

Hardship-Free Households Are Associated With Optimal Caregiver and Child Health



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Introduction: Families living with low incomes experience a higher risk of material hardships associated with poor health. To understand the potentially protective role of hardship-free households, the authors examined associations between the absence of material hardships among families with low incomes and child health and healthcare utilization and caregiver health outcomes.

Methods: Researchers interviewed a sentinel sample of caregivers of publicly insured children aged <4 years in hospital settings in 5 U.S. cities (2012–2017). Exposure to material hardships (food insecurity, housing instability, healthcare hardship, and energy insecurity) was categorized as 0, 1, or ≥ 2 hardships. Outcome measures included child health (overall and oral health), anthropometrics, developmental risk, lifetime hospitalizations, composite well-child measure, caregiver health, and depressive symptoms. Multivariable logistic regression models examined the associations between hardships and child and caregiver health.

Results: Among 16,320 families, 41.0% experienced 0 hardships, 28.2% experienced 1 hardship, and 30.8% experienced ≥ 2 hardships. After covariate control, children from hardship-free households experienced lower adjusted odds of lifetime hospitalizations, fair/poor health, fair/poor oral health, developmental risk, and higher odds of wellness than children from household that experienced ≥ 2 hardships, and caregivers had lower odds of fair/poor health and depressive symptoms. Children and their caregivers from households with 1 hardship showed lower adjusted odds of lifetime hospitalizations, fair/poor health, fair/poor oral health, and higher odds of wellness than those from household that experienced ≥ 2 hardships, and caregivers had lower odds of fair/poor health and depressive symptoms.

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Conclusions: Living without material hardships may contribute to positive physical and developmental/behavioral health among children and caregivers. Findings support the importance of policies to decrease material hardships among families with low incomes.

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INTRODUCTION

Many families in the U.S. living with low incomes struggle to afford basic needs. Trade offs among basic needs to manage the household budget increase the risk of experiencing material hardships,¹ including food insecurity, housing instability, energy insecurity, and health-care hardship. Although poverty increases the risk for hardships, material hardships can be experienced by families across income levels, particularly in contexts where costs for basic needs such as housing and health care are high.² Each material hardship has been individually associated with adverse outcomes among families, including impaired caregiver physical and mental health and children's poor health and developmental risk.^{3–6} Driven by a lack of financial resources, material hardships are interrelated and are often experienced simultaneously, compounding the potential health risks posed to children and their families.⁷ Experiencing 1 or more material hardships may be particularly detrimental during the first years of life, which represent a critical period for growth and development that builds foundations for life-long physical health and development.⁷ Hardships in early childhood increase the risk for lower educational attainment and employment throughout life and across generations, impacting earnings, financial stability, and physical and mental health and well-being.^{8–11}

Research into materials hardships has been dominated by a deficits-based approach that focuses on identifying hardships. In contrast, a strengths-based approach would focus on households with low incomes who are not experiencing hardships (i.e., hardship-free households). Such a focus would identify and build on strengths within households and community services. Being hardship free may provide families with the stability and resources necessary for optimal child and caregiver health.

The authors sought to investigate associations between the absence of material hardships among families with low incomes and child health and healthcare utilization and caregiver health outcomes. This study explored the associations between the number of hardships—0 hardships (hardship free), 1 hardship, or ≥ 2 hardships—and their association with child and caregiver health outcomes. The authors hypothesized that

children and caregivers in families that experience 0 or 1 hardship would have better health and child healthcare utilization than families experiencing multiple hardships.

METHODS

Study Sample

Children's HealthWatch is an ongoing repeat cross-sectional research study conducted in medical centers in 5 U.S. cities: Baltimore, Maryland; Boston, Massachusetts; Little Rock, Arkansas; Minneapolis, Minnesota; and Philadelphia, Pennsylvania. This sentinel surveillance study is designed to monitor the impacts of economic conditions and public policies on the health and well-being of young children and families with low incomes seeking care in safety-net hospitals, which serve higher proportions of low-income and publicly insured patients. Each site obtained IRB approval before study initiation, renewed annually. Between January 1, 2012, and June 30, 2017, caregivers of young children were approached when seeking care for their children in primary care sites (Maryland and Minnesota) and emergency departments (Maryland, Pennsylvania, Massachusetts, and Arkansas), forming a sentinel sample (systematically collected sample from specific clinical sites that serves as an indicator of conditions in the broader population of interest, although not nationally representative).¹² Eligibility criteria included caregivers and their children aged <48 months; state residency; fluency in English, Spanish, or (in Minneapolis only) Somali; and living with and having knowledge of the child's health and household.¹³ Research assistants did not approach caregivers of critically ill or injured children, nor did they interview families for a child with a previous interview within the past 6 months. Of 19,750 households recruited, the authors excluded households with children receiving Supplemental Security Income ($n=686$), a marker of severe special healthcare needs that might confound relationships between hardship and health outcomes, and households with private insurance ($n=2,744$), a proxy for higher SES.^{14,15} The final sample comprised 16,320 households with young children (Figure 1).

