## RTICLE IN PRESS

# American Journal of Preventive Medicine

## RESEARCH ARTICLE

# Gaps in Sexual Assault Health Care Among Homeless Young Adults

Diane M. Santa Maria, DrPH, RN, Khara Breeden, DNP, RN, Stacy A. Drake, PhD, MPH, RN, Sarah C. Narendorf, PhD,<sup>3</sup> Anamika Barman-Adhikari, PhD,<sup>4</sup> Robin Petering, PhD,<sup>5</sup> Hsun-Ta Hsu, PhD, <sup>6</sup> Jama Shelton, PhD, <sup>7</sup> Kristin Ferguson-Colvin, PhD, <sup>8</sup> Kimberly Bender, PhD<sup>4</sup>

Introduction: Young adults experiencing homelessness are at increased risk for sexual assault. Receiving a post-sexual assault examination has important implications for HIV and unintended pregnancy prevention; yet, utilization is not well understood. In a population at elevated risk for HIV, unintended pregnancy, and sexual violence, identifying barriers and facilitators to postsexual assault examination is imperative.

**Methods:** As part of a large, multisite study to assess youth experiencing homelessness across 7 cities in the U.S, a cross-sectional survey was conducted between June 2016 and July 2017. Data were analyzed in 2019 to determine the prevalence and correlates of sexual violence and examine the correlates of post—sexual assault examination utilization.

**Results:** Respondents (n=1,405), aged 18–26 years, were mainly youth of color (38% black, 17% Latinx) and identified as cisgender male (59%) and lesbian, gay, bisexual, or queer (29%). HIV risks were high: 23% of participants had engaged in trade sex, 32% had experienced sexual assault as a minor, and 39% had experienced sexual exploitation. Young adults reported high rates of sexual assault (22%) and forced sex (24%). Yet, only 29% of participants who were forced to have sex received a post-sexual assault examination. Latinx young adults were more likely than other races/ ethnicities to receive post-assault care. Participants frequently said they did not get a post-sexual assault exam because they did not want to involve the legal system and did not think it was important.

**Conclusions:** Interventions are needed to increase use of preventive care after experiencing sexual assault among young adults experiencing homelessness.

Am J Prev Med 2019;000(000):1-8. © 2019 American Journal of Preventive Medicine. Published by Elsevier Inc. This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).

#### INTRODUCTION

pproximately 19% of cisgender women and 2% of cisgender men reported a lifetime history of rape.¹ Although these rates are alarming, young adults experiencing homelessness are at even higher risk than their housed peers, with a prevalence rate of lifetime sexual assault as high as 35%.<sup>2</sup> Sexual violence contributes to high risk for HIV, sexually transmitted infections (STIs), and unintended pregnancy.

In the general population, demographic factors such as race, sexual orientation, and gender identity are associated with an increased risk for sexual assault. Black cisgender women are more likely to experience assault From the <sup>1</sup>Cizik School of Nursing, University of Texas Health Science Center at Houston, Houston, Texas; 2Texas County Forensic Nurse Examiners, Houston, Texas; <sup>3</sup>Graduate College of Social Work, University of Houston, Houston, Texas; 4Graduate School of Social Work, University of Denver, Denver, Colorado; <sup>5</sup>Suzanne Dworak-Peck School of Social Work, University of Southern California, Los Angeles, California; <sup>6</sup>School of Social Work, University of Missouri, Columbia, Missouri; <sup>7</sup>Silberman School of Social Work at Hunter College, New York, New York; and <sup>8</sup>School of Social Work, Arizona State University, Phoenix, Arizona

Address correspondence to: Diane Santa Maria, DrPH, RN, Cizik School of Nursing, University of Texas Health Science Center at Houston, 6901 Bertner Avenue, Suite 591, Houston TX 77030.

E-mail: diane.m.santamaria@uth.tmc.edu.

0749-3797/\$36.00

https://doi.org/10.1016/j.amepre.2019.09.023

before age 25 years compared with white cisgender women, and black undergraduate students have higher odds of sexual assault than white, Latinx, and Asian students.<sup>3,4</sup> Lesbian, gay, bisexual, queer (LGBQ), and transgender youth report experiencing more sexual violence than heterosexual and cisgender youth, and transgender individuals experience sexual violence twice as often as cisgender LGBQ individuals.<sup>5</sup> Among those experiencing homelessness, rates of sexual assault are also higher in women than men and were highest among transgender people.<sup>6–8</sup> Other risk factors that have been found to increase the risk of sexual assault include substance use, exposure to violence, child abuse, sexual behaviors, peer relationships, health status, and homelessness experience, as well as early onset and longer length of homelessness and trading sex.<sup>2,7,9-13</sup>

Major public health concerns of sexual violence are exposure to HIV and STIs and unintended pregnancy. 14–17 The Centers for Disease Control and Prevention treatment guidelines for post—sexual assault care are aimed at targeting these risks. 18 Use of HIV nonoccupational post-exposure prophylaxis for sexual assault patients is recommended in the guidelines based on exposure timing and characteristics. 19 However, little is known about post—sexual assault healthcare utilization among youth experiencing homelessness.

