# High Burden of Homelessness Among Sexual-Minority Adolescents: Findings From a Representative Massachusetts High School Sample

Heather L. Corliss, PhD, MPH, Carol S. Goodenow, PhD, Lauren Nichols, BA, and S. Bryn Austin, ScD

Two distinct groups make up the population of homeless children and youths in the United States: (1) families with children and (2) unaccompanied youths. Regarding the first group, it was estimated that more than 1.5 million US children lived within families that lacked a permanent home during the period of 2005 to 2006. Regarding the second group, an additional 575 000 to 1.6 million US youths are estimated to be living without a home and without a family, unaccompanied on the streets or in a shelter. I

Youths with minority sexual orientations (such as those identifying themselves as gay, lesbian, or bisexual) appear to be disproportionately at risk for homelessness. A review of research on studies drawn from homeless (i.e., unaccompanied) youth samples found that this population was overrepresented in 17 of 22 studies. Estimates of the proportion of the sample in the studies reviewed who were of a sexual minority varied widely, ranging from 4%–5% to 50%. Differences across these studies, such as sample recruitment methods, geographic location, participants' ages, and definition of sexual-minority status likely explain much of this variability.

Homelessness is positively linked with health threats such as victimization, physical and sexual abuse, mental health and substance use problems, and sexual risk behaviors.<sup>3-6</sup> Important differences in risk exist among homeless youths who live with their parents or guardians compared with those living separately from their primary caretakers; thus, it is important to examine how sexual orientation may be related to homeless status. Youths who are not physically or emotionally connected to their families have additional risks. For example, youths who are in the presence of their parents at key times during the day are less likely than are youths who are not around their parents to

Objectives. We compared the prevalence of current homelessness among adolescents reporting a minority sexual orientation (lesbian/gay, bisexual, unsure, or heterosexual with same-sex sexual partners) with that among exclusively heterosexual adolescents.

*Methods.* We combined data from the 2005 and 2007 Massachusetts Youth Risk Behavior Survey, a representative sample of public school students in grades 9 though 12 (n=6317).

Results. Approximately 25% of lesbian/gay, 15% of bisexual, and 3% of exclusively heterosexual Massachusetts public high school students were homeless. Sexual-minority males and females had an odds of reporting current homelessness that was between 4 and 13 times that of their exclusively heterosexual peers. Sexual-minority youths' greater likelihood of being homeless was driven by their increased risk of living separately from their parents or quardians.

Conclusions. Youth homelessness is linked with numerous threats such as violence, substance use, and mental health problems. Although discrimination and victimization related to minority sexual orientation status are believed to be important causal factors, research is needed to improve our understanding of the risks and protective factors for homelessness and to determine effective strategies to prevent homelessness in this population. (*Am J Public Health*. 2011; 101:1683–1689, doi:10.2105/AJPH.2011.300155)

experience emotional distress and to use cigarettes, alcohol, and marijuana. Among homeless and at-risk youths, those reporting greater parental monitoring are less likely to report substance use. Homeless youths who have a positive relationship with their parents have a lower risk of engaging in substance use, criminal behavior, and survival sex than do homeless youths who report poorer relationships with their parents. Youths who are recently homeless have fewer sexual risk behaviors if they live with their families than if they live in situations without parental supervision and support.

Certain social factors place youths at an elevated risk for homelessness. At-risk youths include those who experience problems at home, are placed in foster care, or who are socioeconomically disadvantaged. In one study of 692 homeless youths aged between 12 and 20 years, more than 70% of the participants identified conflict with parents as an important

reason for leaving home. To Similarly, youths who experience emotional neglect or physical or sexual abuse are more likely to become homeless. Youths displaying school adjustment problems such as poor academic achievement and disciplinary problems are also more likely than are youths who do well in school to be homeless. To

Several factors associated with greater risk for homelessness have been found to occur more frequently in youths with minority sexual orientations than in heterosexual youths. For example, studies document a higher risk of familial childhood maltreatment among lesbian, gay, and bisexual individuals than among heterosexual individuals. This population also faces an increased likelihood of experiencing discrimination and victimization in school and community settings 16,17 as well as diminished peer support. Middle and high school environments are frequently unsupportive of or hostile

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toward youths' minority sexual orientation status, <sup>19,20</sup> which can contribute to poorer school outcomes among sexual-minority youths than among heterosexual youths. <sup>21</sup>

Although evidence from studies focusing on homeless populations suggests that sexual-minority youths face a greater risk of homelessness than do heterosexual youths, studies using representative samples that are able to quantify the magnitude of the relative risk are scarce. A main reason for this research gap is that population-based surveys of youths generally lack questions on both homeless status and sexual orientation. Consequently, uncertainty exists as to the extent that studies that sample from homeless populations are generalizable to the larger population of youths.

