J Community Health
DOI 10.1007/s10900-017-0413-9

ORIGINAL PAPER

A Content Analysis of Hospitals' Community Health Needs Assessments in the Most Violent U.S. Cities

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Abstract The emergence of evidence-supported interventions allows hospitals the opportunity to reduce future reinjury among patients who are violently injured. However, hospital knowledge of these interventions and their perceived role in violence prevention is unknown. The Patient Protection and Affordable Care Act created new legal requirements for non-profit hospitals to conduct community health needs assessments (CHNA) every three years to maintain not-for-profit status. In turn, this allows an empiric evaluation of hospital recognition and response to community violence. To do so, this study performed a content analysis of hospital CHNAs from the 20 U.S. cities with the highest violent crime rates. A total of 77 CHNAs were examined for specific violence-related keywords as well as whether violence prevention was listed as a priority community need. Overall, 74% of CHNAs mentioned violence-related terms and only 32% designated violence prevention as a priority need. When discussed, 88% of CHNAs referenced community violence, 42% intimate partner or sexual violence, and 22% child abuse. This study suggests that hospitals may lack awareness of violence as an actionable, preventable public health issue. Further, evidence-based program models are available to hospitals that can reduce the recurrence of assaultive injuries.

Keywords Violence · Injury prevention · Community health needs assessments · Hospitals

Introduction

Violent injury remains a widespread threat to the health of American communities. In 2015, the country experienced 1,503,820 nonfatal assault injuries and 17,793 homicides [1, 2]. Among survivors, research demonstrates that violent injury is not simply a "one-off" event, but rather a significant risk factor for repeated victimization [3]. A recent systematic review of studies of patient re-injury rates found that the median rate of assaultive reinjury was 30% [4]. In addition to physical wounds, psychiatric complications such as acute stress disorder or post-traumatic stress disorder remain common [5].

Beyond the effects on individual patients, endemic community violence has broad societal implications. A study conducted just prior to passage of the Patient Protection and Affordable Care Act (ACA) found that 75% of gunshot wound victims were uninsured [6]. Thus, much of the financial burden falls to hospitals. One analysis of health care costs secondary to interpersonal violence found an average cost of $41,757 for each patient [7]. Given this financial reality, a hospital-based approach to violence prevention is a logical response.

Current evidence demonstrates that hospitals can play a meaningful role in addressing violence as a community

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Published online: 29 August 2017

health need. For example, hospital-based violence intervention programs (HVIPs) have been shown to reduce reinjury and retaliation amongst victims of violence [8]. These programs engage violently injured patients with a brief in-hospital intervention followed by intensive case management and targeted post-discharge services. One randomized controlled trial of severely injured patients observed that participation decreased risk of re-hospitalization due to violent injury from 36 to 5% [9].

Despite the success of HVIPs, little is known about the extent to which U.S. hospitals recognize their potential impact in violence prevention. Importantly, one provision of the ACA provides the opportunity to conduct an empiric evaluation of this question. Specifically, the law included a requirement that not-for-profit hospitals conduct community health needs assessments (CHNA) every three years to maintain 501(c)(3) status [10]. These assessments are required to be publically available.

Research examining the implementation of this provision indicates that CHNAs can serve as a tool for population health improvement [11]. One review of 300 CHNAs revealed that the documents commonly identify systems-level barriers to patient care, such as lack of insurance, socioeconomic factors and difficulties with prevention and screening, care coordination and chronic disease management [12]. Additionally, evidence suggests that CHNAs commonly recognize upstream factors that influence population health, such as the social determinants of health [13].

Although the recognition of systems-based and environmental barriers to health is important, the ability to translate this knowledge into an actionable plan to address community health disparities is critical. Existing literature indicates that hospitals frequently, but not universally, make note of this issue. One study of urban, nonprofit hospitals found that 65% of CHNAs included the use of at least one term explicitly recognizing health equity [14]. Despite this recognition, less is known regarding the use of CHNAs to prioritize specific health conditions associated with significant disparity, such as violence. This study sought to evaluate the extent to which non-profit hospitals identify violence as a community health need through a content analysis of CHNAs.

Methods

Selected Cities

Utilizing the Federal Bureau of Investigation's Uniform Crime Report on crimes committed in 2013, the 20 cities with the highest violent crime rates and populations greater than 100,000 were identified [15]. Subsequently, a list of all hospitals with an address within each city was compiled utilizing a commercially available compendium of national hospital profiles [16]. This list was cross-referenced with each hospital and cities' websites to ensure accuracy and completeness. Trauma center status was determined based on either recognition from the American College of Surgeons or the respective state trauma system governing board. CHNAs were gathered between April and May 2015. Hospitals without a legal obligation to produce CHNAs, such as for-profit or public hospitals, were excluded. Additionally, subspecialty hospitals such as dedicated oncology, eye institutions or rehabilitation hospitals were excluded.

Analysis

Each CHNA was coded according to whether or not it included any of the following violence-related terms: "violence," "violent," "assault," "murder," "homicide," or "intentional injury." If a violence-related term was identified, each instance was classified according to the specific type of violence it was in reference to (specifically: community, domestic or sexual, child abuse, or terrorism). Additionally, each CHNA was analyzed to determine whether statistics on the burden of violent injury were reported, potential causes of violence were delineated, or if external stakeholders identified violence as a priority. "External stakeholder" identification was recognized based on non-hospital personnel or community member responses in polls, focus groups or questionnaires. Finally, each CHNA's stated community benefit priorities were examined for the presence or absence of violence-related terms. Descriptive statistics were calculated and two-tailed Fisher's exact test was used to compare the characteristics of CHNAs from hospitals with and without trauma centers.

