Social Needs Screening and Subsequent Acute Care Utilization in a Large Safety-Net Health System: A Retrospective Cohort Study

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ABSTRACT

BACKGROUND: Health systems increasingly screen for patients' social needs, but evidence is limited on which specific needs are most associated with subsequent acute care use.

OBJECTIVE: To examine associations between patient-reported social needs and subsequent acute care utilization in a large safety-net population.

DESIGN: Retrospective cohort study linking 2023 social needs screening data from a large safety-net health system to longitudinal electronic health records from a multi-health system clinical research network.

PARTICIPANTS: 20,337 adults with a primary care visit who completed social needs screening in 2023.

MAIN MEASURES: Exposures were positive screening for nine social needs domains (e.g., transportation-related delayed care). Outcomes were any hospitalization, any ED visit, preventable hospitalization, and preventable ED visit. Multivariable logistic regression adjusted for demographics, comorbidities, and neighborhood social conditions.

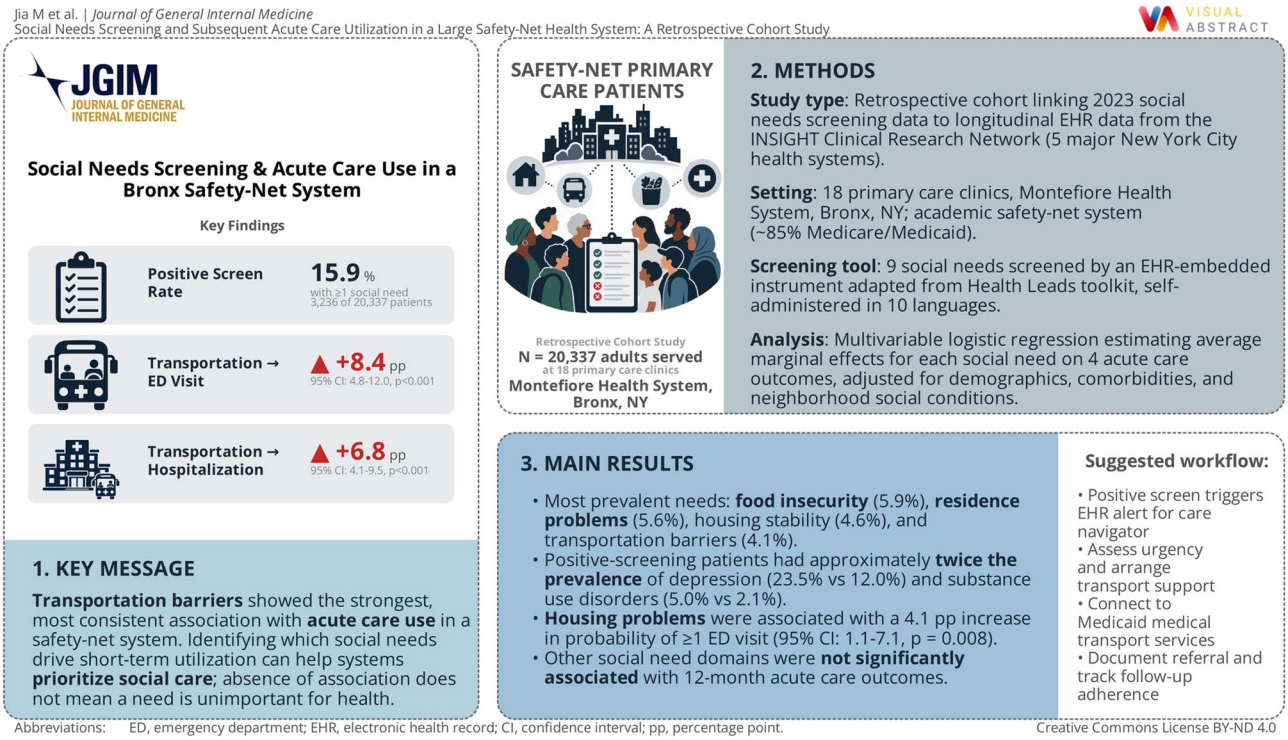
KEY RESULTS: Overall, 15.9% screened positive for ≥ 1 social need. The most prevalent needs were food insecurity (5.9%) and problems with residence (5.6%), followed by housing stability concerns (4.6%) and transportation barriers (4.1%). After covariate adjustment, transportation-related delayed care was associated with a 6.8-percentage-point increase in the probability of having ≥ 1 hospitalization (95% CI, 4.1 to 9.5; $p<0.001$), an 8.4-percentage-point increase in the probability of having ≥ 1 ED visit (95% CI, 4.8 to 12.0; $p<0.001$), a 1.2-percentage-point increase in the probability of having ≥ 1 preventable hospitalization (95% CI, 0.1 to 2.3; $p=0.04$), and a 4.2-percentage-point increase in the probability of having ≥ 1 preventable ED visit (95% CI, 1.6 to 6.7; $p=0.002$). A positive screening for housing-related problems was associated with increased probability of having ≥ 1 ED visit. Other domains were not significantly associated with outcomes.