One representative sample of adolescents attending Massachusetts public high schools, the Youth Risk Behavior Survey (MAYRBS), contains information on homeless status and sexual orientation. We used data from this survey to estimate the prevalence of homelessness in sexual-minority adolescents (lesbian or gay, bisexual, heterosexual with same-sex sexual experience, or unsure of orientation) and in exclusively heterosexual adolescents and to estimate the relative risks of homelessness after controlling for potential demographic confounding. Although previous research on homelessness in sexual minority youths has focused on runaways,2 we took a broader approach in the current analysis by defining homelessness on the basis of the definition outlined in the US federal McKinney-Vento Homeless Assistance Act (i.e., lacking a fixed, regular, and adequate nighttime residence). We examined overall homelessness and then investigated the possibility that sexual-minority adolescents would be more likely than exclusively heterosexual adolescents to be living without their parents or guardians. How sexual orientation may be related to these 2 groups of homeless youths (those living with parents or guardians and those not living with a primary caretaker) is important to examine because of the differences in risk profiles between these groups.

#### **METHODS**

We used data from the 2005 and 2007 MAYRBS to carry out this study. The YRBS is conducted every other year in most US states to

monitor the prevalence of the behaviors among US high school students that most influence their health and safety. The MAYRBS is administered by the Massachusetts Department of Elementary and Secondary Education with collaboration from the Centers for Disease Control and Prevention. In 2005, Massachusetts became the first state to include a question assessing homeless status on the YRBS. Homelessness was also assessed in the 2007 survey.

The MAYRBS included a representative sample of students in grades 9 through 12. The sample was drawn in 2 steps: first, schools were selected with probability proportional to the enrollment of the school and, second, classes were selected within schools with equal probability. All students in grades 9 through 12, including special education students and students with limited English proficiency, had an equal probability of being selected. Students in the sampled classes in the sampled schools who attended on the day the survey was given filled out an anonymous, self-administered, written questionnaire. The overall response rates (student response rate × school response rate) for the surveys were 68% in 2005 and 73% in 2007. Data were weighted to reduce bias associated with differing patterns of nonresponse and to reflect the demographic distribution of all students attending Massachusetts public high schools. More information about the MAYRBS can be obtained elsewhere.22

We pooled data from the 2005 and 2007 (total n=6653) surveys to increase the power to estimate sexual orientation differences in homeless status. Included in the current analysis were participants who gave information on their homeless status and sexual orientation identity. Approximately 5.0% (n=336) of the participants were excluded owing to missing information on homeless status or sexual orientation. The Wald  $\chi^2$  test showed that the participants excluded from the analysis did not differ significantly from the participants included in the analysis on gender (P=.56), age (P=.87), race/ethnicity (P=.27), or US-born status (P=.81). The final analytic sample (n=6317) included 3244 participants of the 2005 survey and 3073 participants of the 2007 survey. The Wald  $\chi^2$  test showed similar distributions of gender (P=.82), age (P=.15),

race/ethnicity (P=.23), US-born status (P=.75) and homelessness (P=.7) in waves 2005 and 2007, but the 2005 wave had a larger proportion of exclusively heterosexual respondents (92.3% vs. 89.5%) (P=.04).

Because the MAYRBS is an anonymous survey, we could not determine precisely how many students participated in both waves. Using weights supplied by the Centers for Disease Control and Prevention that approximate students' average probability of participation, we estimated that about 20 of the 1864 freshmen and sophomores in our sample who completed the 2005 MAYRBS also completed the survey in 2007 as juniors or seniors. These approximately 20 probable repeat participants represented 0.31% of the study sample and thus did not compromise the study's validity.

#### **Measures**

The question to assess homelessness was similar in 2005 and 2007, but the stem was different. In 2005, the question read, "What is your primary nighttime residence?" and in 2007 it read, "Where do you typically sleep at night?" Response options in both waves were compatible and included the following: at home with my parents or guardians; at a friend's or relative's home with my parents or guardians; at a friend's or relative's home without my parents or guardians; in a supervised shelter with my parents or guardians; in a supervised shelter without my parents or guardians; in a hotel or motel, car, park, campground, or other public place with my parents or guardians; in a hotel or motel, car, park, campground, or other public place without my parents or guardians; and somewhere else.

We classified homelessness on the basis of the McKinney–Vento Homeless Assistance Act, which defines homeless students for public schools as children and youths without a fixed, regular, and adequate nighttime residence. <sup>23</sup> Respondents were categorized as not homeless if they answered "at home with my parents or guardians." If they gave any other answer they were categorized as homeless. McKinney–Vento is the primary piece of federal legislation dealing with the education of children experiencing homelessness in US public schools. It was reauthorized as Title X, Part C, of the No Child Left Behind Act in January 2002. The McKinney–Vento definition, which has been used in

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legislation such as the Head Start Act (2007) and the Child Nutrition Act (2004), is broad and includes families staying with a relative or "doubled up" with another family because these situations may represent relatively unstable housing.1

We created an additional variable that further separated the homeless group into 2 categories: those living with and those not living with parents or guardians. For analyses with this variable, respondents indicating that their primary nighttime residence was "other" (n=55) were excluded because we were unable to determine whether they were living with their parents or guardians.

