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SHORT COMMUNICATION

Gastroenterology

Social risk factors in pediatric gastroenterology

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Abstract

Little information exists about social risk among pediatric gastroenterology, hepatology, and nutrition (PGHN) patients. The goal of this study was to examine racial and ethnic differences in social risk among Medicaid-insured PGHN patients. Electronic health records from 1341 patients between May 2022 and February 2024 with responses to the Accountable Health Communities screening tool were included. The main outcome was presence of any social risk. To test the hypothesis that racial and ethnic differences in social risk exist, logistic regression adjusting for child age, sex, and preferred language was used. Overall, 29% of patients reported a social risk. Compared to non-Hispanic white patients, patients with Hispanic/Latino, Black, other, and missing race and ethnicity had higher odds of reporting social risks. To promote health equity, better understanding of effective, holistic strategies to integrate social care into PGHN care is warranted.

KEYWORDS

food insecurity, social needs, social risk screening

1 | INTRODUCTION

Social risks such as food insecurity adversely affect health outcomes among children with gastrointestinal, nutrition, and liver diseases.[1,2] To improve health equity, screening for health-related social needs is a new accreditation requirement, and experts recommend better understanding of social risks among children seeking subspecialty care.[3] While social drivers of health refer to the broader structural and community-level conditions affecting health, social risks refer to individual-level adverse factors shaping health outcomes.[4,5] A previous cross-sectional study in adult primary care showed that non-Hispanic Black and Hispanic/Latino adult patients are more likely to report social risks than non-Hispanic white patients, though less is known about social risks among pediatric patients in subspecialty care.[6] The goal of this study was to describe the frequency of social risk among patients receiving clinical care in pediatric gastroenterology, hepatology, and nutrition (PGHN) and to test the hypothesis that racial and ethnic differences in social risk exist. Secondarily, racial and ethnic differences in specific social risk types (food insecurity, housing instability, and transportation needs) were explored.

2 | METHODS

2.1 | Ethics statement

The Columbia Institutional Review Board approved this study. The principal author affirms that: Studies

For affiliations refer to page 5.

[Correction added on 17 January 2026, after first online publication. Article format has been updated.]

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involving human subjects conform to the principles of the Declaration of Helsinki of the World Medical Association (Clinical Research 1966; 14:103) and meet all of the requirements governing informed consent of the country in which it was performed. Human subjects were not exposed to risk not required by their medical needs and the study was approved by an appropriate review committee.

2.2 | Study design and participants

NewYork-Presbyterian/Columbia University Irving Medical Center (NYP/CUIMC) is a large, academic medical center in New York City (NYC). NYP/CUIMC implemented social risk screening as part of routine pediatric clinical care in ambulatory primary care, emergency medicine, and inpatient settings for Medicaid-insured patients. In this retrospective study, prospectively collected electronic health record data between May 2022 and February 2024 were used. Eligibility included patient age <21 years, completed social risk screening, and at least one outpatient visit in PGHN with an attending physician. Patients without social risk screening were excluded. Within this PGHN practice, about 50% of patients are insured by Medicaid. Therefore, the cohort included in this study represents a subset population of the overall practice.

2.3 | Measures

The main outcome was parental report of any social risk measured using three domains (food, housing, and transportation) of the Centers for Medicare & Medicaid Services Accountable Health Communities (AHC) Screening Tool.[7] NYP/CUIMC selected these three domains for use as part of routine clinical care based on patient and provider input. Food insecurity was measured with the validated Hunger Vital Sign 2-item questionnaire.[8] Housing instability and transportation needs were measured with adaptations to the Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences assessment tool for housing instability and transportation needs.[9] Parents reported patient race and ethnicity for children age <18 years and patients age 18 years or older self-reported race and ethnicity. Race and ethnicity responses were combined and categorized as Hispanic/Latino, non-Hispanic Black, non-Hispanic white, non-Hispanic other race, and declined race and ethnicity responses. Responses including Asian, American Indian or Alaska Nation, and Other were grouped together as non-Hispanic other race based on the small sample size of each of these groups in our cohort. Those who declined to provide race and ethnicity were included in this study as their own group because they may represent a unique population.