CONCLUSIONS: In a safety-net setting, transportation barriers showed the strongest and most consistent associations with subsequent acute care use. Targeted transportation and care-navigation strategies may be critical components of social care interventions.

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Graphical Abstract



KEY WORDS: social determinants of health; acute care utilization; social needs screening

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INTRODUCTION

Social determinants of health (SDoH), the non-medical conditions in which people live, work, and age, along with access to power, money, and resources, strongly shape health and health outcomes.[1] Evidence suggests that SDoH account for up to 80% of health outcomes and are strongly associated with healthcare quality, utilization, and racial/ethnic disparities.[2–6] Improving clinical outcomes and population health therefore requires addressing social risks alongside clinical risks. Yet SDoH have historically been poorly documented in electronic health records (EHRs) and other clinical datasets. In response, neighborhood-level SDoH, such as ZIP code or census tract social conditions (e.g., the Area Deprivation Index),[7,8] have been used to infer social risks for health outcomes. While these measures illuminate critical environmental disadvantages and help target high-risk areas, they miss the nuanced, individual-level circumstances that impact health outcomes and risk ecological fallacy.[9,10]

Emerging policy initiatives aim to close this gap by capturing individual social risk factors during routine clinical encounters, aiming to integrate it more effectively into clinical workflows.[11] For example, ICD-10-CM Z codes were introduced in 2015 to capture social risks such as housing instability and food insecurity.[12,13] However, these codes remain underused: only 2% of hospitalized Medicare beneficiaries had any Z-code documented during hospitalization in 2022.[14] To address this data gap, the Centers for Medicare & Medicaid Services (CMS) and other insurers have actively promoted social needs screening through models like the Accountable Health Communities. These screening efforts use standardized tools to identify health-related social needs, which often refer to patients' immediate unmet social risks such as food insecurity and housing instability. Identifying these needs can support referrals to community resources and strengthen collaboration between healthcare providers and social service organizations to improve health outcomes.[15,16]

In a pay-for-performance environment, many health systems aim to address social needs to prevent acute care use, particularly avoidable emergency department (ED) visits and hospitalizations.[17,18] Unmet social needs may increase acute care use by creating barriers to disease management and timely access to outpatient care. However, these pathways may differ across social needs: some may be closely associated with near-term ED visits or hospitalizations, whereas others may affect health gradually or through disease-specific mechanisms that do not result in acute care use in a short term. Although prior studies have documented associations between social risk and healthcare utilization, less is known

about how specific patient-reported social needs differ in their relationships with subsequent acute care use.

Understanding which social needs are most proximally associated with short-term acute care use can help health systems prioritize resources, tailor referral and interventions, and interpret screening results more appropriately. Importantly, a lack of association with acute care use over a shorter period should not be interpreted as evidence that a social need is unrelated to health. Rather, examining differences across social needs can clarify which needs may be useful for identifying near-term utilization risk and which may require different outcomes or longer follow-up periods to capture their health effects.

In this study, we linked patient-reported social needs screening data from a large safety-net health system to EHR data from a clinical research network to examine the association between social needs and acute care use during the 12 months following screening. This study adds to existing knowledge by comparing the associations of multiple social needs with subsequent acute care use within a large safety-net population. Findings may inform EHR-based approaches for identifying patients at elevated risk of near-term acute care use and triggering targeted social service interventions.