Two questions on the 2005 and 2007 questionnaires measured aspects of a person's sexual orientation. One question assessed sexual orientation identity. Participants were asked, "Which of the following best describes you?" Response options were: heterosexual (straight), gay or lesbian, bisexual, and not sure. The other question assessed the sex of lifetime sexual partners. In 2005 participants were asked, "During your life, the person(s) with whom you have had sexual contact is (are)" Response options were "I have not had sexual contact with anyone," "female(s)," "male(s)," and "female(s) and male(s)." In 2007 participants were asked, "During your life, with whom have you had sexual contact?" Response options were "I have never had sexual contact," "females," "males," and "females and males." Although the wording of the question assessing the sex of lifetime sexual partners differed slightly across the 2 waves, the distributions of the answers were similar.

We classified individuals into 5 sexual orientation categories: exclusively heterosexual (i.e., participants who identified themselves as heterosexual and did not report lifetime samesex sexual partners), which was the referent group; heterosexual with positive reports of any lifetime same-sex sexual partners; gay or lesbian; bisexual; and unsure. We separated heterosexual participants into 2 groups because research suggests that individuals who identify themselves as heterosexual but report histories of same-sex sexual experience have greater risks than do exclusively heterosexual  $individuals.^{24,25} \\$ 

We selected covariates to include in the statistical models that might confound the

relationship between sexual orientation and homelessness. These variables included gender, 26-28 age6 (grouped into categories of 12-14 years, 15 years, 16 years, 17 years, and ≥18 years), race/ethnicity<sup>26,29</sup> (grouped into Hispanic and non-Hispanic White, Black, Asian and Pacific Islander, and other race/ethnicity, which included American Indian/Alaskan Native and multiracial groups), and immigration status<sup>30</sup> (born in or outside the United States).

#### **Statistical Analysis**

Demographic differences among the sexual orientation groups were estimated by use of the Wald  $\chi^2$  test. Bivariate cross-tabs were conducted to compare homeless status across the sexual orientation groups, both overall and for males and females separately. Multiple logistic regression was conducted to estimate the odds of homelessness comparing the minority sexual orientation groups with those who were exclusively heterosexual stratified on gender. Gender-stratified multinomial logistic regression was used to estimate the sexual-orientation-specific odds of being homeless and living with or separate from parents or guardians. Analyses were weighted and adjusted for the multistage complex sampling design. Percentages shown are weighted.

There were some missing data on covariates, which ranged from 0.1% for age to 1.7% for race/ethnicity. Multiple imputation was used to handle these missing data. The multiple imputation procedure in SAS version 9.2 (SAS Institute, Cary, NC) was used to generate 5 imputed data sets and then SAS-callable SUDAAN version 10.0.1 (SAS Institute Inc, Chicago, IL) was used to combine the estimates from the 5 data sets into summary estimates.

### **RESULTS**

Overall, 90.9% of the sample identified themselves as being heterosexual and did not report a history of having same-sex sexual partners, 2.9% identified themselves as heterosexual and reported a history of having same-sex sexual partners, 3.3% identified themselves as bisexual, 1.3% identified themselves as lesbian or gay, and 1.7% were unsure of their sexual orientation. The demographic characteristics of the sample by sexual orientation are provided in Table 1. Proportionally

more male than female respondents reported that they were exclusively heterosexual (92.8% vs 88.9%) or gay/lesbian (1.8% versus 0.9%), whereas male youths were less likely than were female youths to report being bisexual (1.4% vs 5.2%) or heterosexual with a history of same-sex sexual partners (2.5% vs 3.3%).

The bivariate distributions of the primary nighttime residence categories and overall homeless status by sexual orientation are shown in Table 2. Proportionally more heterosexual with same-sex partners, bisexual, gay/lesbian, and unsure respondents than exclusively heterosexual participants indicated that they were currently homeless. Of the male respondents, those identifying themselves as gay (23.9%; standard error [SE]=5.1), bisexual (21.8%; SE=4.8), heterosexual with histories of same-sex partners (15.6%; SE=4.2), and unsure (31.1%; SE=8.5) had a higher prevalence of being homeless than did heterosexuals without same-sex partners (3.8%; SE=0.5). Similarly, among female respondents, a higher prevalence of homelessness was observed for lesbians (26.3%; SE=8.6), bisexuals (13.5%; SE=3.0), heterosexuals with same-sex partners (10.1%; SE=2.9), and those unsure of their sexual orientation (9.2%; SE=4.4) than for heterosexuals without same-sex partners (2.6%; SE=0.3). Associations between sexual orientation and homeless status remained strong in logistic regression models adjusted for age, race/ethnicity, US-born status, and survey year, with odds ratios ranging from 4 to 13 (Table 3).

