Screening for Health-Related Social Needs of Emergency Department Patients

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Study objective: There has been increasing attention to screening for health-related social needs. However, little is known about the screening practices of emergency departments (EDs). Within New England, we seek to identify the prevalence of ED screening for health-related social needs, understand the factors associated with screening, and understand how screening patterns for health-related social needs differ from those for violence, substance use, and mental health needs.

Methods: We analyzed data from the 2018 National Emergency Department Inventory–New England survey, which was administered to all 194 New England EDs during 2019. We used descriptive statistics to compare ED characteristics by screening practices, and multivariable logistic regression models to identify factors associated with screening.

Results: Among the 166 (86%) responding EDs, 64 (39%) reported screening for at least one health-related social need, 160 (96%) for violence (including intimate partner violence or other violent exposures), 148 (89%) for substance use disorder, and 159 (96%) for mental health needs. EDs reported a wide range of social work resources to address identified needs, with 155 (93%) reporting any social worker availability and 41 (27%) reporting continuous availability.

Conclusion: New England EDs are screening for health-related social needs at a markedly lower rate than for violence, substance use, and mental health needs. EDs have relatively limited resources available to address health-related social needs. We encourage research on the development of scalable solutions for identifying and addressing health-related social needs in the ED. [Ann Emerg Med. 2021;77:62-68.]

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INTRODUCTION

Background

For greater than 20 years, researchers and policymakers have discussed the importance of the emergency department (ED) as a social safety net, the "logical site" for "identification of basic social needs and the extension of existing community resources."[1] This academic framework around this dual role of acute care and population health or public health has been expanded by the development of social emergency medicine as a subfield.[2] Multiple studies have shown that screening for social needs in health care settings is acceptable to patients and families[3,4] and is feasible.[5,6] However, EDs still face significant challenges in addressing the nonmedical but health-influencing needs of their patients.[7] Health-related social needs, such as hunger and homelessness, are risk factors for ED use[8-13] and poor health outcomes.[14-16]

Recent policy initiatives, including the accountable health communities[17] and accountable care organization models, emphasize the importance of addressing health-related social needs and provide financial incentives to do so.[18,19] Currently, there is wide variation across states in terms of health-related social needs screening tools,[20-22] outcome measures,[23,24] and funded services.[25] Recent work through the National Academy of Medicine has begun to standardize the core domains for health-related social needs screening to include housing, food, utilities, transportation, and interpersonal safety.[20]

Despite the high prevalence of health-related social needs among ED patients, most work on screening for them has come from outpatient clinic settings. A recent survey of screening in primary care physician practices found that 16% of practices were screening for 5 health-related social needs (food insecurity/hunger, housing

Editor's Capsule Summary

What is already known on this topic

The emergency department (ED) serves a vulnerable population with many social risk factors, yet little is known about prevalence of ED screening for health-related social needs.

What question this study addressed

What is the prevalence of ED social needs, intimate partner violence, substance use, and mental health needs screening in the New England area?

What this study adds to our knowledge

Among the 166 EDs, less than half (39%) reported screening for any health-related social needs, whereas the majority screen for intimate partner violence (96%), mental health issues (96%), or substance use issues (89%).

How this is relevant to clinical practice

Addressing social needs to improve health equity will first require more universal ED screening.

instability/homelessness, trouble paying utilities, difficulty obtaining transportation, and experience with interpersonal violence) and 33% were screening for none.[26] Although outpatient physicians and nurse practitioners report mixed responses about whether such screening is within their scope of work,[27] one study found that physician perception of clinic capability to address social needs was associated with lower rates of burnout.[28]

Importance

Although there is strong interest among ED providers in addressing health-related social needs, many providers believe themselves unable to act because of lack of time and knowledge.[29] There have been reports of individual academic EDs developing systems to screen for health-related social needs in the ED,[30-33] primarily focused on food insecurity, but little is known about screening programs on a broader scale, and specifically in community EDs.