METHODS

Study Sample and Data

We used 2023 social needs screening data from 18 primary care clinics affiliated with the ambulatory care network of the Montefiore Health System, an academic health system in Bronx, New York. Montefiore's ambulatory care network serves more than 460,000 patients in the Bronx, a borough of ~ 1.4 million residents with the highest poverty rate in New York State. As a safety-net health system, Montefiore serves a population in which ~ 85% of patients are covered by Medicare or Medicaid.

Beginning in April 2018, Montefiore implemented a standardized social needs screening tool adapted from the Health Leads toolkit and embedded in the EHR across the ambulatory care network. The tool is available in ten languages and is designed for patient self-administration. Clinician teams developed standardized workflows but retained discretion over which patients to screen and how frequently, resulting in variation in screening coverage across practices. Patients who screen positive are connected to embedded community health workers, social workers, or an online directory of social service resources, depending on patient preference and site resources.[19]

We linked individual-level social needs screening data and census tract-level SDoH from the 2019–2023 American Community Survey to EHR data from the INSIGHT Clinical Research Network—an EHR repository funded by the Patient-Centered Outcomes Research Institute that includes EHR data from five major New York City (NYC) health systems, including Montefiore/Einstein, NewYork-Presbyterian/Columbia, NewYork-Presbyterian/Weill Cornell Medicine, Mount Sinai, and New York University Langone Health.[20] INSIGHT provides a common data model capturing clinical encounters across participating systems, providing a more complete picture of acute care use than EHR data from a single health system, an advantage that is especially salient in NYC's highly competitive healthcare market. Social needs screening data was linked to EHRs using de-identified pseudo patient IDs, and neighborhood SDoH were linked via geocoded residential addresses.

Patients who had a primary care encounter with Montefiore and completed a social need screening in 2023 were eligible for this study. We define the index date as the date of social needs screening. We included adults (≥ 18 years) who completed the screening and had at least one encounter in the 12 months before (baseline) and after (follow-up) the index date with any INSIGHT health systems. Baseline data were used to ascertain comorbidities and other covariates; follow-up data were used to assess acute care use following social needs screening.

Table 1 Outcomes of Social Needs Screening

Social Needs Domain	Screening Question	*N* (%)
HITS	Exposure to hurts, insults, threats, or screams	156 (0.8)
Problems with residence	Problems with place where you live	1,136 (5.6)
Legal assistance needs	Do you need help with legal issues	555 (2.7)
Housing stability concerns	Worried about housing stability in next 2 months	932 (4.6)
Cost barriers to care	Could not see doctor due to cost in past 12 months	685 (3.4)
Childcare problems	Problems getting childcare make work or study difficult	433 (2.1)
Food insecurity	Within the past 12 months we worried whether our food would run out before we got money to buy more	1,192 (5.9)
Utility shutoff threats	Has the electric, gas, oil, or water company threatened to shut off services in your home in past 12 months	659 (3.2)
Transportation barriers	Delayed medical care due to distance or lack of transportation	842 (4.1)
Any positive screening	At least one positive response across all domains	3,236 (15.9)

Social Needs Screenings

We analyzed nine screening items capturing key individual social needs (Table 1): (1) exposure to hurts, insults, threats, or screams (HITS); (2) problems with residence; (3) legal assistance needs; (4) housing stability concerns; (5) cost barriers to care; (6) childcare problems; (7) food insecurity; (8) threatened utility shutoff; (9) transportation-related delayed care. Patients who answered "Yes" to an item were coded as having that social need.