We estimated that more than one third of high school students in Massachusetts who were homeless had some same-sex orientation or were unsure of their sexual orientation [34.4%; standard error (SE)=3.1]. More specifically, 11.3% (SE=1.8) identified themselves as bisexual and another 7.4% (SE=1.8) identified themselves as lesbian or gay.

The risk of being homeless and living separate from parents or guardians was significantly greater among youths with a minority sexual orientation than it was among exclusively heterosexual participants (Table 4). Among sexual minorities, the magnitude of the relative risk for being homeless and not living with parents was greater than being homeless and living with parents; in most cases, associations

TABLE 1-Demographic Characteristics by Sexual Orientation of Participants: Youth Risk Behavior Survey, Massachusetts, 2005 and 2007

Characteristic	Exclusively Heterosexual (n = 5718), %	Heterosexual With Same-Sex Partners (n = 179), %	Bisexual (n = 220), %	Lesbian/Gay (n = 86), %	Unsure (n = 114), %	Total (n = 6317), %
Gender*						
Female	48.2	56.0	78.5	31.8	52.0	49.3
Male	51.8	44.0	21.5	68.2	48.0	50.7
Age, years						
12-14	11.2	10.7	8.6	11.9	13.7	11.2
15	24.8	23.7	23.7	26.9	26.6	24.8
16	26.0	26.1	28.4	17.3	31.0	26.0
17	24.0	25.7	26.5	23.0	14.9	24.0
18 or older	14.0	13.9	12.9	21.0	13.7	14.0
Race/Ethnicity*						
White, non-Hispanic	73.8	76.7	70.3	65.9	58.7	73.4
Black, non-Hispanic	8.9	8.8	7.9	7.5	17.2	8.9
Latino	12.3	10.5	13.3	20.9	11.1	12.3
Asian or Pacific Islander, non-Hispanic	2.8	1.3	3.8	4.2	8.3	2.9
Other, non-Hispanic	2.4	2.7	4.8	1.5	4.7	2.5
Born in United States*						
Yes	89.1	89.2	89.2	75.2	70.4	88.6
No	10.9	10.8	10.8	24.8	29.7	11.4

Note. Included in analyses are 2005 (n = 3244) and 2007 (n = 3073) survey participants. Weighted percentages sum to 100% except for rounding. All percentages are weighted. Differences in demographic characteristic were determined by a Wald  $\chi^2$  test. \*P < 0.01.

of sexual orientation with homelessness and living with parents were nonsignificant.

#### **DISCUSSION**

Our findings from this representative study of Massachusetts high school students provide strong evidence that adolescents with a minority sexual orientation are at far greater risk for homelessness than are their heterosexual peers. Approximately 25% of lesbian and gay adolescents and 15% of bisexuals reported homelessness compared with just 3% of the exclusively heterosexual adolescents. More than one third of the students who were homeless reported a minority sexual orientation or were unsure of their sexual orientation. Nearly 20% of the homeless youths in this study identified themselves as lesbian, gay, or bisexual. Clearly, these youths were grossly overrepresented among the homeless, because less than 5% of the sample identified themselves as lesbian, gay, or bisexual. We also found that the positive associations between

minority sexual orientation and homelessness were primarily because of sexual-minority youths' greater odds of being homeless and not living with parents. This finding suggests that disparities in sexual orientation in adolescent homelessness may be driven by factors situated within family relationships, such as sexual-minority youths' greater likelihood of running away or being thrown out of their homes, and not because these youths are more likely to be members of a homeless family.

Rejection and victimization within the family related to minority sexual orientation status likely contribute to a greater risk of homelessness among sexual minority youths. Among a sample of 428 homeless adolescents between the ages of 16 and 19 years recruited from 8 Midwestern cities, participants who identified themselves as lesbian, gay, or bisexual were more likely than were heterosexuals to report that they had been kicked out of the house or had left home because of conflict about their sexuality or sexual behaviors.<sup>31</sup> In another study of 425 homeless youths aged between 16 and

20 years, 73% of gay and lesbian and 26% of bisexual participants indicated that they were homeless because their parents disapproved of their sexual orientation.<sup>32</sup> In addition, sexual abuse by parents was more frequently cited as a reason for leaving home among gay and lesbian (21%) participants than it was among heterosexual (10%) participants. In yet another study of 84 sexual-minority and 84 age- and gender-matched heterosexual homeless youths in Seattle (aged 13-21 years), sexual-minority youths left home more frequently and were more likely to leave home because of physical abuse than were heterosexual youths.33 A deeper understanding of the mechanisms causing sexual-minority adolescents to be at much higher risk of living separately from their families should be a key area of future research.