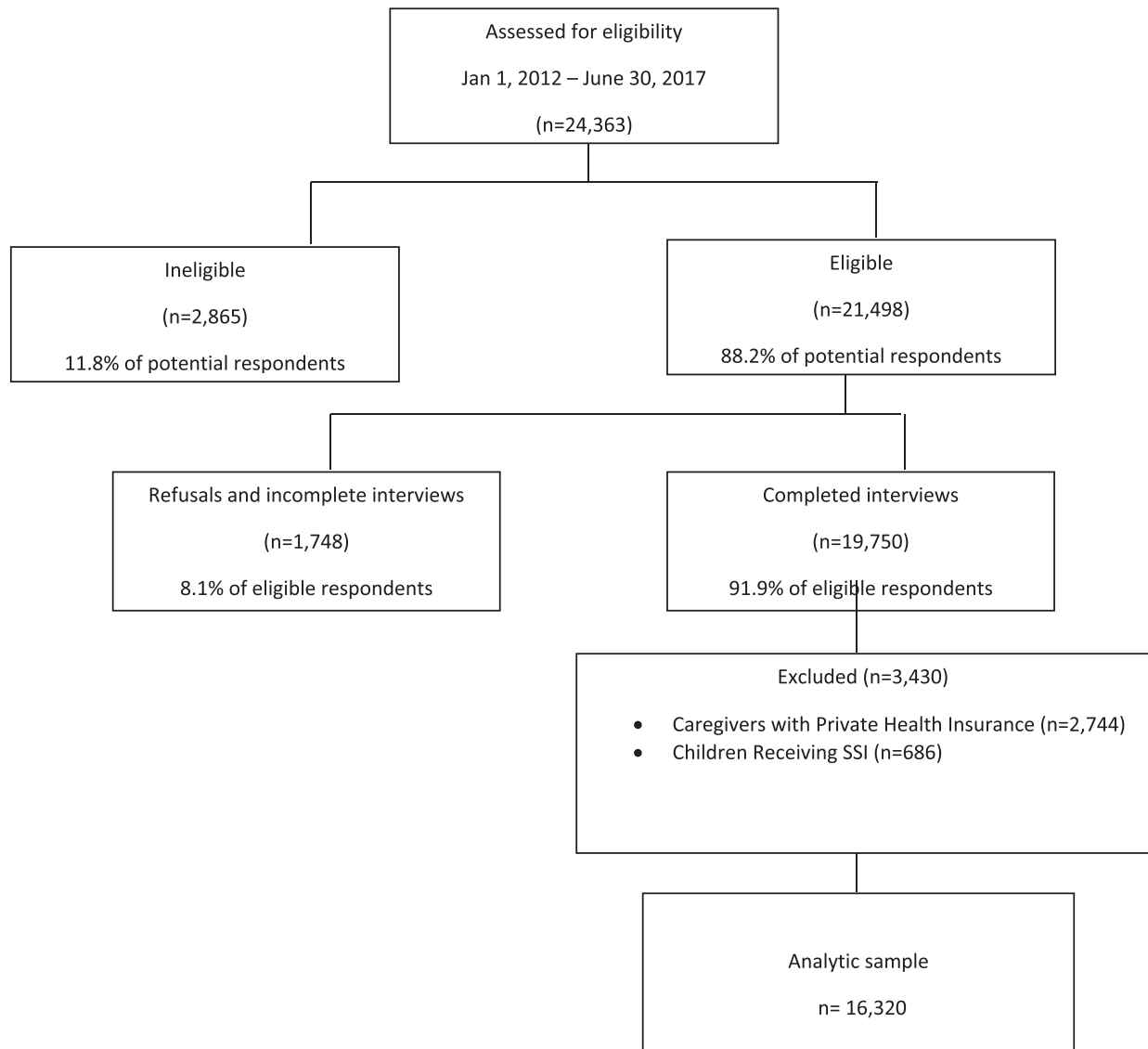


Figure 1. Sample selection diagram.

Measures

The survey included sociodemographic questions about caregivers' self-reported marital status (married/partnered versus single/divorced/widowed), nativity (country of origin: U.S. born [including Puerto Rico and U.S. territories] versus immigrant); educational attainment (less than high school, high school, technical school, college/master's); employment status (yes/no); child/caregiver age; breastfeeding history (yes/no); low birth weight (<2,500 g) of child (yes/no); number of children in the household; home ownership (yes/no); and household participation in government-funded nutrition, housing, energy, and cash assistance programs within the past year (yes/no for each). Using questions from the U.S. Census asking separately about Latino/Hispanic

heritage and race, caregivers reported the race and ethnicity of birth mothers. The authors combined responses into the following categories: Latina, all races; Black, non-Latina; White, non-Latina; and other/multiple races, non-Latina. The other/multiple races, non-Latina group was comprised of caregivers identifying as multiple races or groups too small in this sample to analyze independently (Asian, Native American). Child's age and sex assigned at birth were obtained from medical records.