Outcomes

We examined four separate acute care outcomes in any INSIGHT health systems following the social needs screening: (1) number of hospitalizations, defined as any inpatient admission; (2) number of ED visits across outpatient and inpatient settings; (3) number of preventable hospitalizations based on AHRQ Prevention Quality Indicators (PQIs), which identify admissions for ambulatory care-sensitive conditions;[21] (4) number of preventable ED visits using the NYU Billings algorithm,[22] which classifies an ED visit as preventable when the combined probability of the nonemergent, primary-care-treatable, and preventable categories was ≥ 0.75.[21,23,24]

Covariates

We adjusted for patient demographics, clinical characteristics, and census tract-level social conditions measured at baseline. Patient demographics include age categories, sex, and race/ethnicity. We identified 38 comorbidity measures from the Elixhauser Comorbidity Index,[25] using ICD-10-CM diagnoses at baseline, and adjusted for the resulting Elixhauser comorbidity score, a validated weighted summary measure (eTable 1).[26] Finally, we adjusted for 11 census tract-level SDoH indicators, informed by prior literature and our own work on social drivers of chronic conditions (eTable 2).[21,27–29]

Statistical Analysis

We first compared demographics, comorbidities, and other patient characteristics by social needs screening results using χ^2 tests for categorical variables and t tests for continuous variables. To examine the association between positive social needs screening and each acute care use outcome, we fit individual-level logistic regression models estimating the likelihood of experiencing at least one acute care outcome. All models adjusted for the demographic, clinical, and neighborhood social conditions described above. We reported average marginal effects for positive social needs screening, defined as the difference in the adjusted predicted probability of experiencing an acute care encounter of interest for individuals with a positive screening versus those with a negative screening.

We conducted secondary analyses using Poisson regression models in which the outcome was the count of each type of acute care use, and generalized estimating equations (GEE) with robust standard errors and an exchangeable working correlation structure to account for within-neighborhood correlation among patients. We relaxed the cohort inclusion criteria by requiring at least one encounter in the baseline period but not in the follow-up period and repeated the analysis. This study was approved by the Institutional Review Board at Weill Cornell Medicine.

RESULTS

Social Needs Screening Outcomes

Of 27,235 unique patients screened in 2023, 20,337 were included in the final analytic sample after excluding incomplete and duplicate social needs screening (Table 1). The most commonly identified needs were food insecurity (5.9%) and problems with residence (5.6%), followed by housing stability concerns (4.6%) and transportation barriers (4.1%). Other reported needs included cost barriers to care (3.4%), utility shutoff threats (3.2%), legal assistance needs (2.7%), and childcare problems (2.1%). Exposure to hurts, insults, threats, or screams was rare (0.8%).

Patient Characteristics

Table 2 presents overall patient characteristics and characteristics stratified by screening results. Patients with ≥ 1 positive screening were younger on average than those with no positive screening results (mean age 52 vs 55). Sex distribution was similar between groups (female: 73.6%). Race/ethnicity differed significantly: compared with those having no positive screening, patients with ≥ 1 positive were more likely to be Hispanic (50.6% vs 48.4%) and non-Hispanic Black (35.3% vs 31.8%), and less likely to be non-Hispanic White (3.1% vs 5.4%). Patients with ≥ 1 positive screening had more Elixhauser comorbidities (3.6 vs 3.0), though the weighted comorbidity score was similar between groups (1.3 vs 1.7). Several comorbidities were more prevalent in the positive-screening group, including nutritional deficiency anemias (24.2% vs 19.9%) and chronic lung disease (29.1% vs 20.8%). The positive-screening group also had a higher prevalence of behavioral health conditions, including depression (23.5% vs 12.0%), substance use disorders (5.0% vs 2.1%), and psychoses (8.3% vs 4.3%). Patients lived in neighborhoods characterized by varying levels of socioeconomic disadvantage, including housing cost burden, limited educational attainment, unemployment, and limited English-speaking ability.