Care for acute sexual assault, including HIV/STIs and unintended pregnancy prevention, often depends on a youth to disclose sexual violence and seek care within the brief post-assault window related to prevention medication efficacy. Tragically, few people seek post-sexual assault care at all, let alone in time for HIV and pregnancy prevention—based interventions. In a nationally representative sample, only 21% of sexual assault patients sought medical attention, with those who experienced physical assault being more likely to disclose the sexual assault and seek services. 14,20 Other correlates of seeking post-assault medical care are race (identifying as black), experiencing genital injuries, concern about STIs or pregnancy, and reporting the incident to the police.<sup>14</sup> Perceived shame, guilt, having a relationship with the perpetrator, and having negative past experiences with the healthcare system have been associated with not seeking care. 14,21-23 In addition, healthcare-seeking behaviors are often lower among young adults experiencing homelessness and adolescent boys and young men.<sup>24,25</sup>

Experiencing sexual assault has significant acute and chronic physical and mental health implications, highlighting the important role of prevention, screening, and treatment interventions.<sup>26</sup> Yet, the literature has 2 important limitations addressed in this study. First, most studies among youth experiencing homelessness are derived from single-city samples, which potentially

reduces the generalizability of the findings. Second, little has been published on the knowledge, incidence, and correlates of post—sexual assault examination among this population. Therefore, this study was conducted to assess the prevalence and correlates of sexual assault and utilization of post—sexual assault examination in a large sample of youth experiencing homelessness from 7 cities across the U.S. to inform prevention and healthcare service delivery.

#### **METHODS**

Interdisciplinary researchers examined youth experiencing homelessness (aged 18–26 years) in Los Angeles, San Jose, Phoenix, St. Louis, Denver, Houston, and New York City between June 2016 and July 2017. Using a cross-sectional study design and a standardized study protocol, data were collected through a self-administered survey completed on a tablet. IRBs at the authors' academic institutions approved the study procedures.

#### Study Sample

Using purposive sampling, each site recruited approximately 200 unique young adults from service agencies including drop-in centers, shelters, and transitional housing to capture the variation in experiences and demographics of young people accessing different types of homeless services. Participation was limited to English-speaking youth owing to previous research indicating few non–English speaking young adults are accessing homeless services. Youth at the service agencies during the data collection period were approached and screened for eligibility. Participants had to be aged 18–26 years and homeless or unstably housed.

A research assistant reviewed informed consent, and participants indicated whether they agreed to participate by clicking a box on the tablet. After securing consent, a person identification code was generated for each participant. Next, the young person completed the Rapid Estimate of Adult Literacy in Medicine short form screener.<sup>28</sup> Youth were asked to complete the self-administered survey independently on the tablet if they scored higher than 3, though study staff were available to assist participants. The survey took about 50 minutes to complete. Participants received a \$10 (in Phoenix) or \$20 gift card (all other locations) for a local store.

#### Measures

The survey assessed demographics and homelessness factors using previously validated measures. Age was dichotomized as 18–21 and 22–26 years to align with federal and state legislation and funding guidelines using 21 years as the maximum age for young adults to remain in foster care and receive services funded by the Runaway Homeless Youth Act.<sup>29,30</sup> Youth self-identified as cisgender men, cisgender women, transgender, or gender expansive. Race/ethnicity was defined as white, black, Latinx, other, and mixed race. Youth identified as lesbian, gay, bisexual, queer, or heterosexual. For homelessness, youth indicated where they slept the night before (coded as couch surfing if they were staying with a friend, relative, or acquaintance; sheltered if they stayed in a shelter or transitional housing; and outside if they stayed in

place not meant for human habitation). To assess for childhood onset homelessness, age at first homelessness was dichotomized as before age 18 years or after age 18 years. Length of current homelessness was dichotomized as >2 years or <2 years.

Adverse childhood experiences were queried using the 10-item Adverse Childhood Experiences scale. <sup>31</sup> Youth were asked if they had ever traded sex for money, drugs, a place to stay, food/meals, or anything else. Sex trafficking was assessed by asking if youth were ever forced to exchange sex. Experiences of dating violence were queried by asking if youth had ever been hit, pushed, shoved, punched, or physically hurt by a person that they had been romantically or intimately involved with since being homeless or unstably housed. Involvement in the juvenile justice system was assessed with a single item that asked if they had ever been involved with juvenile court, probation, detention, or diversion.

For sexual assault, participants were asked if anyone had touched their private parts when they should not have or made them touch their private parts since being unstably housed or homeless. For forced sex, the survey inquired if anyone had tried to force them to have sex since experiencing unstable housing or homelessness. For youth who had been forced to have sex, the survey inquired whether they had received a sexual assault examination at a hospital or clinic. Finally, youth who indicated that they did not receive an exam were asked to check all that applied for why they did not get a post—sexual assault examination (e.g., didn't know where to go, couldn't safely leave the situation, didn't know what the exam was, didn't think it was important, didn't go because they didn't have health insurance, and didn't want to involve the legal system).

#### **Statistical Analysis**

Data were analyzed between January and February 2019. Associations between demographic and risk factors and sexual assault, forced sex, and post—sexual assault examination were examined. Comparisons of categorical measures with the 3 outcome variables were conducted with the chi-square test, with the exact version used when any expected cell count was <5. Separate logistic regression models were used to test associations between sexual assault and forced sex and  $\geq 2$  years of homelessness and homelessness before age 18 years, adjusting for race/ethnicity, gender identity, sexual orientation, and childhood sexual abuse. Bivariate analyses of associations with reasons for not getting a post—sexual assault examination were also conducted with the chi-square test using SPSS 25.

