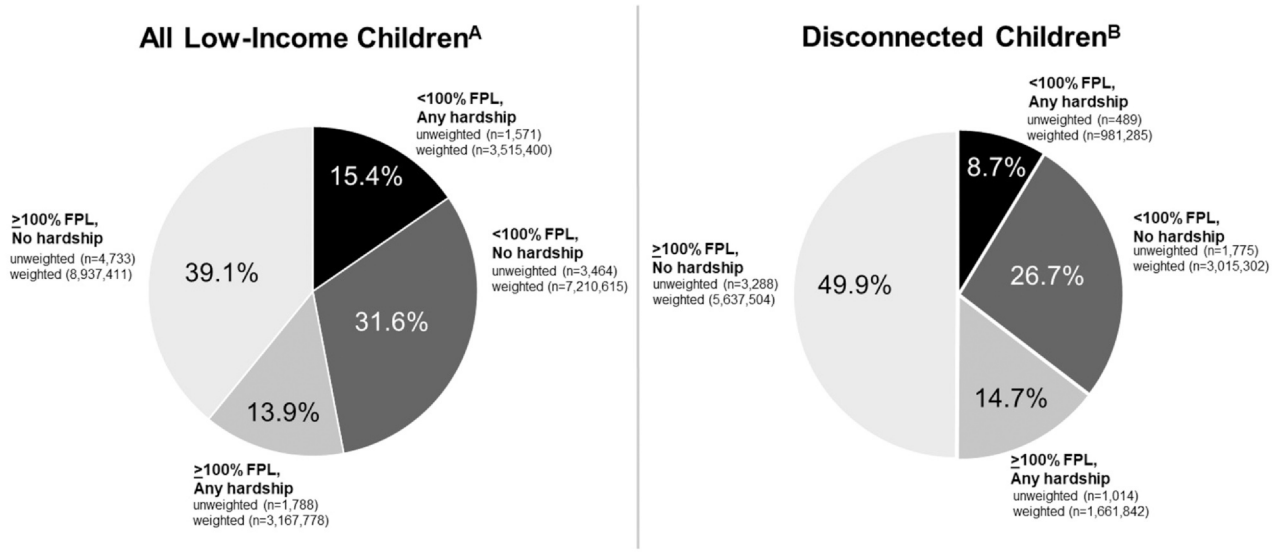
Source: 2021 National Survey of Children's Health.

[†] Received neither cash assistance nor SNAP.

[‡] Includes children of other races and multiple races.

[§] Public only or public and private insurance (vs uninsured or private only).

[‖] Reported general hardship, food insecurity, and/or medical hardship.



Source: 2021 National Survey of Children's Health
[A] unweighted n=12,143; weighted n=24,171,712; [B] unweighted n=6,704; weighted n=11,546,862

Figure. *Distribution of poverty and any hardship among all low-income children and the subset of disconnected children: weighted counts and proportions. FPL indicates federal poverty level.*

public benefits.[42] Health insurance type may also have an indirect impact on safety net program use through its effect on need factors. Studies have found that Medicaid offsets out-of-pocket medical expenses and reduces material hardship among families of children with ASD. [34,43] Together, these findings seem to suggest that improving children's access to public health insurance can be an important and promising policy focus. Future research can build upon these findings by explicitly examining the intersection between Medicaid and safety net programs at the state and national levels.

Researchers can also consider the subgroup of children from low-income households that are disconnected from the safety net. While most low-income children in our study received some type of safety net benefit, 55.2% of children remained disconnected from both cash assistance and SNAP. Many disconnected children were financially vulnerable, with over one third living in households under 100% FPL and one fourth reporting any hardship. Together, these findings suggest that disconnected, low-income children are an exceptionally vulnerable subgroup that warrants further investigation. According to research on broad samples of low-income families, reasons for disconnection are a lack of program awareness and stigma attaching to safety net use.[38] Further research is needed to determine whether these findings translate to subgroups of children with autism and other disabilities.

There are some limitations in our study. First, due to the cross-sectional study design, we were unable to assess stability or change over time at the individual level and cannot determine causality between variables. For instance, the study's measures of safety net program use and material hardship were based on retroactive reports capturing any point in time during the past 12 months. Nonetheless, we were still able to make correlative statements and identify associations between covariates and safety net use. Second, underestimation of safety net use in household surveys may have led to biased estimates. Studies have revealed that large proportions of safety net recipients do not report their receipt of benefits in national surveys.[44,45] It is also possible that participants may not fully understand (or distinguish between) all the benefits they receive. Third, the NSCH lacks questions about the intensity and duration of safety net benefit receipt, limiting the ability to garner a more nuanced understanding of program use. Despite these limitations, data from the NSCH provide a unique opportunity to examine safety net program use among a nationally representative sample of children with ASD from low-income households.

Health care providers could strengthen their advocacy efforts and support policies that facilitate equitable access to safety net benefits. Important factors to attend to in future interventions, based on their association with program use, include improving access to public health insurance and reducing material hardship among low-income children and their families. Policies aimed at increasing enrollment and eligibility for Medicaid could be promising levers to improve program use among low-income children, including those with ASD. Such policies might include raising income eligibility thresholds, implementing automatic enrollment for children across programs, adding categorical eligibility based on group (such as having a SHCN), and extending continuous Medicaid enrollment (which is set to end in 2023). Safety net policies could also expand their eligibility criteria to better account for economic indicators beyond household income, like material hardship.

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DECLARATION OF COMPETING INTEREST

None.

SUPPLEMENTARY DATA

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.acap.2023.11.001.

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