Four measures of material hardship were assessed to create a composite hardship variable. Household and child food security status was assessed using the 18-item U.S. Household Food Security Survey Module (the validated federal standard measure for assessing food

security status).¹⁶ The U.S. Household Food Security Survey Module includes 10 adult-specific and 8 child-specific questions that address food security over the past year. Households were classified into 2 mutually exclusive categories: food secure if ≤ 2 questions were endorsed using the 18-item scale and food insecure if ≥ 3 adult-specific questions were endorsed. In addition, households were classified as food insecure among children if ≥ 2 or more of the 8 child-specific questions were endorsed.

Housing instability was indicated by caregivers' report of 1 or more of the following: (1) being behind on rent or mortgage in the past year, (2) 2 or more moves in the past year, and/or (3) homelessness in the child's lifetime.³ This measure has been validated in prior Children's HealthWatch studies and has been adapted for use in national surveys, including the National Survey of Children's Health.¹⁷ Homelessness was defined by the endorsement of living in a shelter, motel, temporary or transitional living situation, or scattered-site housing or having no steady place to sleep at night.

Household energy insecurity was indicated by caregivers' report of 1 or more of the following in the past year because of an inability to pay: (1) threatened utility shut-off, (2) actual utility shut-off, (3) 1 or more days without heating or cooling, and/or (4) use of a cooking stove to heat the home.⁵ This measure was developed and validated by Children's HealthWatch and has been associated with adverse health outcomes.⁵

Healthcare hardship was indicated by caregivers' reports of 1 or both of the following: (1) forgoing health care, the young child or other household members experienced unmet needs for healthcare services, including prescriptions, medical and/or dental care due to the inability to afford care,¹⁸ and (2) health cost sacrifices, indicated by difficulties affording other basic needs because of household out-of-pocket medical spending.^{19,20} Components of this measure have been used in national surveys, including the National Health Interview Survey, and have been validated in prior studies examining healthcare trade-offs.²¹

These 4 hardship measures (food insecurity, housing instability, energy insecurity, and healthcare hardship) formed a composite variable by summing the number of hardships experienced. Prior research has demonstrated compounding negative effects of multiple hardships on health outcomes beyond experiencing a single hardship.^{7,22} To further consider whether experiencing 1 hardship differed from experiencing multiple hardships, the authors categorized household hardships, the independent variable, into 3 groups—0, 1, or ≥ 2 hardships—and used ≥ 2 hardships as the reference.

Caregiver self-reported outcomes included current health status, using a validated single-item question from the 1988–1994 National Health and Nutrition Examination Survey,²³ which has been shown to predict healthcare utilization and mortality,²⁴ and maternal depressive symptoms using the Kemper scale, a validated 3-question screen for detecting maternal depressive symptoms among female caregivers.²⁵ Analyses of depressive symptoms were limited to female caregivers; all caregivers were included in analyses of other outcomes. Children's outcomes were reported on 1 index child aged <48 months and included caregivers' report of the number of hospitalizations, excluding birth (none vs ≥ 1), current child health status (excellent/good versus fair/poor), and current child oral health status (excellent/good versus fair/poor) using validated items from National Health and Nutrition Examination Survey for children (ages 4–48 months only for oral health) that have been shown to predict healthcare utilization.²⁶ Developmental risk was measured using the validated Parents' Evaluation of Developmental Status for children aged 4–48 months, which detects risk of developmental concerns.²⁷ Children's weight and height were collected from the medical record on the day of their interview and used to classify children as being at risk for obesity (weight for age >90 th percentile), being of healthy weight (weight for age between 5th and 90th percentile), or being at risk for underweight (weight for age <5 th percentile or weight for height/length <10 th percentile), following the Centers for Disease Control and Prevention growth charts.²⁸ Finally, a composite variable for well child was calculated using no lifetime hospitalizations, excellent health status, no developmental risk, and healthy weight. These outcome measures provide a comprehensive assessment of health status across physical health, developmental risk, and mental health and have been linked to social determinants of health.⁷

Statistical Analysis

Descriptive statistics were used to examine baseline characteristics for the study sample overall and stratified by hardship status. Statistical methods included chi-square testing for categorical data and independent samples *t*-tests for continuous data. Outcomes were analyzed using separate adjusted logistic regression models for each outcome, controlling for the same set of covariates in all models. Potential dependencies among outcomes were assessed, and correlation coefficients were <0.40 . Covariates were selected on the basis of prior literature identifying them as potential confounders of the relationship between material hardship and health outcomes. These included study site, race/ethnicity, nativity, marital status, employment, education,

caregiver age, homeownership (a marker of wealth that may affect hardship experience independently of current income), breastfeeding history (associated with both socioeconomic factors and child health outcomes), low birth weight of the child, number of children in the household, and the child's age. Variance inflation factor analysis was performed for all models as a measure of potential multicollinearity. All models with the exposure and covariates had a variance inflation factor between 1 and 5, which was considered acceptable. Consistent with sentinel surveillance methods, these data were analyzed without sampling weights because analytic goals centered on families with low incomes rather than estimating population estimates. Analyses were performed using 2-sided tests and a significance level of $p < 0.05$, with SAS software (Version 9.4; SAS Institute, Inc, Cary, NC).