#### RESULTS

The participants (n=1,405) were mainly aged 18-21 years (64%), youth of color (38% black, 17% Latinx), and identified as cisgender men (59%), with 7% who identified as transgender or gender expansive (Table 1). More than a quarter of youth (29%) identified as LGBQ. Most participants reported having been homeless for <2 years (78%) and first experiencing homelessness after age 18 years (60%). Approximately one third had slept outside or in a place not meant for human habitation the night before the survey. Youth reported high rates of engaging in trade sex (23%), experiencing childhood sexual abuse (32%), being

involved in sex trafficking (39%), and experiencing dating violence (29%).

Youth reported high rates of sexual assault (22%) and forced sex (24%). In bivariate analyses, significant differences were found for sexual assault and forced sex by race/ethnicity, gender identity, and sexual orientation, with mixed race, cisgender women, and LGBQ youth having the highest rates (Table 1). Transgender/gender expansive youth had the highest rate of forced sex. In addition, longer durations and earlier onset of homelessness were significantly associated with experiences of sexual assault and forced sex. No differences were found by shelter status or recruitment city. Experiencing childhood sexual abuse, engaging in trade sex, and experiencing sex trafficking were all significantly associated with sexual assault and forced sex.

Multivariable analyses with logistic regression models (Table 2) indicated that cisgender women had odds 1.92 (95% CI=1.40, 2.63) times higher than cisgender young men of experiencing sexual assault and more than twice the odds (OR=2.41, 95% CI=1.78, 3.27) of experiencing forced sex compared with cisgender men. LGBQ respondents had odds 1.82 (95% CI=1.33, 2.47) times higher of experiencing sexual assault and 1.54 (95% CI=1.14, 2.08) times higher of experiencing forced sex compared with their heterosexual counterparts. Respondents with ≥2 years of homelessness had odds 1.49 (95% CI=1.08, 2.05) times higher of experiencing sexual assault and odds 1.88 (95% CI=1.38, 2.55) times greater of experiencing forced sex than youth who had been homeless for <2 years. Those experiencing childhood sexual abuse had odds almost 6 times (OR=5.81, 95% CI=4.32, 7.81) higher of experiencing sexual assault and odds more than 4 times higher (OR=4.59, 95% CI=3.45, 6.09) of experiencing forced sex. Race/ethnicity and homelessness before age 18 years were not significantly associated with experiencing sexual assault or forced sex in the multivariable models.

For youth who had been forced to have sex (24%, n=337), only 29% (n=98) had received a post—sexual assault examination. In bivariate analyses of utilization of post—sexual assault examination among those who were forced to have sex, race/ethnicity was the only demographic characteristic that was significantly associated with receiving an exam. Latinx youth had the highest percentage of exams (41.7%), whereas youth who identified as mixed race had the lowest (12.2%).

The 71% (n=238) of youth who had experienced forced sex but did not receive an exam were asked to endorse the reasons they did not get an exam (Table 3). Youth most frequently said they did not want to involve the legal system (44%) and that they did not think it was

 Table 1. Demographic Characteristics and Experiences of Sexual Assault and Forced Sex