Goals of This Investigation

The aim of this study was to describe ED screening patterns for health-related social needs and to identify ED- and hospital-level factors that are associated with screening. In addition, we sought to describe how screening patterns for health-related social needs differ from those for violence, substance use, and mental health needs.

MATERIALS AND METHODS

Study Design

We conducted a cross-sectional study of all New England EDs open during 2018. The Partners HealthCare Human Research Committee reviewed this project and classified it as exempt.

We analyzed data from the 2018 National Emergency Department Inventory–New England survey, a 3-page survey administered to all ED directors in Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, and Vermont during 2019 that asked about their ED in 2018. Methodology for the National Emergency Department Inventory–New England surveys has been described previously[34-37] and is described in detail in Appendix E1, available online at http://www.annemergmed.com.

The National Emergency Department Inventory–New England survey included questions about ED characteristics (eg, number of ED beds), staffing (eg, percentage of attending physicians who were board certified or board prepared), electronic resources, consultant availability, crowding, ED policies for opioid management, and health-related social needs (Appendix E1, available online at http://www.annemergmed.com). This is the first year health-related social needs questions were included in the survey. Results of other portions of the survey will be reported separately.

The primary outcome measure for this study was performance of health-related social needs screening, defined as answering yes to any questions regarding screening for housing instability, food insecurity, difficulty obtaining transportation, or difficulty paying for utilities. These domains were drawn from recent consensus recommendations for screening for health-related social needs in clinical settings.[20] Violence was separated into intimate partner violence and other violence because many EDs screen for intimate partner violence separately from health-related social needs, and screening for intimate partner violence has been recommended by the American College of Emergency Physicians (ACEP) since 2007.[38] Secondary outcomes included ED screening for intimate partner violence/other exposure to violence, substance use, and mental health needs. We also collected data on social worker availability to the ED.

Table 1. ED characteristics by health-related social needs screening status.

	Performing HRSN Screening, n=64		Not Performing HRSN Screening, n=102	
ED Characteristics	**n**	**(% or Median IQR)**	**n**	**(% or Median IQR)**
Median annual total ED visits (IQR)	64	(28,000 [14,028–49,740])	102	(26,000 [14,600–48,000])
ED volume categories (visits)				
1–10,000	4	(6)	11	(11)
10,001–20,000	20	(31)	28	(27)
20,001–40,000	17	(27)	34	(33)
≥40,001	23	(36)	29	(28)
Median No. of ED beds (IQR)	64	(24 [13–33])	102	(20 [12–34])
Academic hospital*	11	(17)	13	(13)
Median No. of patients arriving by ambulance (IQR), %	64	(22 [17–30])	102	(20 [16–30])
Median No. of patients who self-pay (IQR), %	54	(10 [5–20])	95	(9 [5–15])
Patients who self-pay, quartiles (%)				
1 (0.3–5)	19	(35)	29	(31)
2 (5.5–10)	13	(24)	34	(36)
3 (11–15)	7	(13)	13	(14)
4 (17.5–80)	15	(28)	19	(20)
Median admissions (IQR), %	64	(20 [12–25])	102	(17 [12–21])
Admissions categories, %				
<10	7	(11)	12	(12)
10–20	32	(50)	64	(63)
>20	25	(39)	26	(25)
Median No. of critical care transfers (IQR), %	64	(0.7 [0.2–2])	102	(0.9 [0.2–2])
State				
Connecticut	11	(17)	17	(17)
Maine	10	(16)	21	(21)
Massachusetts	25	(39)	36	(35)
New Hampshire	10	(16)	13	(13)
Rhode Island	5	(8)	5	(5)
Vermont	3	(5)	10	(10)
Urbanicity†				
Rural	10	(16)	16	(16)
Urban	54	(84)	86	(84)
Boarding in the ED	48	(75)	64	(63)
Median No. of patients who left without being seen, %	64	(1.2 [0.8–2])	102	(1 [0.5–2])
Capacity status				
Under capacity	5	(8)	10	(10)
Good balance	22	(34)	24	(24)
At capacity	16	(25)	30	(29)
Over capacity	21	(33)	38	(37)
SW availability				
ED-based SW	15	(23)	23	(23)
Hospital SW who responds to ED	33	(52)	48	(47)
Mixture of ED and hospital-based SWs who respond to ED	14	(22)	19	(19)
Other	0		3	(3)
None	2	(3)	9	(9)

Table 2. Prevalence of screening in New England EDs.