After becoming homeless, youths with a minority sexual orientation appear to have greater risks and poorer outcomes than do their heterosexual counterparts.<sup>34</sup> Studies suggest that homeless lesbian, gay, and bisexual youths experience more physical and sexual

TABLE 2—Distribution of Primary Nighttime Residence and Homeless Status by Sexual Orientation Among Participants: Youth Risk Behavior Survey, Massachusetts, 2005 and 2007

	Exclusively Heterosexual (n = 5718), No. (%)	Heterosexual With Same-Sex Partners (n = 179), No. (%)	Bisexual (n = 220), No. (%)	Lesbian/Gay (n = 86), No. (%)	Unsure (n = 114), No. (%)
Primary nighttime residence					
At home with parents or guardians	5532 (96.8)	153 (87.5)	189 (84.8)	62 (75.4)	89 (80.2)
At a friend's or relative's house with parents or guardians	38 (0.7)	4 (2.0)	3 (1.3)	3 (3.2)	1 (0.2)
At a friend's or relative's house without parents or guardians	48 (0.9)	7 (4.2)	8 (4.3)	6 (4.7)	1 (0.3)
In a supervised shelter with parents or guardians	20 (0.3)	1 (0.5)	2 (0.6)	1 (1.4)	1 (0.2)
In a supervised shelter without parents or guardians	19 (0.4)	1 (0.4)	3 (1.6)	0 (0)	1 (0.7)
In a hotel or motel, car, park, campground, or other public place with parents or guardians	6 (0.1)	1 (0.5)	1 (0.4)	3 (1.9)	3 (3.4)
In a hotel or motel, car, park, campground, or other public place without parents or guardians	21 (0.3)	6 (2.3)	7 (4.1)	10 (12.8)	11 (10.4)
Other	34 (0.5)	6 (2.6)	7 (2.8)	1 (0.8)	7 (4.7)
otal homeless	186 (3.2)	26 (12.5)	31 (15.2)	24 (24.7)	25 (19.8)

Note. The sample size was n = 6317. All percentages are weighted.

victimization and mental health problems such as depression, posttraumatic stress disorder, and suicidality than do homeless heterosexual youths. 31,33,35,36 Lesbian and bisexual females who are homeless appear to be at especially elevated risk for substance use and abuse compared with homeless heterosexual females. 31,36 Sexual risk behaviors also appear to disproportionately impact sexual-minority homeless adolescents. Studies have reported higher numbers of lifetime sexual partners, younger ages of sexual initiation, and higher rates of unprotected intercourse, survival sex, and HIV and other sexually transmitted infections among sexualminority homeless adolescents. 31-33,37 However, not all studies have reported sexual-orientation

differences in risky sexual behaviors among homeless youths.<sup>32</sup> Whether the elevated health risks of homeless sexual minorities are related to a general pattern of sexual-orientation disparities or are because homelessness interacts with sexual-minority status to magnify vulnerability remains unclear. Unfortunately, low statistical power prevented us from examining this question.

The findings of the current study may not be directly comparable to previous studies of homelessness in sexual-minority youths because of differences in the sampling strategy (i.e., school-based) and the definition of homelessness (McKinney-Vento is broad and includes youths sleeping at a friend's or relative's home). Homeless youths participating in the MAYRBS may differ in important ways from homeless youths identified through street- and shelter-based studies. Nonetheless, a report based on the 2005 MAYRBS data showed that students classified as homeless on the basis of the McKinney-Vento definition had greater health risks such as substance use, depression, victimization, suicidality, and risky sexual behaviors than did their housed peers.<sup>38</sup> Despite their school attendance, the homeless youths identified in this study clearly constitute a vulnerable population.

Some study limitations should be noted. Because we used a sample of high school students, our study likely underestimated the prevalence of homelessness among high school-aged youths. To participate, students needed to attend school on the day the survey was administered. Youths who are homeless may be more likely to be absent from school or to have dropped out of high school. In addition, generalizability was constrained by the fact that the data came exclusively from Massachusetts. Although we combined data from 2 data collection waves, the small sample size of the homeless group and of the sexual-minority youths did not allow for a more detailed examination of the factors that might mediate or moderate relationships between sexual orientation and homeless status. Furthermore,

TABLE 3—Associations of Sexual Orientation and Homeless Status Among Male and Female Participants (n = 6317): Youth Risk Behavior Survey, Massachusetts, 2005 and 2007