	Total sample,	Sexual assault,	$\chi^2$ (df);	Forced sex,		Received post- assault exam,	
Characteristic	n (%)	n (%)	p-value	n (%)	$\chi^2$ (df); <i>p</i> -value	n (%)	χ (df); <i>p</i> -value
Total sample	1,405	305 (21.7)		337 (24.0)		98 (29.2)	
Age, years			0.102 (1); 0.75		0.60 (1); 0.44		0.00 (1); 0.99
18-21	900 (64.1)	193 (21.4)		210 (23.4)		61 (29.2)	
22-26	505 (35.9)	112 (22.2)		127 (25.2)		37 (29.1)	
Race/ethnicity			17.82 (4); <b>0.01</b>		10.86 (4); <b>0.028</b>		12.80 (4); <b>0.012</b>
White	267 (19.0)	53 (20.0)		65 (24.4)		33 (31.1)	
Black	528 (37.5)	98 (18.6)		106 (20.1)		18 (30.5)	
Latinx	243 (17.3)	54 (22.2)		60 (24.7)		15 (41.7)	
Other	144 (10.2)	28 (19.4)		36 (25.0)		24 (34.3)	
Mixed	228 (16.1)	72 (32.0)		70 (31.1)		8 (12.2)	
Gender identity			74.64 (2); <b>&lt;0.01</b>		98.10 (2); <b>&lt;0.01</b>		8.79 (2); 0.12
Cisgender men	833 (58.5)	113 (13.7)		120 (14.6)		25 (20.8)	
Cisgender women	483 (33.9)	158 (33.1)		175 (36.8)		63 (36.2)	
Transgender/gender expansive	107 (7.5)	34 (32.4)		42 (40.4)		10 (23.8)	
Sexual orientation			63.41 (1); <b>&lt;0.01</b>		55.44 (1); <b>&lt;0.01</b>		0.012 (1); 0.91
LGBQ	403 (28.6)	143 (35.5)		150 (37.4)		43 (28.9)	
Heterosexual	1,004 (71.4)	162 (16.1)		187 (19.6)		55 (29.4)	
Length of homelessness			11.32 (1); <b>&lt;0.01</b>		26.24 (1); <b>&lt;0.01</b>		0.21 (1); 0.65
>2 years homeless	305 (21.7)	117 (27.3)		141 (32.8)		43 (30.5)	
≤2 years homeless	1,101 (78.3)	198 (19.2)		196 (20.1)		55 (28.2)	
First age homeless			4.27 (1); <b>0.04</b>		11.52 (1); <b>&lt;0.01</b>		0.03 (1); 0.88
<18	564 (40.2)	137 (24.3)		161 (28.5)		45 (28.1)	
≥18	839 (59.8)	165 (19.7)		173 (20.7)		50 (28.9)	
Shelter status			2.69 (2); 0.26		0.09 (2); 0.96		1.99 (2); 0.37
Couch surfing	261 (18.6)	56 (21.5)		63 (18.8)		21 (33.3)	
Shelter	682 (48.6)	160 (23.5)		165 (24.3)		51 (30.9)	
Outside	459 (32.7)	89 (19.4)		108 (23.5)		26 (24.3)	
City			4.00 (6); 0.69		10.96 (6); 0.09		7.96 (6); 0.24
Los Angeles	213 (15.1)	47 (22.1)		57 (26.6)		15 (26.3)	
Denver	207 (14.7)	38 (18.4)		34 (16.6)		8 (23.5)	
Houston	201 (14.3)	50 (24.9)		53 (26.4)		22 (41.5)	
Phoenix	205 (14.6)	48 (23.4)		55 (26.8)		13 (23.6)	
St. Louis	194 (13.8)	39 (20.1)		40 (20.6)		14 (35.0)	
New York City	195 (13.8)	45 (23.1)		53 (27.3)		17 (32.1)	
San Jose	193 (13.7)	38 (12.5)		45 (23.3)		9 (20.5)	
Traded sex	263 (23.3)	115 (41.7)	69.00, <b>&lt;0.01</b>	137 (50.0)	103.53; <b>&lt;0.01</b>	44 (32.1)	1.61 (1); 0.21
Ever childhood sexual abuse	_	_	239.61 (1); < <b>0.01</b>	_	206.86 (1); <b>&lt;0.01</b>	_	3.30 (1); <b>0.07</b>
Yes	445 (31.8)	207 (46.5)	( ),	213 (48.0)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	69 (32.5)	( )//
No	954 (68.2)	95 (10.0)		121 (12.7)		28 (23.1)	
Ever sex trafficked	()	()	18.08 (1); <b>&lt;0.01</b>	(==::)	24.54 (1); <b>&lt;0.01</b>	- ()	0.82 (1); 0.36
Yes	106 (38.7)	61 (53.5)	(-), (	72 (53.3)	(=), 30.02	21 (29.2)	2.22 (2), 3.33
No	168 (61.3)	53 (46.5)		63 (46.7)		23 (52.3)	
Ever dating violence	(01.0)	( .0.0)	1.69 (1); 0.19	( )	3.07 (1); 0.08	(52.5)	2.15 (1); 0.14
Yes	36 (29.3)	36 (16.5)	1.00 (2), 0.10	43 (19.7)	0.0. (2), 0.00	7 (16.3)	2.20 (1), 0.17
		J J ( ±0.0 )				. (=3.0)	

Note: Boldface indicates statistical significance (p<0.05). df, degrees of freedom; LGBQ, lesbian, gay, bisexual, queer.

Santa Maria et al / Am J Prev Med 2019;000(000):1-8

**Table 2.** Predictors of Sexual Assault and Forced Sex in Multivariable Logistic Regression

	Sexu	ıal assault	Forced sex		
Group	OR	95% CI	OR	95% CI	
Cisgender women <sup>a</sup>	1.92	1.40, 2.63	2.41	1.78, 3.27	
LGBQ <sup>b</sup>	1.82	1.33, 2.47	1.54	1.14, 2.08	
≥2 years of homelessness <sup>c</sup>	1.49	1.08, 2.05	1.88	1.38, 2.55	
Childhood sexual abuse <sup>d</sup>	5.81	4.32, 7.81	4.59	3.45, 6.09	

<sup>&</sup>lt;sup>a</sup>ref, cisgender men.

LGBQ, lesbian, gay, bisexual, queer.

important (35%) (Figure 1). In bivariate analyses of factors associated with these reasons, several significant associations were found. Youth who had experienced dating violence (p=0.02), engaged in trading sex (p=0.02), or who had been involved in the juvenile justice system (p=0.04) were significantly more likely to endorse not wanting to involve the legal system. Youth who had not experienced dating violence were significantly more likely to endorse that they did not know where to go for an exam (p<0.05). Those with a history of sex trafficking were more likely to endorse not seeking care because they could not safely leave the situation (p<0.01). Those without a history of involvement with the juvenile justice system were more likely to endorse not knowing what a sexual assault exam was (p=0.03).

