

# The Role of Race/Ethnicity in the Relationship Between Emergency Department Use and Intimate Partner Violence: Findings From the 2002 National Survey on Drug Use and Health

Sherry Lipsky, PhD, MPH, and Raul Caetano, MD, PhD, MPH

Intimate partner violence (IPV) against women has been associated with increased healthcare utilization overall<sup>1–5</sup> and with non–primary care services in particular.<sup>6–8</sup> For example, nearly 40% of the approximately 4.8 million rape and violent physical incidents perpetrated by intimate partners each year result in injury and about 30% of injured women receive medical care.<sup>7</sup> The majority of these women receive treatment in a hospital setting, with more than half treated in an emergency department. Multiple medical care visits are frequently required for each incident, resulting in nearly 500 000 emergency department visits each year by women victims, as well as costs to consumers, employers, and the public health system of more than \$168.5 million per year for emergency department visits alone.<sup>7</sup>

Although racial and ethnic disparities in the relationship between IPV and emergency department utilization have not been reported in studies of nonclinical samples, several related paths of research point in this direction. First, the extant literature overall suggests that IPV occurs more frequently among Blacks and, to a lesser extent, Hispanics compared with Whites in general population surveys.<sup>9</sup> Second, alcohol use is associated with IPV, especially among Black women. The 1995 National Study of Couples,<sup>10</sup> for example, found that women exposed to male-perpetrated IPV were more likely than were nonexposed women to report alcohol problems and drug use, particularly women of Black or “other” race/ethnicity who experienced severe IPV. Likewise, Caetano et al.<sup>11</sup> found social consequences of drinking, but not dependence symptoms, among female partners to be associated with male-to-female IPV only among Black couples. However, White and Chen<sup>12</sup> found a woman’s problem drinking to be associated

**Objectives.** We examined the relationship between intimate partner violence victimization among women in the general population and emergency department use. We sought to discern whether race/ethnicity moderates this relationship and to explore these relationships in race/ethnic-specific models.

**Methods.** We used data on non-Hispanic White, Non-Hispanic Black, and Hispanic married or cohabiting women from the 2002 National Survey on Drug Use and Health. Adjusted odds ratios (AORs) and 95% confidence intervals (CIs) were calculated using logistic regression.

**Results.** Women who reported intimate partner violence victimization were 1.5 times more likely than were nonvictims to use the emergency department, after we accounted for race/ethnicity and substance use. In race/ethnic-specific analyses, only Hispanic victims were more likely than their nonvictim counterparts to use the emergency department (AOR=3.68; 95% CI= 1.89, 7.18), whereas substance use factors varied among groups.

**Conclusions.** Our findings suggest that the emergency department is an opportune setting to screen for intimate partner violence victimization, especially among Hispanic women. Future research should focus on why Hispanic victims are more likely to use the emergency department compared with nonvictims, with regard to socioeconomic and cultural determinants of health care utilization. (*Am J Public Health.* 2007;97:2246–2252. doi:10.2105/AJPH.2006.091116)

with her victimization in a study among a predominately White population. All of these analyses controlled for partner drinking. It remains unclear whether substance use precedes or follows IPV, but the current literature suggests that women may “self-medicate” to alleviate the effects of partner violence.<sup>13–16</sup>

Third, race/ethnicity is a factor in the utilization of emergency department services and in alcohol-related emergency department use. Black and Hispanic women are more likely to utilize emergency department and in-patient hospital services compared with non-Hispanic White women,<sup>17–24</sup> and alcohol-related visits to the emergency department for Blacks are approximately twice that of Whites overall.<sup>25</sup> Further, women’s (and their partners’) use of illicit drugs and alcohol abuse are associated with IPV among ethnic minorities who attend urban emergency departments, with IPV-related injury among women victims in emergency department

studies, and with severe IPV in female trauma patients.<sup>26–30</sup> Taken together, these findings suggest that Black and Hispanic women are more likely than are White women to utilize the emergency department, that Black and Hispanic women who have experienced IPV are more likely than their non-victim counterparts to utilize the emergency department, and that substance abuse may play a role in these relationships.