Table 2 Patient Characteristics, Overall and by Social Needs Screening Outcome

Characteristic	All patients ($N=20,337$)	Patients with ≥ 1 positive screening ($N=3,236$)	Patients with no positive screening ($N=17,101$)	P value
Demographics				
Age, mean (SD)	55 (18)	52 (16)	55 (18)	< 0.001
Age categories, n (%)				< 0.001
18–34	3,488 (17.1)	595 (18.4)	2,893 (16.9)	
35–64	10,037 (49.3)	1,892 (58.5)	8,145 (47.6)	
65 +	6,812 (33.5)	749 (23.1)	6,063 (35.5)	
Sex, n (%)				> 0.05
Female	14,965 (73.6)	2,383 (73.6)	12,582 (73.6)	
Race/Ethnicity, n (%)				< 0.001
Hispanic	9,914 (48.8)	1,636 (50.6)	8,278 (48.4)	
Non-Hispanic Black	6,577 (32.3)	1,141 (35.3)	5,436 (31.8)	
Non-Hispanic White	1,030 (5.1)	100 (3.1)	930 (5.4)	
Other/Unknown	2,816 (13.8)	359 (11.1)	2,457 (14.4)	
Elixhauser comorbidity score	1.7 (12.5)	1.3 (14.0)	1.7 (12.2)	> 0.05
Number of Elixhauser Comorbidities	3.1 (3.1)	3.6 (3.1)	3.0 (3.0)	< 0.001
Select comorbidities, n (%)				
Deficiency anemia	4,182 (20.6)	783 (24.2)	3,399 (19.9)	< 0.001
Depression	2,818 (13.9)	762 (23.5)	2,056 (12.0)	< 0.001
Diabetes (complicated)	3,537 (17.4)	584 (18.0)	2,953 (17.3)	> 0.05
Diabetes (uncomplicated)	4,856 (23.9)	828 (25.6)	4,028 (23.6)	0.01
Substance use disorders	513 (2.5)	162 (5.0)	351 (2.1)	< 0.001
Heart failure	1,672 (8.2)	301 (9.3)	1,371 (8.0)	0.02
Hypertension (complicated)	3,747 (18.4)	623 (19.3)	3,124 (18.3)	> 0.05
Hypertension (uncomplicated)	9,109 (44.8)	1,499 (46.3)	7,610 (44.5)	> 0.05
Chronic lung disease	4,493 (22.1)	942 (29.1)	3,551 (20.8)	< 0.001
Obesity	5,619 (27.6)	1,022 (31.6)	4,597 (26.9)	< 0.001
Psychoses	1,002 (4.9)	270 (8.3)	732 (4.3)	< 0.001
Neighborhood Social Conditions				
No internet access (%)	9.6 (6.1)	9.5 (6.1)	9.6 (6.1)	> 0.05
Uninsured (%)	6.3 (4.3)	6.5 (4.4)	6.3 (4.2)	0.001
Gini index	0.5 (0.1)	0.5 (0.1)	0.5 (0.1)	> 0.05
Household with limited English speaking (%)	14.7 (11.0)	15.1 (11.3)	14.6 (10.9)	0.04
Rent burden > 50% (%)	31.2 (13.3)	31.5 (13.3)	31.2 (13.3)	> 0.05
Unemployment (%)	9.7 (5.7)	9.8 (5.8)	9.7 (5.7)	> 0.05
Living alone 65 + (%)	12.1 (7.4)	11.9 (7.3)	12.1 (7.4)	> 0.05
Long commute > 60 min (%)	45.8 (20.1)	45.1 (20.6)	45.9 (20.1)	0.03
Income below 50% of federal poverty level (%)	10.9 (8.2)	11.2 (8.1)	10.9 (8.2)	> 0.05
Single-parent families (%)	45.8 (24.8)	46.7 (24.5)	45.7 (24.8)	0.04
Less than high school (%)	20.4 (11.5)	20.8 (11.4)	20.4 (11.6)	> 0.05
Acute Care Outcomes during follow-up, n (%)				
Any hospitalization	3,726 (18.3)	661 (20.4)	3,065 (17.9)	< 0.001
Any ED Visit	7,212 (35.5)	1,364 (42.2)	5,848 (34.2)	< 0.001
Any preventable hospitalization	647 (3.2)	130 (4.0)	517 (3.0)	< 0.001
Any preventable ED Visit	3,237 (15.9)	649 (20.1)	2,588 (15.1)	< 0.001

*All covariates (demographics, comorbidities, and neighborhood social conditions) were measured during the 12-month baseline period; acute care outcomes were measured during the 12-month follow-up period. The Elixhauser comorbidity score is a weighted summary measure of comorbidity burden and was the measure adjusted for in regression models; the number of Elixhauser comorbidities is the unweighted count of conditions. Deficiency anemia denotes the Elixhauser measure for anemias due to other nutritional deficiencies, distinct from the separate measure for chronic blood loss (iron deficiency). The Gini index ranges from 0 to 1, with higher values indicating greater inequality. SD, standard deviation; ED, emergency department

During follow-up, overall and preventable acute care use was higher among patients with ≥ 1 positive screening.