RESULTS

Table 1 describes the characteristics of the study participants overall and stratified by hardship experience. Of the 16,320 households with young children, the child's mean age was 16.6 (SD $\pm$ 13.4) months. Most caregivers were born in the U.S., self-identified as non-Hispanic Black, and had at least a high-school diploma. Caregivers' mean age was 27 (SD $\pm$ 6) years, and 92% were birth mothers ($n=15,014$).

To understand the resources available to families in the study sample, the authors examined participation in public assistance programs. Overall, the rates of participation were 77.5% for the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); 66.6% for the Supplemental Nutrition Assistance Program (SNAP); 21.5% for the Low-Income Home Energy Assistance Program; 23.3% for Temporary Assistance for Needy Families (TANF); and 18.9% for subsidized housing.

Figure 2 and **Table 2** describe the adjusted associations between hardships and caregiver and child health outcomes. Overall, the authors observed a gradient effect across hardship levels for most outcomes, with hardship-free status conferring the strongest protective association, followed by experiencing 1 hardship, compared with experiencing multiple hardships. This pattern was particularly pronounced for caregiver outcomes and some child health and healthcare utilization outcomes, including hospitalizations and overall health status. Children in households with 0 hardships had lower adjusted odds of lifetime hospitalizations (AOR=0.79; 95% CI=0.72, 0.86), fair or poor health (AOR=0.60; 95% CI=0.53, 0.69), fair or poor oral health (AOR=0.55; 95% CI=0.46, 0.68), and developmental risk (AOR=0.76; 95%

CI=0.65, 0.88) and higher adjusted odds of being well (AOR=1.23; 95% CI=1.12, 1.35) than children in households with ≥ 2 hardships. At risk of obesity and underweight findings were not significant. Caregivers in households with 0 hardships had lower adjusted odds of fair or poor health (AOR=0.37; 95% CI=0.33, 0.40) and of having a positive screen for maternal depressive symptoms (AOR=0.21; 95% CI=0.19, 0.23) than caregivers in households with ≥ 2 hardships.

Children in households with 1 hardship had lower adjusted odds of lifetime hospitalizations (AOR=0.89; 95% CI=0.81, 0.98), fair or poor health (AOR=0.83; 95% CI=0.73, 0.95) and fair or poor oral health (AOR=0.77; 95% CI=0.63, 0.93) and higher adjusted odds of being well (AOR=1.11; 95% CI=1.00, 1.22) than children in households with ≥ 2 hardships (**Table 2**). Caregivers in households with 1 hardship had lower adjusted odds of fair or poor health (AOR=0.58; 95% CI=0.53, 0.64) and female caregiver depressive symptoms (AOR=0.47; 95% CI=0.43, 0.52) than caregivers in households with ≥ 2 hardships. Odds of developmental risk, risk of being underweight, and risk of developing obesity were not statistically significant between households with 1 and ≥ 2 hardships.

To examine whether participation in public assistance programs influences the relationship between material hardships and health outcomes, the authors conducted supplementary analyses controlling for participation in safety-net programs. The results (**Table 3**) demonstrate substantial consistency with the primary findings.

DISCUSSION

This study examined caregiver and child health outcomes associated with the absence of material hardships versus multiple material hardships among families with publicly insured young children, an indicator of low income, high risk of hardships, and poor health outcomes.²⁹ After controlling for demographic and perinatal variables, the authors found better health and healthcare utilization outcomes among caregivers and young children in hardship-free households than among families experiencing multiple hardships, consistent with the authors' hypothesis. The authors also found better health outcomes among caregivers and children in families experiencing 1 material hardship than in families experiencing multiple hardships. The findings demonstrate a gradient effect across hardship levels for most outcomes, particularly for caregiver health and depressive symptoms, with hardship-free households conferring the strongest protective association, followed by experiencing 1 hardship, compared with experiencing multiple hardships.

Table 1. Characteristics of Sample by Number of Material Hardships (January 1, 2012, to June 30, 2017).