What is Known

- Social risks such as food insecurity adversely affect health outcomes among children with gastrointestinal, nutrition, and liver diseases.
- Little information exists about racial and ethnic disparities in social risk among PGHN patients.

What is New

- Almost one-third of Medicaid-insured patients with social risk screening in a multi-site PGHN practice experienced a social risk, and racial and ethnic disparities in social risk existed.
- Evidence on how to effectively integrate social care into PGHN can inform efforts to advance health equity.

2.4 | Statistical analysis

Descriptive and univariate statistics were used to examine patient characteristics, overall social risk, and the distribution of social risk according to patient race and ethnicity. Social risk was analyzed as a dichotomous outcome. Those who reported a social risk on at least one screening during the study period were categorized as "ever" having a social risk. Those who never reported a social risk during the study period were categorized as "never" having a social risk. The same definition was applied to secondary outcomes (social risk types including food insecurity, housing instability, and transportation needs). In unadjusted and adjusted multivariable logistic regression, the relationships of race and ethnicity with outcomes were examined. The adjusted models included the covariates of age (as a continuous variable), sex (male or female), and preferred language (English, Spanish, or Other).

3 | RESULTS

Table 1 displays characteristics of the study population. Among 1341 unique patients included in the study, mean age was 8.3 years (standard deviation [SD] 6.2), about half were male (55%), most (65%) identified English as their preferred language, and most reported Hispanic or Latino ethnicity (63%). Overall, 29% ever

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had a social risk. Food insecurity (19%) and housing instability (17%) were reported most often, and 13% reported transportation needs.

Table 2 shows distribution of social risks according to patient race and ethnicity. For the main outcome of any social risk during the study period, Hispanic/Latino patients (adjusted odds ratio [AOR] 6.53, 95% confidence interval [CI]: 4.33, 9.84), non-Hispanic Black patients (AOR 5.81 [95% CI: 3.66, 9.22]), non-Hispanic other race patients (AOR 2.23 [95% CI: 1.27, 3.91]), and those whose parents declined to respond to race and ethnicity questions (AOR 3.15 [95% CI: 1.83, 5.44]) had higher likelihood of reporting any social risk compared to non-Hispanic white patients in both unadjusted and adjusted models. For secondary outcomes of food insecurity and housing instability, Hispanic/Latino patients, non-Hispanic Black patients, non-Hispanic other race patients, and those with declined response to race and ethnicity questions were more likely to report food insecurity and housing instability than non-Hispanic white counterparts in unadjusted and adjusted models. For transportation needs, Hispanic/Latino and non-Hispanic Black patients were more likely to report transportation needs than non-Hispanic white counterparts in all models. Those with non-Hispanic other race or declined response to race and ethnicity questions did not have consistently significant differences in transportation needs compared to non-Hispanic white counterparts.

4 | DISCUSSION

In this study at an urban, academic medical center in NYC, nearly one-third of Medicaid-insured PGHN patients had a social risk during the study period. Patients with any race and ethnicity other than non-Hispanic white were more likely to endorse any social risk compared to non-Hispanic white counterparts, with the association remaining significant even after adjusting for age, sex, and primary language. These findings are descriptive in nature but are among the first to examine several social risks among Medicaid-insured patients seen in a large PGHN practice.