### **DISCUSSION**

This study provides novel data from a regionally diverse sample of youth experiencing homelessness to increase the understanding of the prevalence of sexual violence and barriers and facilitators to receiving post-assault care. Findings align with evidence that young adults experiencing homelessness are at high risk for sexual assault with even higher-risk subgroups, including cisgender women, LGBQ youth, and transgender/gender expansive youth. 1,4,5 In addition, data suggest higher risks among those with a longer duration of homelessness, earlier onset of homelessness, those who experienced sex trafficking, and youth who had engaged in trade sex. Considering transgender individuals may experience longer durations of homelessness than their cisgender counterparts and are more likely to engage in trade sex, they are especially vulnerable to sexual assault.32,33

Despite the high prevalence of sexual violence, nearly two thirds of youth who were forced to have sex did not get needed care, representing a critical gap in healthcare delivery. There are several reasons youth may not seek care after experiencing sexual assault. Similar to other findings, many youth are not getting an exam owing to reluctance to involve the legal system, mistrust, and stigma. Transgender/gender expansive youth may fear denial of treatment, an experience that is not uncommon among transgender individuals given structural barriers and stigma found in systems of care. Additionally, these findings suggest that many youth

**Table 3.** Number and Percentage Endorsing Reasons for Not Seeking a Post—Sexual Assault Examination, n=238

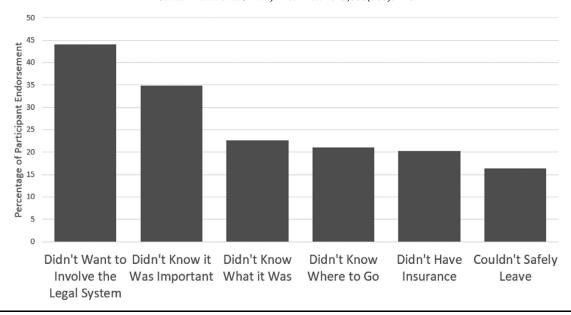
Characteristic	Did not know where to go, n (%)	Could not safely leave the situation, n (%)	Did not know what a sexual assault exam was, n (%)	Did not think it was important, n (%)	Did not have health insurance, n (%)	Did not want to involve the legal system, n (%)
Experienced dating violence	4 (11.1)*	5 (13.9)	10 (27.8)	16 (44.4)	8 (22.2)	21 (58.3)*
Experienced sex trafficking	13 (68.4)	15 (83.3)**	10 (52.6)	18 (52.9)	7 (43.8)	28 (57.1)
Traded sex	20 (21.5)	18 (19.4)	19 (20.4)	35 (37.6)	16 (17.2)	49 (52.7)*
Legal system involvement						
Juvenile justice	23 (27.1)	16 (18.8)	26 (30.6)*	34 (40.0)	16 (18.8)	30 (35.3)*
Ever arrested	2 (10.0)	2 (10.0)	4 (20.0)	7 (35.0)	8 (40.0)*	13 (65)
Ever jailed	14 (16.7)	13 (15.5)	19 (22.5)	37 (44.0)	20 (23.8)	40 (47.6)
City						
Los Angeles	12 (28.6)	3 (7.1)	12 (28.6)	14 (33.3)	7 (16.7)	19 (45.2)
Denver	4 (15.4)	2 (7.7)	5 (19.2)	13 (50.0)	8 (30.8)	16 (61.5)
Houston	7 (22.6)	6 (19.4)	8 (25.8)	8 (25.8)	10 (32.3)	10 (32.3)
Phoenix	7 (16.7)	10 (23.8)	11 (26.2)	15 (35.7)	11 (26.2)	20 (47.6)
St. Louis	5 (19.2)	6 (23.1)	7 (26.9)	8 (30.8)	4 (15.4)	9 (34.6)
New York City	7 (19.4)	6 (16.7)	8 (22.2)	11 (30.6)	5 (13.9)	19 (52.8)
San Jose	8 (22.9)	6 (16.4)	3 (8.6)	14 (34.9)	3 (8.6)	12 (34.3)

Note: Boldface indicates statistical significance (\* $p \le 0.05$ , \*\* $p \le 0.01$ ).

<sup>&</sup>lt;sup>b</sup>ref, heterosexual.

cref, <2 years of homelessness.

<sup>&</sup>lt;sup>d</sup>ref, no childhood sexual assault.



**Figure 1.** Percentage endorsed: reasons for not getting a post—sexual assault examination (*n*=238).

experiencing homelessness were not aware of the importance and availability of post—sexual assault care. <sup>41</sup> Further, youth experiencing homelessness often lack access to healthcare services. <sup>24</sup> Complicating access to care, most of the sexual assault nurse examiner programs in the U.S. are located in an emergency department, which may further limit the availability of services for those not seeking emergency services. <sup>42</sup>

Young people face significant barriers to seeking care following a sexual assault. These findings highlight the need for targeted programs that address these barriers (e.g., knowledge about services, concerns about safety, and fear related to disclosure to law enforcement also found in the literature<sup>43</sup>). Supports are needed to ensure access to services (e.g., victims assistance programs, transportation, and community-located Sexual Assault Nurse Examiner [SANE] services). Youth experiencing dating violence, those who have traded sex, and youth who have had prior involvement with the juvenile justice system are less likely to seek post-sexual assault care and would benefit from targeted prevention programs that address the importance of health seeking. Post-assault care should be incorporated into sexual health programs serving youth experiencing homelessness, and healthcare delivery systems need to adopt point-of-contact, comprehensive, post-sexual assault care delivery models.