Individual Question	Composite Questions	No.	%
Screening type			
Housing instability/homelessness		54	33
Food insecurity/hunger		24	14
Difficulty obtaining transportation		29	17
Trouble paying utilities		10	6
	Any HRSN	64	39
IPV		158	95
Other violence		140	84
	IPV or other violence	160	96
Substance use		148	89
Mental health		159	96

IPV, Intimate partner violence.
Data are presented as No. (%) of EDs unless otherwise indicated. Percentages may not total to 100% because of rounding.

Primary Data Analysis

We used descriptive statistics to describe and compare the characteristics of EDs that were and were not providing health-related social needs screening. We also used summary statistics to describe the specific types of screening, availability of social work in the ED, and coprevalence of screening practices among EDs. There is little in the literature to guide a theoretic model of ED health-related social needs screening practices and the inclusion of potential confounding variables. Therefore, we present only descriptive data regarding existing screening practices in this brief research report. All analyses were conducted in Stata/IC (version 15.1; StataCorp, College Station, TX).

RESULTS

Of the 196 EDs in the data set, there were 194 New England EDs open in 2018, 27 ED directors did not respond to the survey, and one was excluded for missing responses to the questions of interest; the overall response rate was 86% (166/194), with greater than 80% in each state. There were 64 EDs that performed any health-related social needs screening (39%); 102 EDs (61%) did not (Table 1). A total of 54 EDs (33%) reported screening for housing instability or homelessness, 24 (14%) for food insecurity, 29 (17%) for difficulty obtaining transportation, and 10 (6%) for trouble paying for utilities (Table 2). A total of 7 EDs reported screening for all 4 health-related social needs, accounting for 11% of the 64 EDs with any screening, 8 EDs (13%) screened for 3, 16 EDs (25%) for 2, and 33 (52%) for one. In contrast, 160 EDs (96%) reported screening for intimate partner violence or other violence exposure, 159 (95%) for intimate partner violence alone, 148 (89%) for substance use, and 159 (96%) for mental health needs. Regarding resources for responding to screening, 155 EDs (93%) reported availability of a social worker, and of those, 26% (41/155) reported availability 24 hours a day, 7 days a week; 32% (38/155) reported an ED-based social worker and 49% (81/155) reported a hospital social worker who responded to the ED (Table 2).

There were 3 EDs that did not screen for either health-related social needs or intimate partner violence, substance use, or mental health needs. Of the EDs that did not screen for health-related social needs, 99 (97%) of them were screening for 1 or more of intimate partner violence, substance use, or mental health needs. There were no EDs that reported screening for health-related social needs only without intimate partner violence, substance use, or mental health needs screening.

LIMITATIONS

There are several limitations to our study. We do not have detailed data about screening practices, including staff role of the group performing screening, how screening was operationalized, or the specific response to a positive screening result. We did not record whether screening was mandatory or universal. Our findings suggest that these are areas of future study. In particular, we do not have data on the specific health-related social

Table 1. Continued.

	Performing HRSN Screening, n=64		Not Performing HRSN Screening, n=102	
ED Characteristics	**n**	**(% or Median IQR)**	**n**	**(% or Median IQR)**
Any SW	62	(97)	93	(91)
Of those with any SW, continuous presence of SW[‡]	22	(35)	19	(20)

HRSN, Health-related social needs; *IQR*, interquartile range; *SW*, social worker.
Data are presented as No. (%) of EDs unless otherwise indicated. Percentages may not total to 100% because of rounding.
*Academic hospital was defined as a member of the Council of Teaching Hospitals and Health Systems.
[†]Urbanicity defined as core-based statistical area.[47]
[‡]Excluding EDs that reported no availability of any social work services (n=155).

needs questions being asked. Studies have demonstrated that there can be discordance between individuals with a positive screening result for a particular need and those who are requesting help,[39] and efforts to identify health-related social needs may need to assess both for social risk (screening questions) and the patient report of what assistance is desired.[40] Also, these data were self-reported by EDs, which may have introduced social desirability bias. The questions do not address how often screening is happening or reasons for the lack of screening, and there may be other factors associated with health-related social needs screening practices. Although these data provide a novel and comprehensive description of screening practices regionally, patterns in other areas of the country may differ.