Associations Between Social Needs and Acute Care Use

After adjusting for covariates, a positive screening for transportation-related delayed care was associated with higher acute care use (Fig. 1), including a 6.8-percentage-point increase in the probability of having ≥ 1 hospitalization (95% confidence interval [CI]: 4.1 to 9.5 percentage points; $p < 0.001$), an 8.4-percentage-point increase in the probability of having ≥ 1 ED visit (95% CI: 4.8 to 12.0 percentage points; $p < 0.001$), a 1.2-percentage-point increase in the probability of having ≥ 1 preventable hospitalization (95% CI: 0.1 to 2.3 percentage points; $p = 0.04$), and a 4.2-percentage-point increase in the probability of having ≥ 1 preventable ED visit (95% CI: 1.6 to 6.7 percentage points; $p = 0.002$). A positive screening for housing-related problems was associated with a 4.1-percentage-point increase in the probability of having ≥ 1

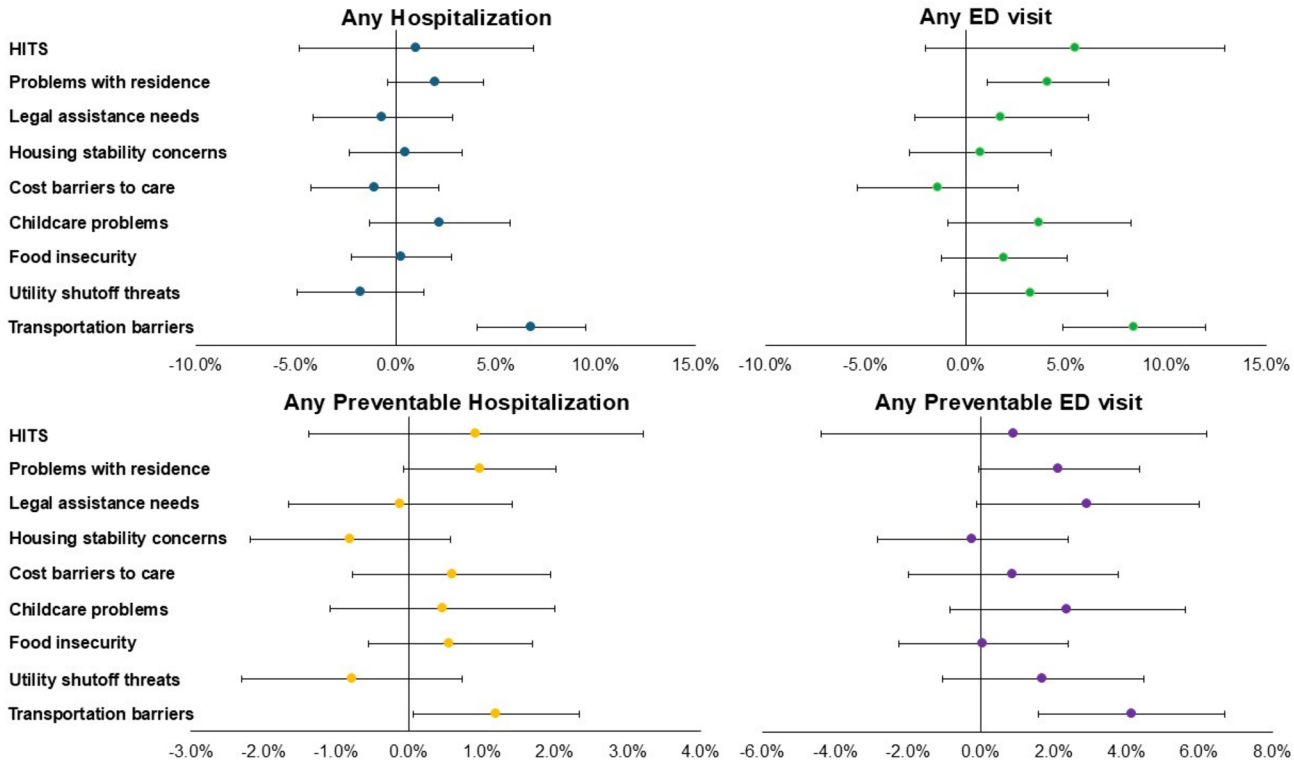


Figure 1 Association between Positive Social Needs Screening and Acute Care Use. Note: * Estimates are average marginal effects (percentage-point change in the adjusted probability of each outcome) for a positive versus negative screen, with 95% confidence intervals; the reference line at zero indicates no association. AME, average marginal effect; CI, confidence interval; ED, emergency department; PQI, Prevention Quality Indicator; HITS, Hurt, Insult, Threaten, Scream.