	Male (n = 307	'9)	Female (n = 3238)		
Sexual Orientation	AOR (95% CI)	Р	AOR (95% CI)	Р	
Exclusively heterosexual	Ref		Ref		
Heterosexual with same-sex partners	4.50 (2.43, 8.32)	<.001	4.73 (2.21, 10.1)	<.001	
Bisexual	7.84 (4.09, 15.0)	<.001	5.99 (3.40, 10.6)	<.001	
Lesbian/gay	7.69 (4.36, 13.6)	<.001	13.0 (5.40, 31.4)	<.001	
Unsure	8.56 (3.62, 20.3)	<.001	3.93 (1.33, 11.6)	.01	

Note. AOR = adjusted odds ratio; CI = confidence interval. Estimated by multiple logistic regression with adjustment for age group, race/ethnicity, US-born status, and survey year.

TABLE 4—Associations of Sexual Orientation With Homelessness and Living or Not Living With Parents or Guardians Among Male and Female Participants: Youth Risk Behavior Survey, Massachusetts, 2005 and 2007

	Homeless ar	nd Not Living With Parents	Homeless and Living With Parents		
Sexual Orientation	%	AOR <sup>a</sup> (95% CI)	%	AOR <sup>a</sup> (95% CI)	
Male respondents					
Exclusively heterosexual (Ref)	1.9	1.00	1.3	1.00	
Heterosexual with same-sex partners	10.7	6.24 (2.50, 15.6)	3.1	2.75 (0.79, 9.62)	
Bisexual	16.4	11.9 (6.39, 22.2)	2.3	1.86 (0.30, 11.7)	
Gay	15.4	9.67 (4.83, 19.4)	7.7	6.58 (2.39, 18.1)	
Unsure	22.3	13.3 (5.36, 32.8)	4.5	2.39 (0.33, 17.1)	
Female respondents					
Heterosexual (Ref)	1.2	1.00	0.9	1.00	
Heterosexual with same-sex partners	4.2	3.82 (1.36, 10.8)	3.1	3.84 (0.98, 15.0)	
Bisexual	8.7	7.75 (3.92, 15.3)	2.5	3.20 (1.11, 9.23)	
Lesbian	22.5	23.2 (9.17, 58.7)	3.8	5.00 (0.93, 26.8)	
Unsure	2.6	2.27 (0.48, 10.8)	3.5	3.38 (0.35, 32.3)	

Note. AOR = adjusted odds ratio; CI = confidence interval. The sample size was n = 6317. Estimated by multinomial logistic regression with adjustment for age group, race/ethnicity, US-born status, and survey year. "Other" homeless respondents (n = 55) were excluded for not being able to determine their status of living with parents or guardians. Percentages are weighted.

it is possible that uncontrolled confounding (for example, socioeconomic status was not assessed in the MAYRBS) could have biased the relationships between sexual orientation and homelessness. Finally, the cross-sectional nature of the data did not allow us to determine the causal direction of the association between sexual orientation and homeless status.

Massachusetts has been at the forefront of implementing policies and programs to improve the social climate and to extend civil rights to lesbian, gay, and bisexual persons. In 1993 the Massachusetts Department of Elementary and Secondary Education established the Safe Schools Program, which helps schools comply with antidiscrimination laws and encourages them to provide school-based counseling for family members of gay and lesbian students; establish school-based support groups such as Gay-Straight Alliances; develop school policies protecting gay and lesbian students from harassment, violence, and discrimination; and provide training to school personnel in crisis and suicide intervention.<sup>39</sup> Despite these important efforts, more needs to be done to reduce homelessness and to enhance support

among lesbian, gay, and bisexual youths and their families residing in Massachusetts and across the United States.

Professionals working with adolescents should be aware that minority sexual orientation status is linked to a greater vulnerability of being homeless. Relationships with family and risk for homelessness should be assessed among youths identifying themselves as lesbian, gay, or bisexual and among youths who identify themselves as heterosexual but report same-sex sexual partners. Future research should focus on developing a more comprehensive understanding of the mechanisms contributing to the higher risk of homelessness in this population. Likewise, it will be essential to identify factors that protect lesbian, gay, and bisexual youths from becoming homeless. This information would aid in the design of programs and policies to reduce sexual-orientation disparities in youth homelessness.

## **About the Authors**

Heather L. Corliss is with the Division of Adolescent and Young Adult Medicine, Children's Hospital Boston and the Department of Pediatrics, Harvard Medical School, Boston, MA. Carol S. Goodenow is with the Massachusetts Department of Elementary and Secondary Education, Malden. Lauren Nichols is with the Division of Adolescent and Young Adult Medicine, Children's Hospital Boston. S. Bryn Austin is with the Division of Adolescent and Young Adult Medicine, Children's Hospital Boston and the Department of Society, Human Development and Health, Harvard School of Public Health, Boston, MA.