Variable	Response	Overall Sample N=16,320	0 Hardships 6,692 (41.0%)	1 Hardship 4,603 (28.2%)	≥2 Hardships 5,025 (30.8%)	p-value
Site	Baltimore	3,404 (20.9%)	1,598 (23.9%)	905 (19.7%)	901 (17.9%)	***
	Boston	3,608 (22.1%)	1,114 (16.6%)	967 (21.0%)	1,527 (30.4%)	
	Little Rock	3,057 (18.7%)	1,131 (16.9%)	966 (21.0%)	960 (19.1%)	
	Minneapolis	2,216 (13.6%)	1,116 (16.7%)	702 (15.3%)	398 (7.9%)	
	Philadelphia	4,035 (24.7%)	1,733 (25.9%)	1,063 (23.1%)	1,239 (24.7%)	
Caregiver nativity	U.S. born (versus immigrant)	12,187 (74.9%)	5,089 (76.2%)	3,451 (75.3%)	3,647 (72.7%)	***
Caregiver race/ ethnicity	Immigrant	4,091 (25.1%)	1,587 (23.8%)	1,132 (24.7%)	1,372 (27.3%)	**
	Latina/Hispanic	5,566 (34.5%)	2,236 (33.8%)	1,612 (35.4%)	1,718 (34.5%)	
	Black non-Hispanic	7,977 (49.4%)	3,395 (51.3%)	2,163 (47.5%)	2,419 (48.6%)	
	White non-Hispanic	2,043 (12.6%)	781 (11.8%)	621 (13.6%)	641 (12.9%)	
Marital status	Other	566 (3.5%)	204 (3.1%)	159 (3.5%)	203 (4.1%)	
	Married/Partnered	4,963 (30.4%)	1,967 (29.4%)	1,430 (31.1%)	1,566 (31.2%)	
	Never/some high school	4,176 (25.6%)	1,679 (25.1%)	1,232 (26.8%)	1,265 (25.2%)	
Caregiver education	High school	6,381 (39.2%)	2,817 (42.2%)	1,809 (39.3%)	1,755 (35.0%)	***
	Technical school/ college graduate/ master's	5,741 (35.2%)	2,186 (32.7%)	1,557 (33.9%)	1,998 (39.8%)	
Caregiver age	n Mean (SD)	16,056 27.1 (5.9)	6,554 26.3 (5.8)	4,527 27.2 (5.9)	4,975 28.1 (5.9)	***
	Median (25th, 75th)	26.0 (23, 31)	25.0 (22, 30)	26.0 (23, 31)	27.0 (24, 32)	
Caregiver employment	Yes	7,039 (43.2%)	2,936 (44.0%)	1,956 (42.6%)	2,147 (42.8%)	
Depressive symptoms ^a	Positive screen	3,493 (22.5%)	691 (10.9%)	961 (22.0%)	1,841 (38.5%)	***
Homeowner	Yes	1,743 (10.7%)	767 (11.5%)	501 (10.9%)	475 (9.5%)	**
Breastfeeding history	Yes	10,718 (65.9%)	4,260 (63.9%)	2,981 (65.0%)	3,477 (69.4%)	***
Children in household	n Mean (SD)	16,260 2.3 (1.3)	6,661 2.3 (1.3)	4,586 2.3 (1.3)	5,013 2.4 (1.3)	***
	Median (25th, 75th)	2.0 (1, 3)	2.0 (1, 3)	2.0 (1, 3)	2.0 (1, 3)	
Child age in months	n Mean (SD)	16,320 16.6 (13.4)	6,692 15.1 (13.0)	4,603 16.8 (13.4)	5,025 18.3 (13.5)	***
	Median (25th, 75th)	13.2 (5, 26)	11.6 (4, 23)	13.6 (5, 26)	15.4 (7, 29)	
Low birthweight	<2,500 g	2,058 (12.9%)	861 (13.2%)	600 (13.4%)	597 (12.2%)	
WIC	Yes	12,589 (77.5%)	5,171 (77.7%)	3,560 (77.8%)	3,858 (77.1%)	
SNAP	Yes	10,805 (66.6%)	4,162 (62.8%)	3,074 (67.2%)	3,569 (71.3%)	***
LIHEAP	Yes	2,779 (17.6%)	843 (13.0%)	779 (17.5%)	1,157 (23.7%)	***
TANF	Yes	3,763 (23.3%)	1,416 (21.4%)	1,063 (23.3%)	1,284 (25.7%)	***
Current subsidized housing	Yes	3,081 (18.9%)	1,056 (15.8%)	920 (20.0%)	1,105 (22.0%)	***
Number of hardships	n Mean (SD)	16,320 1.1 (1.2)	6,692 0.0 (0.0)	4,603 1.0 (0.0)	5,025 2.6 (0.7)	***
	Median (25th, 75th)	1.0 (0, 2)	0.0 (0, 0)	1.0 (1, 1)	2.0 (2, 3)	
Housing instability	Yes	4,275 (27.7%)	0 (0.0%)	953 (22.1%)	3,322 (69.7%)	***
Household food insecurity	Yes	4,457 (27.3%)	0 (0.0%)	1,112 (24.2%)	3,345 (66.5%)	***
Child food insecurity	Yes	2,078 (12.7%)	0 (0.0%)	431 (9.4%)	1,647 (32.8%)	***
Energy insecurity	Yes	3,633 (22.5%)	0 (0.0%)	851 (18.7%)	2,782 (55.8%)	***
Healthcare hardship	Yes	5,248 (32.2%)	0 (0.0%)	1,675 (36.4%)	3,573 (71.1%)	***

Source: Children'sHealthWatch Data, 2012–2017.