ED visit (95% CI: 1.1 to 7.1 percentage points; $p = 0.008$). Associations between other social needs domains and acute care use outcomes were not statistically significant.

Results from Secondary Analyses

GEE logistic regression models with exchangeable correlation and robust standard errors produced largely consistent results (eFigure 1). In Poisson regression models (eFigure 2), the overall pattern of associations was consistent with the primary analyses as transportation barriers showed the strongest and most consistent associations with all the acute care outcomes. Several additional social needs had statistically significant associations with certain outcomes when measured as counts. When eligibility was relaxed to require a baseline encounter only, associations for transportation barriers and housing problems remained significant and consistent with the primary analysis (eTable 3).

DISCUSSION

In this study of a safety-net patient population, 15.9% screened positive for at least one social need. Although transportation barriers were not the most prevalent need, they showed the most consistent associations with increased acute care use. Housing-related problems were also associated with a higher probability of at least one ED visit. This study extends prior work by linking individual-level social needs screening results to longitudinal EHR data of multiple health systems, enabling a systematic assessment of which specific social needs are most strongly associated with subsequent acute care utilization. Patients who screened positive also had approximately twice the prevalence of depression and substance use disorders, highlighting the frequent co-occurrence of social and behavioral health needs.

Transportation-related delayed care may be especially consequential because it reflects a proximal mechanism linking social risk to acute utilization: when patients cannot reliably reach outpatient visits, they are more likely to miss or reschedule appointments, delay evaluation of worsening symptoms, and postpone tests, medication refills, or follow-up care, which can lead to poorer chronic disease control and progression to potentially avoidable acute care. This finding is consistent with prior research that transportation barriers contribute to missed/delayed care and medication delays and are associated with greater acute care use.[30,31]

In the Bronx, transportation can be salient even in an urban environment because east–west connectivity is structurally constrained: Cross Bronx planning documents note that subway lines are largely north–south, making buses the primary transit option for east–west travel, with high ridership and slower speeds on key routes.[32,33] Thus, reported transportation

needs may reflect structural constraints, including transit infrastructure, clinic location, and scheduling, rather than individual deficits alone. Similarly, higher rates of positive screening among Hispanic and non-Hispanic Black patients may reflect unequal exposure to structural racism and related inequities in transportation, housing, and other social services. Operationally, a positive transportation screening could initiate a standardized primary care workflow in which an EHR alert prompts a care navigator or community health worker to assess the urgency and frequency of the need, arrange appropriate transportation support, and document referral completion. Patients who are prioritized should be connected with Medicaid non-emergency medical transportation or other ride-coordination services; programs such as NYC Health + Hospitals' AfterCare offer scalable models.[34–36] City-level efforts such as "Reimagine the Cross Bronx" target these mobility constraints and could indirectly reduce delayed outpatient care that contributes to avoidable acute use.[33]

Problems with residence may capture multiple housing-related stressors, including unstable housing, unsafe or inadequate living conditions, or crowding, that can plausibly increase preventable ED use through several pathways.[37,38] Housing instability and poor housing quality can impede chronic disease self-management, elevate exposure to environmental triggers, and heighten psychosocial stress, each of which can precipitate exacerbations that are potentially avoidable with timely outpatient care.[39] In addition, housing challenges can disrupt care continuity (e.g., difficulty being reached, frequent address changes), making preventive and follow-up care harder to deliver and increasing reliance on ED care for needs that might otherwise be managed in ambulatory settings.[40,41]

The additional significant associations in the Poisson models likely reflect greater sensitivity when using count outcomes, which capture repeated encounters. Transportation barriers showed the strongest and most consistent associations. Associations for legal assistance needs, childcare problems, and food insecurity similarly suggest that competing daily demands, financial strain, and broader household instability may disrupt timely access to routine and preventive care, contributing to greater reliance on emergent and hospital care.[42–44] The inverse associations of housing stability concerns and utility shutoff threats with the number of preventable hospitalizations should not be interpreted as protective effects. They may reflect residual differences in case mix or greater engagement with outpatient or social support services among patients who disclosed these needs. Because preventable hospitalizations were uncommon and these findings were not consistently observed in the primary models, they may also reflect instability in the count estimates.