Many of the studies that have addressed the relationship between IPV and emergency department utilization have been clinic- or hospital-based studies. These studies may introduce detection bias by differentially including those individuals who lack access to primary care or those who have the ability to pay (or have insurance) for emergency department services, depending on the socioeconomic status of the population served.<sup>19,21,31–36</sup> Few population-based self-report surveys have examined health

care utilization,<sup>37–39</sup> aside from those focused on IPV incident-specific care, such as the National Violence Against Women Survey conducted 10 years ago.

To address these gaps in the literature, we aimed to (1) examine the relationship between IPV victimization among women and emergency department utilization in the general population, while accounting for race/ethnicity and substance use; (2) discern whether race/ethnicity is a moderator in the relationship between IPV and emergency department use; and (3) examine the relationship between IPV and emergency department use in race/ethnic-specific analyses in the event race/ethnicity was found to be a moderating factor.

## METHODS

Our sample was drawn from the 2002 National Survey on Drug Use and Health (NSDUH) public-use file.<sup>40</sup> The NSDUH is a cross-sectional survey conducted each year by the Office of Applied Studies of the US Department of Health and Human Services Substance Abuse and Mental Health Services Administration. The survey methodology has been reported elsewhere.<sup>41</sup> Briefly, data were obtained from a representative sample of the noninstitutionalized civilian population of the United States through face-to-face interviews at their place of residence with computer-assisted administration of the questionnaire. Missing data were imputed and recoded for core variables (substance use), but imputation for missing data generally was not done prior to the recoding of noncore variables. Consequently, noncore recoded variables may still have missing values. Imputed or recoded variables were utilized where provided to produce estimates. Data on cohabitation were missing for 22 respondents; of the 7934 respondents with cohabitation data, all but 10 responded to the IPV question, leaving a total sample size of 7924 participants.

Non-Hispanic Black, non-Hispanic White, and Hispanic (of any race) married or cohabiting female respondents aged 18 to 49 years were included in the our analysis. The study sample was restricted to these groups given the small numbers of individuals who identified

their race/ethnicity as other than these groups (see “Sociodemographic factors” in the “Measures” section). The age range was restricted given the substantial decline in IPV victimization found in older age groups.<sup>42</sup>

## Measures

**Outcome measure.** The outcome measure for our study was any emergency department utilization in the previous 12 months. Respondents were asked how many times they were treated in an emergency department for any reason. The responses were dichotomized as “yes” or “no” given the skewed data, with 72% of women having no visits, 15% having 1 visit, and 12.8% having 2 or more (up to 31) visits.

**Exposure measure.** The exposure measure was defined as any IPV victimization in the previous 12 months. Only women who were married or cohabiting with a partner at the time of survey were asked the following question in the survey regarding IPV victimization: “How many times during the past 12 months did your spouse or partner hit or threaten to hit you?” Possible responses included 0 times, 1 or 2 times, a few times, or many times. Women who indicated that victimization occurred 1 or more times were categorized as IPV victims; those who indicated that no victimization occurred were categorized as nonvictims. IPV victimization was dichotomized because 95% of women reported no victimization and the majority (67%) of those with IPV reported that IPV occurred 1 or 2 times.

**Substance use.** Alcohol measures included (1) 5 or more drinks per occasion in the past 30 days (“binge drinking”); (2) 5 or more drinks per occasion on each of 5 or more days in the past 30 days (“heavy drinking”); heavy drinkers included binge drinkers; and (3) alcohol abuse or dependence. Alcohol abuse was defined using the criteria listed in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)*<sup>43</sup>; a respondent must have met 1 or more of these criteria in the past year and been determined not to be alcohol dependent to be classified as abusing alcohol. Alcohol dependence was defined with the dependence criteria listed in the *DSM-IV*.<sup>43</sup> Respondents were considered

alcohol dependent if they used alcohol in the past year and met 3 or more of 7 dependence criteria.