Children living with chronic, complex diseases have a high burden of social risks and may benefit from screening and addressing social risks in subspecialty care.[10,11] For example, an intervention addressing social risk for adolescents with Type 2 Diabetes Mellitus found that caregivers cited frequent medical visits as contributors to transportation difficulties and general financial strain.[12] Screening for social risk within a pediatric rheumatology clinic identified that 61% of screened patients endorsed a social risk, though this study used a broader definition of social risk than the current study.[13] Patients with chronic diseases interface with the healthcare system through subspecialty visits, offering opportunities for providing social care to address their needs. Our results add to this literature to suggest that social risk is common in this urban clinical subspecialty practice based on questions administered in primary care, the emergency department, and inpatient settings. A holistic approach should be considered to limit the burden of care with redundant screening questions on patients and their caregivers while filling gaps in social risk screening among patients without screening data.

Similar to a study of pediatric metabolic dysfunction-associated steatotic liver disease (MASLD) patients, food insecurity was the most prevalent social risk factor in this study.[14] Food insecurity is highly relevant in PGHN, where nutritional interventions are key components of treatment of eosinophilic esophagitis, obesity, celiac disease, inflammatory bowel disease, MASLD, and other conditions. Housing instability was the second most reported social risk, likely reflecting

TABLE 1 Demographic characteristics of pediatric patients receiving care at a pediatric gastroenterology, hepatology and nutrition practice in New York City between May 2022 and February 2024.

	Overall ($N = 1341$)	Hispanic or Latino ($n = 856$)	Black, non-Hispanic ($n = 140$)	Other, non-Hispanic ($n = 98$)	Declined ($n = 70$)	White, non-Hispanic ($n = 177$)
Child characteristic						
Age, mean (SD), years	8.3 (6.2)	8.7 (5.9)	7.0 (5.8)	7.8 (6.9)	7.6 (5.8)	7.9 (7.0)
Sex, *n* (%)						
Female	608 (45%)	391 (46%)	69 (49%)	53 (54%)	26 (37%)	69 (39%)
Male	733 (55%)	465 (54%)	71 (51%)	45 (46%)	44 (63%)	108 (61%)
Language, *n* (%)						
English	870 (65%)	460 (54%)	128 (91%)	73 (74%)	46 (66%)	163 (92%)
Spanish	420 (31%)	390 (46%)	2 (1.4%)	1 (1%)	21 (30%)	6 (3.4%)
Other	51 (4%)	6 (0.7%)	10 (7.1%)	24 (24%)	3 (4.3%)	8 (4.5%)

Abbreviation: SD, standard deviation.

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TABLE 2 Racial and ethnic differences in social risks in pediatric patients receiving care at a pediatric gastroenterology, hepatology and nutrition program in New York City between May 2022 and February 2024.

Social risk (*N* = 1341)	%	Unadjusted OR (95% CI)	Adjusted[a] OR (95% CI)
Any social risk			
Hispanic or Latino	36	8.17 (5.47, 12.19)	6.53 (4.33, 9.84)
Black, non-Hispanic	31	5.81 (3.66, 9.21)	5.81 (3.66, 9.22)
Other, non-Hispanic	11	2.18 (1.25, 3.79)	2.23 (1.27, 3.91)
Declined	16	3.68 (2.14, 6.31)	3.15 (1.83, 5.44)
White, non-Hispanic	7	Ref	Ref
Food Insecurity			
Hispanic or Latino	24	13.24 (6.75, 25.97)	9.20 (4.64, 18.21)
Black, non-Hispanic	16	7.95 (3.84, 16.47)	8.01 (3.86, 16.63)
Other, non-Hispanic	6	2.75 (1.15, 6.61)	2.88 (1.19, 6.98)
Declined	14	6.85 (3.09, 15.18)	5.30 (2.37, 11.83)
White, non-Hispanic	2	Ref	Ref
Housing Instability			
Hispanic or Latino	21	9.07 (5.14, 16.02)	7.04 (3.94, 12.55)
Black, non-Hispanic	18	7.75 (4.16, 14.42)	7.85 (4.21, 14.63)
Other, non-Hispanic	6	2.53 (1.19, 5.38)	2.69 (1.25, 5.75)
Declined	10	4.43 (2.17, 9.05)	3.69 (1.80, 7.59)
White, non-Hispanic	3	Ref	Ref
Transportation Needs			
Hispanic or Latino	16	5.04 (2.84, 8.93)	4.31 (2.40, 7.75)
Black, non-Hispanic	18	4.80 (2.54, 9.09)	4.74 (2.50, 8.99)
Other, non-Hispanic	4	2.20 (1.01, 4.76)	2.16 (0.99, 4.73)
Declined	9	1.98 (0.87, 4.47)	1.75 (0.77, 3.99)
White, non-Hispanic	5	Ref	Ref