DISCUSSION

In this regional cross-sectional study of 166 New England EDs, we found that only 39% of EDs were screening for health-related social needs compared with 98% of EDs that were screening for intimate partner violence, substance use disorders, or mental health issues. Only 23% of EDs had an ED-based social worker, although 93% reported some social worker staffing.

To our knowledge, this study provides the first comprehensive examination of screening practices across all EDs in a US region, both academic and community. A prior study examined screening practices using data from hospital and physician practices (not specific to emergency medicine) in the National Survey for Healthcare Organizations and Systems during 2017 to 2018. It found that 24% of hospitals and 16% of practices reported screening for all 5 issues: food insecurity, housing instability, utility needs, transportation needs, and intimate partner violence. The majority of hospitals reported screening for intimate partner violence, followed by transportation and housing needs, with a lesser percentage screening for food and utility needs.[26]

With increasing regional and national emphasis on identifying and addressing health-related social needs, these data demonstrate that there is significant room for improvement in ED screening practices. The high rates of reported screening for substance use, mental health, and intimate partner violence suggest that ED-based screening for health-related social needs may be feasible even in busy, high-acuity, high-needs EDs. Integrating data collection for health-related social needs into the electronic medical record[18] may help reduce barriers to collecting information on health-related social needs.[33]

One potential challenge to successful screening concerns the appropriate intervention for patients with a positive screening result. Despite ongoing efforts to collect and systematize community health resources and link that information with the electronic medical record,[41-44] many studies have reported low rates of successfully directing patients to resources.[45,46] We encourage future research focused on the development of optimal strategies for identifying and addressing health-related social needs of ED patients and on ensuring that such strategies are scalable across all EDs, and applicable for patients with limited English proficiency or limited access to state-sponsored resources.

Overall, these data show a relatively low prevalence (39%) of health-related social needs screening among New England EDs, although greater than 80% screen for intimate partner violence, substance use disorders, and mental health concerns. Additional work is needed to identify the optimal screening strategy for EDs with a diverse set of volume or capacity constraints and the best practices for directing patients to the necessary resources to address identified health-related social needs in the ED.

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Author contributions: MES-K conceived the current study and led development of the health-related social needs (HRSN) module of

the 2019 NEDI-New England survey. MES-K wrote the initial draft of the manuscript. KMB developed the overall 2019 NEDI-New England survey, helped recruit the state coordinators, helped to secure Massachusetts ACEP endorsement of the survey, and coordinated all survey data collection and data management. REC completed the statistical analysis. WRH secured Vermont ACEP endorsement of the survey and assisted with data collection in Vermont. NWM secured Maine ACEP endorsement of the survey and assisted with data collection in Maine. MSR secured New Hampshire ACEP endorsement of the survey and assisted with data collection in New Hampshire. AKV secured Connecticut ACEP endorsement of the survey and assisted with data collection in Connecticut. PCZ secured Rhode Island ACEP endorsement of the survey and assisted with data collection in Rhode Island. AFS created the original NEDI-USA database. AFS, KH, and KSZ critically revised the 2019 NEDI-New England survey. CAC is PI of the ongoing NEDI-USA project and designed and developed the 2019 NEDI-New England survey. CAC helped to recruit the state coordinators, helped to secure Massachusetts ACEP endorsement of the survey, and assisted with data collection in Massachusetts. CAC provided overall supervision of the study. KMB, REC, WRH, NWM, MSR, AKV, PCZ, AFS, KH, KSZ, and CA critically revised the paper. All authors reviewed and approved the submitted manuscript. MES-K takes responsibility of the paper as a whole.

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