A comprehensive strategy is needed that builds on health seeking facilitators while reducing barriers. For example, programs must reach healthcare providers, law enforcement, and homeless youth services providers to increase knowledge of the importance of seeking post—sexual assault care and facilitate access to care without

requiring involvement of the legal system. Programs to educate youth delivered at drop-in centers and shelters can help walk youth through the process of seeking post–sexual assault care. Peer navigators and small group discussion may be ideal for increasing post-assault healthcare seeking given the mistrust and stigma many youth experience and the protective nature of social support. 9,34,35,44

Missing or delaying post-sexual assault care can lead to negative physical (e.g., HIV, untreated STIs, and unintended pregnancy), emotional (e.g., distress, depression, and suicide), and social outcomes (e.g., substance dependence and treatment).26 Yet, post-assault care is most often available through an emergency department, which can reduce access to services. 42 Though postassault treatment is complex and involves medical, psychological, and legal services, most providers (86%) of post-assault care are not SANEs. 45 Therefore, there is a need for (1) increased post-sexual assault care training among the healthcare workforce; (2) expansion of SANE programs; and (3) novel community-based delivery models to provide education and increase access to postsexual assault examination as a prevention strategy for HIV, STIs, and unintended pregnancy. By increasing the SANE workforce and service delivery modalities, cities may decrease the barrier found in this data that youth did not know where to go for an exam. Additionally, increasing the availability of SANEs may decrease mistrust, stigma, and the fear of involving the legal system. 46,47 One way to do this may be to partner mobile sexual assault response teams with healthcare and social service providers for youth experiencing homelessness.

Santa Maria et al / Am J Prev Med 2019;000(000):1-8

#### Limitations

There are limitations to consider when interpreting the findings. This cross-sectional study did not examine differences between subgroups within different sexual orientations and gender identities, and there may be differences between these groups. Future studies will examine these differences specifically focused on these subgroups. The survey did not ask whether those who wanted post-sexual assault care were able to access it and therefore the authors are unable to distinguish those who wanted care but could not get it from those who did not desire care. Also, the survey did not assess if those who received a post-sexual assault examination were offered HIV prevention medication or emergency contraception, nor if they adhered to that treatment regimen. Future studies would benefit from exploring these questions.

#### **CONCLUSIONS**

Youth experiencing homelessness are at elevated risk for sexual assault yet underutilize post-sexual assault healthcare services that greatly reduce the risk for HIV and unintended pregnancy. SANEs and forensic nurses are uniquely positioned to respond to youth after a sexual assault and can dramatically and positively influence their immediate and long-term outcomes. 48 Yet, homeless youth are largely unaware of the need for and process of accessing post-sexual assault services. Further efforts are needed to address this gap in HIV and pregnancy prevention; promote awareness of, access to, and training in post-sexual assault services; and recognize the need to treat sexual assault using nonstigmatizing, youth-friendly healthcare delivery models.<sup>14</sup> Interventions to address barriers identified in this study such as lack of knowledge, fear, and stigma are critically needed. Finally, further examination into the lived experience of post-sexual assault health seeking and service utilization are needed to improve upon existing services.

#### **ACKNOWLEDGMENTS**

The authors thank the multiple REALYST.org community partners and young people who collaborated and participated in this study. This research received partial financial support from the Greater Houston Community Foundation Funders Together to End Homelessness (DSM and SN), NIH: F31MH108446 (RP), and Arizona State University Institute for Social Science Research (KF).

No financial disclosures were reported by the authors of this paper.

### **REFERENCES**

- Smith SG, Chen J, Basile KC, et al. National Intimate Partner And Sexual Violence Survey (NISVS): 2010–2012 State report. www.cdc. gov/violenceprevention/pdf/NISVS-StateReportBook.pdf. Published 2017. Accessed September 25, 2019.
- Tyler KA, Whitbeck LB, Hoyt DR, Cauce AM. Risk factors for sexual victimization among male and female homeless and runaway youth. J Interpers Violence. 2004;19(5):503–520. https://doi.org/ 10.1177/0886260504262961.
- Avegno J, Mills TJ, Mills LD. Sexual assault victims in the emergency department: analysis by demographic and event characteristics. J Emerg Med. 2009;37(3):328–334. https://doi.org/10.1016/j.jemermed. 2007.10.025.
- Walters M, Chen J, Breiding M. National Intimate Partner And Sexual Violence Survey 2010: findings on victimization by sexual orientation. www.cdc.gov/violenceprevention/pdf/nisvs\_sofindings.pdf. Published 2013. Accessed September 25, 2019.
- Langenderfer-Magruder L, Walls NE, Kattari SK, Whitfield DL, Ramos D. Sexual victimization and subsequent police reporting by gender identity among lesbian, gay, bisexual, transgender, and queer adults. Violence Vict. 2016;31(2):320–331. https://doi.org/10.1891/ 0886-6708.VV-D-14-00082.
- Heerde JA, Hemphill SA. Sexual risk behaviors, sexual offenses, and sexual victimization among homeless youth a systematic review of associations with substance use. *Trauma Violence Abuse*. 2016;17 (5):468–489. https://doi.org/10.1177/1524838015584371.
- Heerde JA, Scholes-Balog KE, Hemphill SA. Associations between youth homelessness, sexual offenses, sexual victimization, and sexual risk behaviors: a systematic literature review. *Arch Sex Behav.* 2015;44 (1):181–212. https://doi.org/10.1007/s10508-014-0375-2.
- Kushel MB, Evans JL, Perry S, Robertson MJ, Moss AR. No door to lock: victimization among homeless and marginally housed persons. *Arch Intern Med.* 2003;163(20):2492–2499. https://doi.org/10.1001/ archinte.163.20.2492.
- 9. Heerde JA, Hemphill SA. The role of risk and protective factors in the modification of risk for sexual victimization, sexual risk behaviors, and survival sex among homeless youth: a meta—analysis. *J Investig Psychol Offender Profil.* 2017;14(2):150–174. https://doi.org/10.1002/jip.1473.
- Boyer CB, Greenberg L, Chutuape K, et al. Exchange of sex for drugs or money in adolescents and young adults: an examination of sociodemographic factors, HIV-related risk, and community context. *J Commun Health*. 2017;42(1):90–100. https://doi.org/10.1007/s10900-016-0234-2.
- 11. Hudson AL, Wright K, Bhattacharya D, Sinha K, Nyamathi A, Marfisee M. Correlates of adult assault among homeless women. *J Health Care Poor Underserved.* 2010;21(4):1250–1262. https://doi.org/10.1353/hpu.2010.0931.
- De Vries I, Goggin KE. The impact of childhood abuse on the commercial sexual exploitation of youth: a systematic review and meta-analysis. *Trauma Violence Abuse*. In press. Online October 10, 2018. https://doi.org/10.1177/1524838018801332.
- Meinbresse M, Brinkley-Rubinstein L, Grassette A, et al. Exploring the experiences of violence among individuals who are homeless using a consumer-led approach. *Violence Vict.* 2014;29(1):122–136. https:// doi.org/10.1891/0886-6708.vv-d-12-00069.
- Zinzow HM, Resnick HS, Barr SC, Danielson CK, Kilpatrick DG. Receipt of post-rape medical care in a national sample of female victims. Am J Prev Med. 2012;43(2):183–187. https://doi.org/10.1016/j.amepre.2012.02.025.
- Resnick H, Monnier J, Seals B, et al. Rape-related HIV risk concerns among recent rape victims. J Interpers Violence. 2002;17(7):746–759. https://doi.org/10.1177/0886260502017007003.
- McFarlane J, Malecha A, Watson K, et al. Intimate partner sexual assault against women: frequency, health consequences, and treatment