Note: The sample included the following race/ethnicity groups: 856 individuals who identified as Hispanic or Latino; 140 individuals who identified as Black, non-Hispanic; 98 individuals who identified as Other, non-Hispanic; 70 individuals who declined to answer; and 177 individuals who identified as white, non-Hispanic.

Abbreviations: CI, confidence interval; OR, odds ratio; Ref, reference group.

[a]Adjusted for patient age, sex, and language.

the study setting of NYC, where about 1 in 2 families are rent burdened.[15] For patients receiving care within PGHN, housing instability may pose significant barriers to clinical management, including disruptions in routine delivery and storage of specialized formulas, medications, parenteral nutrition, and enteral tube or central line supplies, as well as the need for a stable environment for post-procedural care and recovery. Transportation difficulties were less frequent. This study took place in New York City where public transportation is abundant, and Medicaid-insured patients are eligible for non-emergency transportation to medical appointments in the form of subway MetroCards, private car services, ambulance, or personal vehicle mileage reimbursement, which may partially mitigate transportation barriers.[16]

Our results add to the literature by showing that racial and ethnic differences in social risk identified in this study sample existed despite inclusion of only Medicaid-insured patients. Drivers of inequities, including structural racism and immigration-related barriers, should be considered as potential contributors, as highlighted in prior research.[17] Although caution should be used to interpret the strength of the association given the wide confidence intervals for some outcomes in the current study, similar disparities in social factors have been described in adult clinical populations, making these findings plausible.[6] Taken together, our results support the need to identify and address social risk factors to reduce known racial and ethnic disparities in health and healthcare outcomes among PGHN patients.[18]

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The integration of social care within pediatric subspecialty contexts benefits from the lessons learned within primary care. Strategies that have been shown to be effective include embedding standardized screening into clinical workflows, developing clear referral pathways with mechanisms for closed-loop follow-up, ensuring high-quality resources are available to address any social risk, and designating specific personnel to oversee the different aspects of the social care process to minimize administrative burden.[19,20] Key areas for future research include understanding how social care frameworks can be sustainably adapted to pediatric subspecialty settings in coordination with primary care efforts, and how these models impact patient outcomes.

There are several limitations to this study. First, data from a single healthcare system in NYC may not be representative of other healthcare systems or patient populations. Second, social risk screening within primary care, emergency medicine, and inpatient settings was used because subspecialty screening data did not exist in this healthcare system. Thus, the study sample does not comprehensively represent the subspecialty population, with included patients limited to those who were insured by Medicaid. Patients who were underinsured or low-income but who don't qualify for Medicaid were not included in this analysis. Third, data to examine diagnoses, insurance status, zip code, education level, income, or medical complexity of patients were unavailable, all of which may impact the report of social risk. Fourth, sample sizes for some subgroups were small, limiting precision in results. Finally, the use of self-reported social risk screening data may introduce underreporting of social risk secondary to social desirability bias. Despite these limitations, this is among the first studies to describe the distribution of multiple social risk factors within the subspecialty context of PGHN.

5 | CONCLUSION

In this group of PGHN patients, social risks are common, with racial and ethnic disparities apparent. These findings support the need to identify effective ways to integrate social care into PGHN practices as a strategy to promote health equity and address systemic disparities.

AFFILIATIONS

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

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