Correspondence should be sent to Heather Corliss, Division of Adolescent and Young Adult Medicine, Children's Hospital Boston, 300 Longwood Avenue, Boston, MA, 02115 (e-mail: heather.corliss@childrens.harvard.edu). Reprints can be ordered at http://www.ajph.org by clicking on the "Reprints/Eprints" link.

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#### Contributors

H.L. Corliss designed and conceptualized the study, analyzed and interpreted the data, and wrote the article. C.S. Goodenow and S.B. Austin assisted with study design and conceptualization, data interpretation, and preparation of the article. L. Nichols assisted with data interpretation and preparation of the article.

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#### **Human Participant Protection**

The surveys on which this article was based were approved by the Massachusetts Department of Elementary and Secondary Education (MDOE) and by the AIDS Advisory and Materials Review Panel, as required by the MDOE Cooperative Agreement with the Centers for Disease Control and Prevention. Survey administration was conducted by MDOE staff in full compliance with standards for ethical treatment of individuals participating in the project. Institutional review board approval for this analysis was obtained from Children's Hospital Boston.

#### References

- State Report Card on Childhood Homelessness: America's Youngest Outcasts. Newton, MA: The National Center on Family Homelessness; 2009.
- National Alliance to End Homelessness. Incidence and vulnerability of LGBTQ homeless youth. Available at: http://www.endhomelessness.org/content/article/detail/2141. Accessed December 6, 2010.
- 3. Martijn C, Sharpe L. Pathways to youth homelessness. *Soc Sci Med.* 2006;62(1):1–12.
- 4. Susser E, Moore R, Link B. Risk factors for homelessness. *Epidemiol Rev.* 1993;15(2):546–556.
- 5. Solorio MR, Rosenthal D, Milburn NG, et al. Predictors of sexual risk behaviors among newly homeless

<sup>&</sup>lt;sup>a</sup>Referent was not homeless.

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- youth: a longitudinal study. *J Adolesc Health.* 2008; 42(4):401–409.
- Shelton KH, Taylor PJ, Bonner A, van den Bree M. Risk factors for homelessness: evidence from a population-based study. *Psychiatr Serv.* 2009;60(4):465–472.
- Resnick MD, Bearman PS, Blum RW, et al. Protecting adolescents from harm. Findings from the National Longitudinal Study on Adolescent Health. *JAMA*. 1997;278(10):823–832.
- 8. Shillington AM, Lehman S, Clapp J, Hovell MF, Sipan C, Blumberg EJ. Parental monitoring: can it continue to be protective among high-risk adolescents? *J Child Adolesc Subst Abuse.* 2005;15(1):1–15.
- 9. Stein JA, Milburn NG, Zane JI, Rotheram-Borus MJ. Paternal and maternal influences on problem behaviors among homeless and runaway youth. *Am J Orthopsychiatry*, 2009;79(1):39–50.
- 10. Rosenthal D, Mallett S, Myers P. Why do homeless young people leave home? *Aust N Z J Public Health*. 2006;30(3):281–285.
- 11. Herman DB, Susser ES, Struening EL, Link BL. Adverse childhood experiences: are they risk factors for adult homelessness? *Am J Public Health.* 1997;87(2): 249–255.
- 12. van den Bree MB, Shelton K, Bonner A, Moss S, Thomas H, Taylor PJ. A longitudinal population-based study of factors in adolescence predicting homelessness in young adulthood. *J Adolesc Health*. 2009;45(6):571–578.
- 13. Austin SB, Jun HJ, Jackson B, et al. Disparities in child abuse victimization in lesbian, bisexual, and heterosexual women in the Nurses' Health Study II. J Womens Health (Larchmt). 2008;17(4):597–606.
- 14. Balsam KF, Rothblum ED, Beauchaine TP. Victimization over the life span: a comparison of lesbian, gay, bisexual, and heterosexual siblings. *J Consult Clin Psychol.* 2005;73(3):477–487.
- Corliss HL, Cochran SD, Mays VM. Reports of parental maltreatment during childhood in a United States population-based survey of homosexual, bisexual, and heterosexual adults. *Child Abuse Negl.* 2002;26(11): 1165–1178
- 16. Saewyc EM, Skay CL, Pettingell SL, et al. Hazards of stigma: the sexual and physical abuse of gay, lesbian, and bisexual adolescents in the United States and Canada. *Child Welfare.* 2006;85(2):195–213.
- 17. Bontempo DE, D'Augelli AR. Effects of at-school victimization and sexual orientation on lesbian, gay, or bisexual youths' health risk behavior. *J Adolesc Health.* 2002;30(5):364–374.
- Bos HM, Sandfort TG, de Bruyn EH, Hakvoort EM.
  Same-sex attraction, social relationships, psychosocial functioning, and school performance in early adolescence. *Dev Psychol.* 2008;44(1):59–68.
- 19. Hansen AL. School-based support for GLBT students: a review of three levels of research. *Psychol Sch.* 2007;44(8):839–848.
- 20. Kosciw JG, Cullen MK. The 2003 National School Climate Survey: The School Related Experiences of Our Nation's Lesbian, Gay, Bisexual and Transgender Youth. New York, NY: The Gay, Lesbian and Straight Education Network; 2003.
- 21. Russell ST, Seif H, Truong NL. School outcomes of sexual minority youth in the United States: Evidence from a national study. J Adolesc. 2001;24(1):111–127.