Other drug measures included (1) illicit drug use, defined as any use of the following in the previous 12 months: cocaine, crack cocaine, heroin, hallucinogens, inhalants, marijuana, or prescription drug use (defined as any use of pain relievers, tranquilizers, stimulants, or sedatives not prescribed for the respondent or taken “only for the experience or feeling it caused” in the previous 12 months) and (2) illicit drug abuse or dependence. Drug abuse was defined using the criteria listed in the *DSM-IV*<sup>43</sup>; a respondent must have met 1 or more of these criteria in the past year and been determined not to be dependent on any drug to be classified as abusing drugs. Drug dependence was defined as dependence on any drug listed previously and was based on *DSM-IV* criteria.<sup>43</sup>

**Sociodemographic factors.** Respondent’s race/ethnicity was assessed by asking (1) “Are you of Hispanic, Latino, or Spanish origin or descent?” and (2) “Which of these groups describes you?” The groups included White, Black/African American, American Indian/Native American or Alaska Native, Native Hawaiian, Other Pacific Islander, Asian, and other. If more than 1 response was selected, the respondent was asked “Which one of these groups best describes you?” These data were used to categorize the final groups in the public data set.<sup>44</sup> Only those respondents who identified as non-Hispanic White, non-Hispanic Black/African American, or Hispanic of any race (hereafter referred to as White, Black, and Hispanic) were included in this analysis; multiethnic groups were excluded.

Other sociodemographic factors included age group, marital status, education level, employment status in past week (full-time [ $\geq 35$  hours/week], part-time [ $< 35$  hours/week], unemployed and looking for work, other or not in workforce [disabled, keeping house full-time, in school or training, retired, some other reason]), household income, current health insurance, no health insurance at some time in past year, number of children younger than 18 years old in household, and household density (number of people in the home).

Acculturation among Hispanics was measured by (1) whether born in the United States (“yes”/“no”), (2) years lived in United States (<5 years, 5–9 years, ≥10 years or born in United States) and (3) language version (Spanish or English) of questionnaire employed. Acculturation was not measured for Whites and Blacks because the majority (96% and 91%, respectively) of respondents in those groups were born in the United States.

### Data Analysis

We used the  $\chi^2$  test in bivariate analyses; *P* values less than .05 were considered significant. We performed logistic regression analysis to examine the relationship between the outcome variable, any emergency department use (0=no; 1=yes), and the exposure variable, any IPV victimization; we computed adjusted odds ratios (AORs) and 95% confidence intervals (CIs). We assessed sociodemographic factors and alcohol and other drug variables individually for confounding using logistic regression; we considered a variable to be a potential confounder if it altered the odds ratio of the crude estimate of IPV and emergency department use by 10% or more.<sup>45</sup> We included only those participants with complete data for all variables in each analysis.

We examined the relationship between IPV and emergency department utilization (aim 1) by adding potentially confounding factors to the model, 1 at a time; sociodemographic factors were added first, followed by alcohol factors, and then illicit drug factors. A factor was retained if it altered the odds ratio of the outcome and the exposure measure by 10% or more or the factor itself was independently associated with emergency department utilization (*P*≤.10, by the Wald test).

To assess whether race/ethnicity was a moderator in the relationship between IPV and emergency department use (aim 2), we tested the interaction of race/ethnicity and IPV by adding the interaction term and its components to the full model derived for aim 1. We used the Wald test statistic to determine whether the interaction term was significant (*P*≤.10).

We assessed the association between IPV and emergency department utilization in

separate models for White, Black, and Hispanic respondents (aim 3) if the interaction term was significant in the analysis for aim 2. We built the model for aim 3 following the same procedures as described for aim 1 except that we retained all of the sociodemographic factors utilized in that analysis for comparison purposes. We also tested acculturation measures as potentially confounding factors and as independent risk factors in the Hispanic model.

We conducted all analyses with the SUDAAN (Research Triangle Institute, Research Triangle Park, NC). SUDAAN takes into account the complex multistage sampling design to more accurately estimate the standard errors. We weighted the data to correct for the probability of selection into the sample and nonresponse and to adjust the sample to known population distributions. The original data records were randomly subsampled for the public-use file to ensure confidentiality, and the remaining sample data was adjusted to match the known totals from the full public-use file to increase precision.

## RESULTS

### Bivariate Analysis

Among all women in the sample, 536 (5.1%) reported IPV victimization in the previous 12 months, which represented more than 1.9 million married or cohabiting women victims in the US population. Eleven percent of Black women, 6.7% of Hispanic women, and 4% of White women reported IPV, which represented 388 067 Black women, 384 602 Hispanic women, and 1 168 472 White women victims.