- outcomes. Obstet Gynecol. 2005;105(1):99–108. https://doi.org/10.1097/01.AOG.0000146641.98665.b6.
- Black M, Basile KC, Breiding MJ, et al. National Intimate Partner And Sexual Violence Survey: 2010 Summary report. www.cdc.gov/violenceprevention/pdf/nisvs\_executive\_summary-a.pdf. Published 2011. Accessed September 25, 2019.
- CDC. Updated guidelines for antiretroviral postexposure prophylaxis after sexual, injection drug use, or other nonoccupational exposure to HIV—United States, 2016. Ann Emerg Med. 2016;68(3):335–338. https://doi.org/10.1016/j.annemergmed.2016.06.028.
- Seña AC, Hsu KK, Kellogg N, et al. Sexual assault and sexually transmitted infections in adults, adolescents, and children. Clin Infect Dis. 2015;61(suppl 8):S856–S864. https://doi.org/10.1093/cid/civ786.
- Walsh K, Zinzow HM, Badour CL, Ruggiero KJ, Kilpatrick DG, Resnick HS. Understanding disparities in service seeking following forcible versus drug- or alcohol-facilitated/incapacitated rape. *J Interpers Violence*. 2016;31(14):2475–2491. https://doi.org/10.1177/ 0886260515576968.
- Chu AT, DePrince AP, Mauss IB. Exploring revictimization risk in a community sample of sexual assault survivors. *J Trauma Dissociation*. 2014;15(3):319–331. https://doi.org/10.1080/15299732.2013.853723.
- Patterson D, Greeson M, Campbell R. Understanding rape survivors' decisions not to seek help from formal social systems. *Health Soc Work*. 2009;34(2):127–136. https://doi.org/10.1093/hsw/34.2.127.
- Du Mont J, Macdonald S, White M, Turner L. Male victims of adult sexual assault: a descriptive study of survivors' use of sexual assault treatment services. J Interpers Violence. 2013;28(13):2676–2694. https://www.ahrq.gov/health-literacy/quality-resources/tools/literacy/ index.html#rapid. Accessed May 1, 2015.
- Society for Adolescent Health and Medicine. The healthcare needs and rights of youth experiencing homelessness. J Adolesc Health. 2018;63(3):372–375. https://doi.org/10.1016/j.jadohealth.2018.06.012.
- Society for Adolescent Health and Medicine. Advocating for adolescent and young adult male sexual and reproductive health: a position statement from the Society for Adolescent Health and Medicine. J Adolesc Health.;63(5):657–661. https://doi.org/10.1016/j.jadohealth.2018.08.007. Accessed May 1, 2015.
- Wenzel SL, Leake BD, Gelberg L. Health of homeless women with recent experience of rape. *J Gen Intern Med.* 2000;15(4):265–268. https://doi.org/10.1111/j.1525-1497.2000.04269.x.
- Narendorf SC, Santa Maria DM, Ha Y, Cooper J, Schieszler C. Counting and surveying homeless youth: recommendations from Youth-Count 2.0!, a community—academic partnership. *J Community Health*. 2016;41(6):1234–1241. https://doi.org/10.1007/s10900-016-0210-x.
- **28.** Murphy PW, Davis TC, Long SW, Jackson RH, Decker BC. Rapid estimate of adult literacy in medicine (REALM): a quick reading test for patients. *J Reading*. 1993;37(2):124–130.
- Patient protection and affordable care act, 42 U.S.C. § 18001 et seq. (2010). Runaway and homeless youth program authorizing legislation. https://www.acf.hhs.gov/fysb/resource/rhy-act.
- Peters CM, Dworsky A, Courtney ME, Pollack H. Extending foster care to age 21: weighing the costs to government against the benefits to youth. Chicago: Chapin Hill at the University of Chicago, IL. www. kvc.org/wp-content/themes/KVC/sugargrove/files/Chapin\_Hall\_Report.pdf. Published 2009. Accessed September 25, 2019.
- 31. Felitti VJ, Anda RF, Nordenberg D, et al. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: the Adverse Childhood Experiences (ACE) Study. *Am J Prev Med.* 1998;14(4):245–258. https://doi.org/10.1016/S0749-3797 (98)00017-8.
- Kattari SK, Walls NE, Speer SR. Differences in experiences of discrimination in accessing social services among transgender/gender nonconforming individuals by (dis) ability. J Soc Work Disabil