- Massachusetts Department of Elementary and Secondary Education. Youth Risk Behavior Survey. Version current January 7, 2010. Available at: http://www.doe.mass.edu/cnp/hprograms/yrbs. Accessed April 18, 2011.
- 23. McKinney Vento Homeless Assistance Act of 1987, as amended, Title VII, Subtitle B. 42 USC §11341-11435 (1987). Available at: http://www.ed.gov/programs/homeless/legislation.html. Accessed December 6, 2010.
- 24. Cochran SD, Mays VM. Physical health complaints among lesbians, gay men, and bisexual and homosexually experienced heterosexual individuals: results from the California Quality of Life Survey. *Am J Public Health*. 2007;97(11):2048–2055.
- 25. Cochran SD, Mays VM. Burden of psychiatric morbidity among lesbian, gay, and bisexual individuals in the California Quality of Life Survey. *J Abnorm Psychol.* 2009;118(3):647–658.
- 26. Fournier ME, Austin SB, Samples CL, Goodenow CS, Wylie SA, Corliss HL. A comparison of weight-related behaviors among high school students who are homeless and non-homeless. *J Sch Health.* 2009;79(10):466–473.
- 27. Ringwalt CL, Greene JM, Robertson M, McPheeters M. The prevalence of homelessness among adolescents in the United States. *Am J Public Health*. 1998;88(9):1325–1329.
- 28. Baker SG. Gender, ethnicity, and homelessness: accounting for demographic diversity on the streets. *Am Behav Sci.* 1994;37(4):476–504.
- Cousineau MR. Comparing adults in Los Angeles County who have and have not been homeless. *J* Community Psychol. 2001;29(6):693–701.
- Fiedler R, Schumman N, Hyndman J. Hidden homelessness: an indicator-based approach for examining the geographies of recent immigrants at-risk of homelessness in Greater Vancouver. Cities. 2006;23(3): 205–216
- 31. Whitbeck LB, Chen X, Hoyt DR, Tyler KA, Johnson KD. Mental disorder, subsistence strategies, and victimization among gay, lesbian, and bisexual homeless and runaway adolescents. *J Sex Res.* 2004;41(4):329–342.
- 32. Rew L, Whittaker TA, Taylor-Seehafer MA, Smith LR. Sexual health risks and protective resources in gay, lesbian, bisexual, and heterosexual homeless youth. *J Spec Pediatr Nurs.* 2005;10(1):11–19.
- 33. Cochran BN, Stewart AJ, Ginzler JA, Cauce AM. Challenges faced by homeless sexual minorities: comparison of gay, lesbian, bisexual, and transgender homeless adolescents with their heterosexual counterparts. *Am J Public Health*. 2002;92(5):773–777.
- 34. Van Leeuwen JM, Boyle S, Salomonsen-Sautel S, Baker DN, Garcia JT, Hoffman A, et al. Lesbian, gay, and bisexual homeless youth: an eight-city public health perspective. *Child Welfare* 2006;85(2):151–170.
- 35. Tyler KA. A comparison of risk factors for sexual victimization among gay, lesbian, bisexual, and heterosexual homeless young adults. *Violence Vict.* 2008; 23(5):586–602.
- 36. Noell JW, Ochs LM. Relationship of sexual orientation to substance use, suicidal ideation, suicide attempts, and other factors in a population of homeless adolescents. *J Adolesc Health.* 2001;29(1):31–36.
- 37. Gangamma R, Slesnick N, Toviessi P, Serovich J. Comparison of HIV risks among gay, lesbian, bisexual

- and heterosexual homeless youth. *J Youth Adolesc.* 2008;37(4):456–464.
- 38. Massachusetts Department of Education. A Snapshot of Homelessness in Massachusetts Public High Schools: 2005 Massachusetts Youth Risk Behavior Survey and Massachusetts Annual Homeless Enrollment Data. July 2007. Available at: http://www.doe.mass.edu/mv/05homelessreport.doc. Accessed December 6, 2010.
- 39. Szalacha LA. Safer sexual diversity climates: lessons learned from an evaluation of Massachusetts Safe Schools program for gay and lesbian students. *Am J Educ.* 2003;110:58–88.

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