Note: Asterisks indicate statistical significance (** $p < 0.01$ and *** $p < 0.001$).

LIHEAP, Low Income Home Energy Assistance Program; SNAP, Supplemental Nutrition Assistance Program; TANF, Temporary Assistance for Needy Families; WIC, Special Supplemental Nutrition Program for Women, Infants, and Children.

^aAsked of female caregivers only.

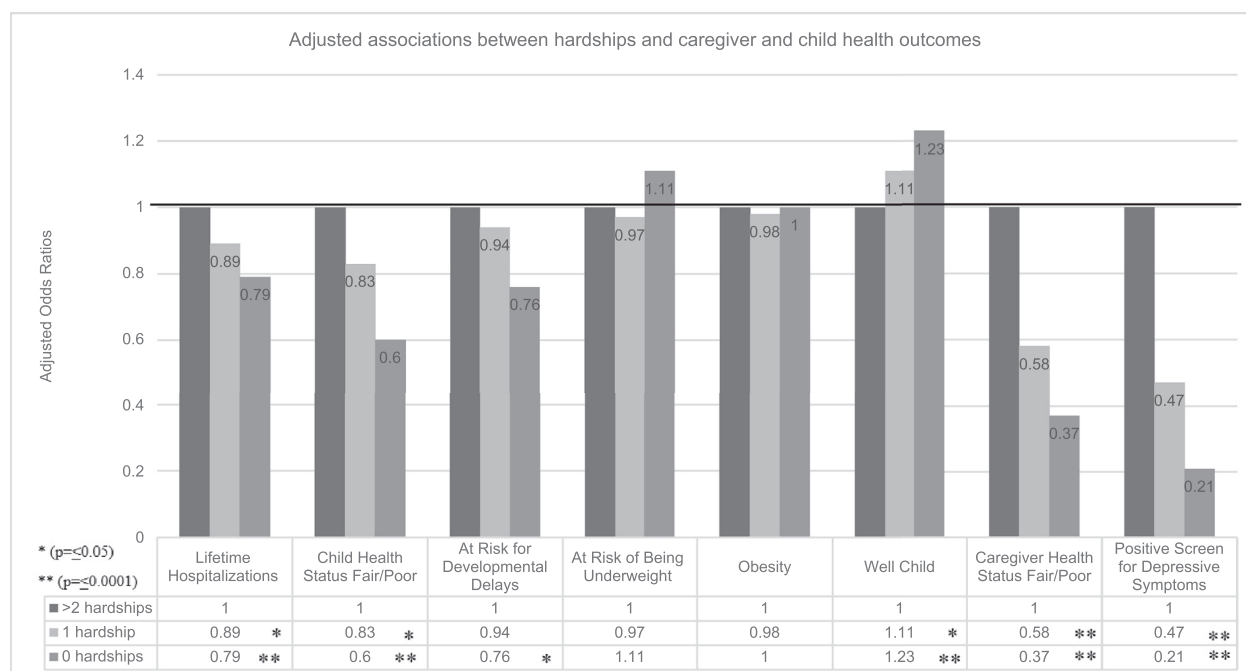


Figure 2. Adjusted associations between hardships and caregiver and child health outcomes.

Hardship-free households continue to experience many of the conditions associated with poverty. Despite the protection associated with hardship-free households, children and caregivers have many health risks that could jeopardize their subsequent health and wellness. A challenge for the future is to identify the strengths and

supports that protect families with limited resources from material hardships.³⁰

The more pronounced magnitude of effect for caregiver outcomes than for child outcomes suggests that caregivers may serve as buffers for their children, prioritizing children's needs over their own when resources

Table 2. Adjusted Associations Between Hardships and Caregiver and Child Health Outcomes.

Outcomes	n=6,692 (41.0%) 0 hardships (95% CI)	n=4,603 (28.2%) 1 hardship (95% CI)	n=5,025 (30.8%) ≥2 hardships
Child health outcomes			
Lifetime hospitalizations	0.79 (0.72, 0.86) ***	0.89 (0.81, 0.98) *	1.00
Child health status fair/poor	0.60 (0.53, 0.69) ***	0.83 (0.73, 0.95) *	1.00
At risk for developmental delays	0.76 (0.65, 0.88) **	0.94 (0.81, 1.10)	1.00
At risk of being underweight ^a	1.11 (0.98, 1.25)	0.97 (0.85, 1.11)	1.00
Obesity ^b	1.00 (0.90, 1.12)	0.98 (0.88, 1.11)	1.00
Well child ^c	1.23 (1.12, 1.35) ***	1.11 (1.00, 1.22) *	1.00
Child oral health status fair/poor ^d	0.55 (0.46, 0.68) ***	0.77 (0.63, 0.93) **	1.00
Caregiver health outcomes			
Caregiver health status fair/poor	0.37 (0.33, 0.40) ***	0.58 (0.53, 0.64) ***	1.00
Positive screen for depressive symptoms ^e	0.21 (0.19, 0.23) ***	0.47 (0.43, 0.52) ***	1.00

Source: Children's HealthWatch Data, 2012–2017.