- Rehabil. 2017;16(2):116–140. https://doi.org/10.1080/1536710X. 2017.1299661.
- 33. Choi SK, Wilson BDM, Shelton J, Gates G. Serving our youth 2015: the needs and experiences of lesbian, gay, bisexual, transgender, and questioning youth experiencing homelessness. Los Angeles, CA: The Williams Institute with True Colors Fund. https://williamsinstitute.law.ucla.edu/ wp-content/uploads/Serving-Our-Youth-June-2015.pdf. Published 2015. Accessed September 25, 2019.
- Collins P, Barker C. Psychological help-seeking in homeless adolescents. *Int J Soc Psychiatry*. 2009;55(4):372–384. https://doi.org/10.1177/0020764008094430.
- Bender K, Thompson SJ, McManus H, Lantry J, Flynn PM. Capacity for survival: exploring strengths of homeless street youth. *Child Youth Care Forum*. 2007;36(1):25–42. https://doi.org/10.1007/s10566-006-9029-4
- Jones JS, Alexander C, Wynn BN, Rossman L, Dunnuck C. Why women don't report sexual assault to the police: the influence of psychosocial variables and traumatic injury. *J Emerg Med.* 2009;36(4): 417–424. https://doi.org/10.1016/j.jemermed.2007.10.077.
- Thompson M, Sitterle D, Clay G, Kingree J. Reasons for not reporting victimizations to the police: do they vary for physical and sexual incidents? J Am Coll Health. 2007;55(5):277–282. https://doi.org/10.3200/ JACH.55.5.277-282.
- Campbell R, Wasco SM, Ahrens CE, Sefl T, Barnes HE. Preventing the "second rape": rape survivors' experiences with community service providers. J Interpers Violence. 2001;16(12):1239–1259. https://doi. org/10.1177/088626001016012002.
- Shelton J. Transgender youth homelessness: understanding programmatic barriers through the lens of cisgenderism. *Child Youth Serv Rev.* 2015;59:10–18. https://doi.org/10.1016/j.childyouth.2015.10.006.
- James S, Herman JL, Rankin S, Keisling M, Mottet L, Anafi M. The report of the 2015 U.S. transgender survey. Washington, DC: National Center for Transgender Equality. www.transequality.org/sites/default/ files/docs/USTS-Full-Report-FINAL.PDF. Published 2016. Accessed September 25, 2019.
- Logan TK, Evans L, Stevenson E, Jordan CE. Barriers to services for rural and urban survivors of rape. *J Interpers Violence*. 2005;20 (5):591–616. https://doi.org/10.1177/0886260504272899.
- Draughon JE, Anderson JC, Hansen BR, Sheridan DJ. Nonoccupational postexposure HIV prophylaxis in sexual assault programs: a survey of SANE and FNE program coordinators. *J Assoc Nurses AIDS Care*. 2014;25(1 suppl):S90–S100. https://doi.org/10.1016/j.jana.2013.07.001.
- Hudson AL, Nyamathi A, Greengold B, et al. Health-seeking challenges among homeless youth. *Nurs Res.* 2010;59(3):212–218. https://doi.org/10.1097/NNR.0b013e3181d1a8a9.
- Barman-Adhikari A, Bowen E, Bender K, Brown S, Rice E. A social capital approach to identifying correlates of perceived social support among homeless youth. *Child Youth Care Forum.* 2016;45(5):691– 708. https://doi.org/10.1007/s10566-016-9352-3.
- Nielson MH, Strong L, Stewart JG. Does sexual assault nurse examiner (SANE) training affect attitudes of emergency department nurses toward sexual assault survivors. *J Forensic Nurs*. 2015;11(3):137–143. https://doi.org/10.1097/JFN.000000000000081.
- Campbell R, Patterson D, Adams AE, Diegel R, Coats S. A participatory evaluation project to measure SANE nursing practice and adult sexual assault patients' psychological well—being. *J Forensic Nurs*. 2008;4(1):19–28. https://doi.org/10.1111/j.1939-3938.2008.00003.x.
- Ericksen J, Dudley C, McIntosh G, Ritch L, Shumay S, Simpson M. Clients' experiences with a specialized sexual assault service. *J Emerg Nurs*. 2002;28(1):86–90. https://doi.org/10.1067/men.2002.121740.
- Campbell R, Patterson D, Lichty LF. The effectiveness of sexual assault nurse examiner (SANE) programs: a review of psychological, medical, legal, and community outcomes. *Trauma Violence Abuse*. 2005;6(4): 313–329. https://doi.org/10.1177/1524838005280328.