The lack of statistically significant associations for other screened social needs should not be interpreted to mean these needs are less important. Many social risks influence health through pathways that may not translate into acute care within 12 months or may be more strongly linked to disease-specific outcomes rather than all-cause acute care utilization. For example, food insecurity has been associated with worse glycemic control and related chronic disease management challenges.[39] In addition, a single screening captures needs at one point in time while social needs can fluctuate, and misclassification or changes after screening can attenuate measured associations. In addition, some effects may operate through missed outpatient care and medication nonadherence.[45,46] Finally, evidence on whether social needs screening and related interventions consistently reduce utilization is mixed, and null results may reflect heterogeneous implementation, referral uptake, or the presence of safety-net resources that partially mitigate short-term acute care impacts.[47]

This study has several limitations. First, this observational study should not be interpreted as causal. Although we adjusted for a broad set of demographics, clinical, and neighborhood characteristics, residual confounding and selection processes (e.g., differences in health-seeking behavior) may remain. Individual-level regression also cannot fully capture the dynamic, interconnected processes—including care access, continuity, and system responsiveness—through which social conditions shape utilization over time. Second, social needs screening was recommended to be conducted as part of routine care, but it was not required. Therefore, screening was not universal. Patients who were screened and those who disclosed needs may differ systematically from those who were not, which can introduce selection and reporting bias and may limit generalizability beyond this safety-net population. Third, social needs were measured via self-report at a single time point, and needs can change over time; misclassification and lack of information on severity, duration, or persistence could attenuate associations. Fourth, outcomes were ascertained from EHR data and may miss acute care encounters that occurred outside the health systems affiliated with the data network, potentially leading to undercounting of ED visits or hospitalizations. Fifth, individual-level payer information was unavailable. Although coverage heterogeneity was unlikely given the predominantly Medicare and Medicaid population, residual confounding by payer may still exist.

CONCLUSIONS

These findings suggest that social needs screening can help identify actionable barriers that may contribute to excessive acute utilization in safety-net settings. Future work should examine mechanisms (e.g., missed outpatient visits and delayed follow-up), evaluate the impact of targeted interventions (transportation assistance and housing-related supports), and assess longer-term and disease-specific outcomes to better understand how different social needs shape health trajectories over time.

Supplementary Information *The online version contains supplementary material available at https://doi.org/10.1007/s11606-026-10908-3.*

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Manyao Zhang: *Data Curation, Software, Resources.*
Darren Tanner: *Methodology, Investigation, Writing—Review & Editing.*
William B Weeks: *Methodology, Investigation, Writing—Review & Editing.*
Peter Speyer: *Conceptualization, Investigation, Writing—Review & Editing.*
Ann Aerts: *Conceptualization, Investigation, Writing—Review & Editing.*
Yongkang Zhang: *Writing- Reviewing and Editing, Supervision, Investigation, Data Curation, Project administration, Funding acquisition.*

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Data Availability *The underlying datasets are subject to study specific data use agreements and are not publicly available. Researchers interested in accessing INSIGHT Clinical Research Network data may contact the INSIGHT Clinical Research Network (https://insightcrn.org/). Researchers interested in the social needs screening data may contact Dr. Kevin Fiori at kfiori@montefiore.org. Data from the American Community Survey (ACS) are publicly available.*

Declarations

Human Ethics and Consent to Participate *Not applicable.*

Conflict of interest *Coauthor William B Weeks reports the following: Board member, United Hospital Fund; Board member, International Society for Urban Health; Board member, Yura Health.*

Clinical Trial Number *Not applicable.*

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