Note: Boldfaces indicate statistical significance (*p<0.05, **p<0.01, and ***p<0.001).

Adjusted models control for site, caregiver nativity, race/ethnicity, marital status, employment, education, age, homeownership, breastfeeding history, number of children in the household, child low birth weight, and age.

^aWeight for age <5th% or weight for height <10th%.

^bWeight for age >90th%.

^cComposite variable incorporates child hospitalizations, health status, developmental risk, and anthropometry.

^dSample n=12,705 because this question is not asked for children aged <4 months.

^eAsked of female caregivers only.

Table 3. Adjusted Associations Between Hardships and Caregiver and Child Health Outcomes, Including Adjustment for Public Program Participation.

Outcomes	n=6,692 (41.0%) 0 hardships (95% CI)	n=4,603 (28.2%) 1 hardship (95% CI)	n=5,025 (30.8%) ≥2 hardships (ref)
Child health outcomes			
Lifetime hospitalizations (yes/no)	0.79 (0.72, 0.87) ***	0.90 (0.81, 0.99) *	1.00
Child health status fair/poor	0.60 (0.53, 0.69) ***	0.84 (0.73, 0.96) *	1.00
At risk for developmental delays	0.76 (0.65, 0.89) **	0.95 (0.81, 1.10)	1.00
At risk of being underweight ^a	1.09 (0.96, 1.23)	0.98 (0.85, 1.12)	1.00
Obesity ^b	1.01 (0.91, 1.13)	0.99 (0.88, 1.11)	1.00
Well child ^c	1.23 (1.13, 1.35) ***	1.11 (1.00, 1.22) *	1.00
Child Oral Health Status Fair/Poor ^d	0.57 (0.46, 0.69) ***	0.78 (0.64, 0.95) **	1.00
Caregiver health outcomes			
Caregiver health status fair/poor	0.37 (0.34, 0.41) ***	0.59 (0.54, 0.65) ***	1.00
Positive screen for depressive symptoms ^e	0.21 (0.19, 0.24) ***	0.47 (0.43, 0.52) ***	1.00

Source: Children's HealthWatch Data, 2012–2017.

Note: Boldfaces indicate statistical significance (* $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$).

Adjusted models control for site, WIC participation, SNAP participation, TANF participation, subsidized housing, caregiver nativity, race/ethnicity, marital status, employment, education, age, homeownership, breastfeeding history, number of children in the household, child low birth weight, and age. SNAP, Supplemental Nutrition Assistance Program; TANF, Temporary Assistance for Needy Families; WIC, Special Supplemental Nutrition Program for Women, Infants, and Children.

^aWeight for age <5th% or weight for height <10th%.

^bWeight for age >90th%.

^cComposite variable incorporates child hospitalizations, health status, developmental risk, and anthropometry.

^dSample $n = 12,705$ because this question is not asked for children aged <4 months.

^eAsked of female caregivers only.

are scarce. This buffering effect has been observed in prior studies of food insecurity, where adults often reduce their own intake before restricting children's food.³¹ The significant associations observed for the well-child composite variable, which incorporates multiple individual health indicators, suggest that hardship-free status may have a broad protective effect across multiple domains of child health and development rather than being limited to specific outcomes.

Children in families with 0 hardships or 1 hardship were less likely to experience hospitalizations and risk for developmental delay and were more likely to be in good health, have good oral health, and be considered a well child than children in families with ≥2 hardships. Similarly, caregivers with 0 hardships or 1 hardship were at lower risk of fair/poor health and depressive symptoms. Findings related to child health and hospitalizations and caregiver health and depressive symptoms are suggestive of a dose–response relationship in the increasing odds of poor outcomes from no hardships to 1 hardship.

The authors did not observe significant associations between hardship status and anthropometric outcomes (underweight and obesity). Associations between food security in the U.S. and young children's underweight and obesity have been inconsistent.^{13,32} One explanation for the null association with anthropometric outcomes may be that growth is influenced by longer-term processes that are less sensitive to current hardship status

than outcomes such as health status and healthcare utilization.