As shown in Table 1, several sociodemographic factors were associated with IPV victimization. Black and, to a lesser extent, Hispanic women were more likely to have been victims in the previous 12 months. Younger women—particularly in the group aged 18 to 25 years—women not married to their cohabiting partner, women with lower education and income levels, and the unemployed were significantly more likely to be victims. Furthermore, IPV victimization was significantly more likely to have occurred among women with no health insurance or with government-subsidized insurance.

### Multivariate Analysis

Women who had experienced IPV victimization in the previous 12 months were twice as likely as nonvictims to utilize the emergency department (unadjusted OR=2.00; 95% CI=1.55, 2.58; data not shown). Women who reported IPV victimization were 1.5 times more likely than nonvictims to utilize the emergency department, after sociodemographic and substance use factors were taken into account (AOR=1.54; 95% CI=1.18, 2.01; Table 2). Most of the sociodemographic factors found to be significant in the bivariate analysis were independently associated with emergency department utilization, including race/ethnicity. Black race/ethnicity was positively associated with emergency department use (AOR=1.46; 95% CI=1.13, 1.88), and Hispanic race/ethnicity was somewhat protective (AOR=0.80; 95% CI=0.62, 1.03). Although illicit drug abuse or dependence did not confound the relationship between emergency department use and IPV, it was independently associated with emergency department use (AOR=1.84; 95% CI=1.19, 2.86). None of the alcohol measures produced confounding, nor were they independently associated with emergency department use; thus, these measures were not included in the final model.

To address our second aim, we examined the interaction between IPV and race/ethnicity. The interaction term was significant (Wald *F* test; *P*=.02), with the relationship of IPV to emergency department use 3 times as great among Hispanics as it was among Whites after accounting for all factors (AOR=2.99; 95% CI=1.37, 6.54). The relationship of IPV to emergency department use was only slightly greater among Blacks compared with Whites but was nonsignificant (AOR=1.23; 95% CI=0.60, 2.49).

*Race/ethnic-specific models.* To address aim 3, race/ethnic-specific models were constructed as shown in Table 3. Again, only Hispanic victims were significantly more likely than their nonvictim counterparts to utilize the emergency department in the past year (AOR=3.68; 95% CI=1.89, 7.18). None of the substance use or acculturation measures were independently associated with emergency department use, nor did they confound the relationship

**TABLE 1—Sample Sociodemographic Characteristics, by Intimate Partner Violence (IPV) Victimization Status: National Survey on Drug Use and Health, 2002**

	IPV Victims, % (SE)	Nonvictims, % (SE)
Total, No.	536	7 388
Race/Ethnicity**		
Non-Hispanic Black	11.0 (1.6)	89.0 (1.6)
Hispanic	6.7 (1.0)	93.3 (1.0)
Non-Hispanic White	4.0 (0.3)	96.0 (0.3)
Age, y**		
18–25	10.4 (0.7)	89.6 (0.7)
26–34	5.6 (0.6)	94.4 (0.6)
35–49	3.6 (0.4)	96.4 (0.4)
Marital status**		
Separated/divorced/never married	9.3 (0.9)	90.7 (0.9)
Married	4.2 (0.3)	95.9 (0.3)
Children in household		
Yes	5.0 (0.4)	95.0 (0.4)
No	5.2 (0.6)	94.8 (0.6)
Household density		
1–2 persons	6.1 (0.7)	94.0 (0.7)
3–4 persons	4.5 (0.4)	95.5 (0.4)
≥ 5 persons	5.3 (0.6)	94.7 (0.6)
Education**		
< High school	8.3 (1.0)	91.7 (1.0)
High school graduate	5.4 (0.6)	94.6 (0.6)
Some college	4.8 (0.6)	95.2 (0.6)
≥ College graduate	3.3 (0.5)	96.7 (0.5)
Household income, \$**		
< 20 000	8.6 (1.0)	91.5 (1.0)
20 000–39 000	6.0 (0.6)	94.0 (0.6)
40 000–74 000	5.0 (0.6)	95.0 (0.6)
≥ 75 000	3.0 (0.5)	97.0 (0.5)
Employment*		
Full time	4.6 (0.4)	95.4 (0.4)
Part time	5.1 (0.7)	94.9 (0.7)
Unemployed	14.5 (3.0)	85.6 (3.0)
Other	4.8 (0.6)	95.2 (0.6)
Health insurance**		
None	8.0 (1.0)	92.0 (1.0)
Government subsidized	8.6 (1.3)	91.4 (1.3)
Private/other	4.3 (0.3)	95.7 (0.3)
Lacked health insurance at some time in past year		
Yes	7.0 (0.9)	93.0 (0.9)
No	3.4 (0.3)	96.6 (0.3)