Human Subjects Protection

This study was a review of publicly available documents that did not meet the threshold of human participant research and did not require institutional review board approval.

Results

One hundred four hospitals were identified in the 20 high-violence cities. Of these, 27 did not meet inclusion criteria (9 for-profit, 3 public, 15 specialty), resulting in a sample of 77 hospitals (Fig. 1). CHNAs were located for all hospitals. Forty-three hospitals were designated trauma centers.

Of the 77 hospitals analyzed, 57 (74%) CHNAs included references to violence, 43 (56%) provided statistics on the burden of violence, and 13 (17%) identified potential causes for violence. External stakeholders identified violence as an issue in 29 (38%) of the CHNAs and 25 (32%) of the hospitals identified violence as an overall priority area of need.

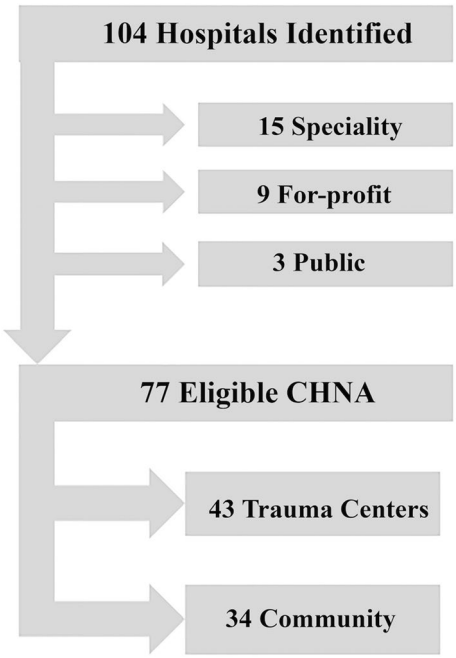

Fig. 1 Identified community health needs assessments (CHNA)

Within the 57 CHNAs that did mention violence, the most commonly used terms were "violence" 42 (74%), "homicide" 35 (61%), "violent" 25 (44%), "assault" 14 (25%), and 11 "murder" (19%). The term "intentional injury" did not appear in any CHNAs. Moreover, when these terms appeared, 50 (88%) of CHNAs referenced community violence, 24 (42%) intimate partner or sexual violence, and 13 (22%) child abuse. The proportion of hospitals that mentioned violence-related terms in their CHNA was significantly higher among hospitals that had a trauma center compared to hospitals that did not (86% vs 59%, p = 0.01) (Table 1). Hospitals with trauma centers were also significantly more likely to include statistics on violent injury (67% vs 41%, p = .04).

Discussion

This study examined the frequency with which non-profit hospitals' CHNAs identified violence as a modifiable health issue. In a sample confined to cities selected specifically for a high prevalence of violent injury, nearly 26% percent of CHNAs made no mention of violence. Furthermore, in the 20 cities with the highest rates of violence, only 32% of CHNAs concluded that violence was an overall priority area of need.

These results suggest that many hospital leaders may not recognize violence as a health issue that can be impacted by the health system. Interestingly, the term "intentional injury," the designation of art in the public health vernacular, did not appear in any CHNAs. Conversely "homicide," a term of the criminal justice system, was the second most commonly utilized term (61%). This finding warrants further study to determine how hospitals and healthcare providers envision their societal roles in the sphere of violence prevention.

Limitations

Several limitations exist for this study. While six search terms were identified as most likely utilized to denote violence, it is possible that other terms may have been used. Conversely, the presence of a term within a CHNA is not indicative of the intensity to which the issue was discussed. Additionally, while inclusion of violence in a CHNA indicates that a hospital has made note of the issue, the absence of the term does not preclude the possibility of existing community benefit work in the area. Alternatively, some hospitals may be located in a city with a high prevalence of violence, but in an area geographically removed from the bulk of injuries.

Conclusion

This study suggests hospitals may under-recognize violence as an actionable public health issue. Left unaddressed, this finding may pose a significant barrier to further research,

Table 1 Results

Content present in CHNAs	All (N = 77)	Trauma centers (N = 43)	Non-trauma centers (N = 34)	p value
Violence-related terminology utilized	74.0% (57)	86.1% (37)	58.8% (20)	0.01
Statistics on burden of violence provided	55.8% (43)	67.4% (29)	41.2% (14)	0.04
Underlying causes of violence discussed	16.9% (13)	20.9% (9)	11.8% (4)	0.37
External stakeholders perceive of violence as a need	37.7% (29)	44.2% (19)	29.4% (10)	0.24
Violence is designated as an overall priority need	32.5% (25)	37.2% (16)	26.5% (9)	0.34

development, and implementation of hospital-based approaches to violence prevention. Overall, the issue of violence must be re-framed to community members as a health issue, rather than solely one of criminal justice. Accordingly, public health professionals must educate the public, health care providers and policymakers on the health consequences of recurrent violent injury as well as the availability of evidence-based interventions.

Compliance with Ethical Standards

Conflict of interest The authors declare no funding or financial conflicts of interest associated with this study. All authors are members of the National Network of Hospital-based Violence Intervention Programs' Policy Workgroup.

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