Study findings reinforce the importance of investing in evidence-based policies and practices that prevent and alleviate hardship and thus promote health equity among families with low incomes. The proportion of caregivers participating in SNAP, TANF, and subsidized housing differed by <9% between the hardship-free group and the group experiencing ≥2 hardships, with no difference in WIC participation. The supplementary analysis examining the role of public assistance program participation (Table 3) provides important insights into the mechanisms underlying the relationship between material hardships and health outcomes. The consistency of findings when controlling for WIC, SNAP, TANF, and subsidized housing participation suggests that current safety-net programs—although important for family welfare, given prior research demonstrating significant reductions in a variety of material hardships related to participation in SNAP, WIC, subsidized housing, TANF, and Low-Income Home Energy Assistance Program—do not fully mediate the health impacts of material hardships.^{33–39}

Among families with ≥2 hardships, needs may have surpassed the resources that benefits could provide, thus the inability to alleviate the health of children and caregivers at risk. Many public programs are insufficiently funded and do not reach all families in need owing to structural barriers, policies that exclude families with

immigrant members, stigma, and a lack of adequate funding.^{40,41} Pediatric providers have opportunities to advocate for increased program services and coverage and to screen patient families for social needs and offer referrals to programs and supports.^{42,43} Ideally, these referrals are made with warm hand-offs and reliably effective resources available on the other end of the connection.⁴⁴ This study's findings also highlight how oral health is associated with material hardships; ensuring access to basic needs as well as comprehensive oral health care could improve the overall physical and oral health of children.⁴⁵

A critical issue driving the presence of material hardships is a fundamental lack of adequate income to support families. Policies that provide unrestricted cash transfers have been shown to be effective in addressing material hardship and improving short- and long-term health outcomes. The Child Tax Credit (CTC) and Earned-Income Tax Credit are evidence-based cash transfers associated with health benefits. These tax credits have been shown to lift families with children—particularly families of color—above the poverty line and alleviate or prevent the experience of multiple hardships by providing the opportunity to spend money in ways that best fit their needs.^{46–49} Research demonstrates additional positive health and antipoverty effects of temporary changes to the Earned-Income Tax Credit and CTC and direct cash assistance provided through the American Rescue Plan Act.⁵⁰ Prioritizing policies that respond to experiences of material hardship by boosting family resources and expanding benefits to reach more families could alleviate adverse health consequences.⁵¹ However, cash transfers such as the CTC or guaranteed income are most effective when provided in addition to—not instead of—public assistance programs.⁵²

Limitations

This study's strengths include a large geographically and racially and ethnically diverse sample of urban families with young, publicly insured children. Limitations include the cross-sectional design, allowing associations but not causal interpretations nor direction of effect. Although the authors hypothesized that family members in hardship-free households would have better health and child healthcare utilization than families experiencing multiple hardships, the authors cannot rule out reverse causation: that families with poor child or caregiver health have increased hardship through increased healthcare expenses or less ability to participate in employment and to access public support programs. Thus, bidirectional relationships should be examined in future research.⁵³ This study uses a sentinel sample from

safety-net hospitals, which is not nationally representative. The findings may not generalize to populations with higher SES or those in countries with different healthcare and social welfare systems. However, the multisite sample strengthens the external validity of the findings in the context of low-income families with young children in urban settings. Multiple measures were self-reported by caregivers, increasing the possibility of self-report bias. However, the use of standardized instruments, systematic data collection, and trained interviewers reduces the likelihood of bias. Furthermore, parent-reported health status measures have been validated as reliable predictors of healthcare utilization and future health outcomes in multiple studies.^{54,55} Study data predate the coronavirus disease 2019 (COVID-19) pandemic but may provide a stable baseline, allowing clear analysis of long-term trends without the potentially anomalous social disruptions and behavioral changes introduced by the pandemic.

Although this study focuses on 4 common material hardships, families may have experienced additional hardships that were not measured and included in this analysis. The approach of examining hardships as a composite measure has both strengths and limitations. Although it allows the understanding of the cumulative burden of multiple hardships, it may obscure nuanced relationships between specific types of hardships and particular health outcomes. Authors' prior research has examined interactions between specific types of hardships and their differential relations with various health domains, complementing the broader understanding provided by this composite approach.^{3–5,10,19,20}

CONCLUSIONS

Living in a household free of 4 prevalent material hardships may protect health for young children and their caregivers. Households with publicly insured young children who are hardship free were significantly less likely to have negative child and caregiver health outcomes than families with ≥ 2 hardships. Study findings complement existing deficits-based research by demonstrating the potential protective nature of hardship-free status and a gradient effect across hardship levels. This evidence supports multifaceted approaches to hardship prevention rather than only targeted interventions for families with multiple hardships. Further research to understand strengths in hardship-free households is important. In addition, a deeper understanding of the impact of programs and services in preventing and alleviating hardships and strategies to eliminate or reduce hardships across multiple domains through public policies, programs, and investments in the material well-

being of families with young children may advance health equity for families with low incomes.

CREDIT AUTHOR STATEMENT

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