Notes. Numbers are unweighted, and percentages are weighted and represent row percentage.  
\**P* < .05; \*\**P* < .01.

**TABLE 2—Association of Intimate Partner Violence (IPV) Victimization and Emergency Department Utilization Among Non-Hispanic Black, Hispanic, and Non-Hispanic White Women (N = 7888): National Survey on Drug Use and Health, 2002**

	AOR (95% CI)
IPV	1.54 (1.18, 2.01)
Race/ethnicity	
Non-Hispanic Black	1.46 (1.13, 1.88)
Hispanic	0.80 (0.62, 1.03)
Non-Hispanic White (Ref)	1.00
Age, y	
18–25	1.52 (1.29, 1.80)
26–34	1.13 (0.95, 1.35)
35–49 (Ref)	1.00
Marital status	
Separated/divorced/never married	1.38 (1.15, 1.65)
Married (Ref)	1.00
Education	
< High school	2.13 (1.64, 2.76)
High school graduate	1.46 (1.19, 1.79)
Some college	1.31 (1.07, 1.60)
≥ College graduate (Ref)	1.00
Household income, \$	
< 20 000	1.36 (1.03, 1.80)
20 000–39 000	1.47 (1.18, 1.84)
40 000–74 000	1.16 (0.95, 1.41)
≥ 75 000 (Ref)	1.00
Health insurance	
None	0.81 (0.66, 1.00)
Government subsidized	1.65 (1.25, 2.18)
Private/other (Ref)	1.00
Drug abuse/dependence	
Yes	1.84 (1.19, 2.86)
No (Ref)	1.00

Notes. AOR = adjusted odds ratio; CI = confidence interval. Model adjusted for all variables listed.

between emergency department use and IPV. On the other hand, Black women who utilized the emergency department were nearly 4 times more likely to be heavy drinkers

compared with Black women who did not use the emergency department, and White women who used the emergency department were more than twice as likely as their

counterparts who did not use the emergency department to abuse or be dependent on illicit drugs.

To explore these differences, we examined sociodemographics and substance use among racial/ethnic groups (data not shown). Compared with Black and White women, Hispanic women were younger, less likely to have a high school education or be employed



**TABLE 3—Association of Intimate Partner Violence (IPV) Victimization and Emergency Department Utilization, by Race/Ethnicity: National Survey on Drug Use and Health, 2002**

	Hispanic, AOR (95% CI)	Non-Hispanic Black, AOR (95% CI)	Non-Hispanic White, AOR (95% CI)
Total, No.	1 085	648	6 155
IPV	3.68 (1.89, 7.18)	1.30 (0.65, 2.61)	1.17 (0.87, 1.58)
Age, y			
18–25	1.36 (0.84, 2.20)	1.61 (0.99, 2.63)	1.55 (1.29, 1.86)
26–34	0.84 (0.50, 1.43)	1.18 (0.70, 1.99)	1.19 (0.99, 1.43)
35–49 (Ref)	1.00	1.00	1.00
Marital status			
Separated/divorced/never married	1.82 (1.15, 2.89)	1.69 (0.93, 3.07)	1.22 (1.00, 1.49)
Married (Ref)	1.00	1.00	1.00
Education			
<High school	2.87 (1.22, 6.78)	1.76 (0.74, 4.18)	2.23 (1.66, 2.99)
High school graduate	1.82 (0.74, 4.47)	1.34 (0.67, 2.67)	1.43 (1.16, 1.78)
Some college	3.59 (1.43, 9.02)	1.20 (0.61, 2.36)	1.19 (0.96, 1.48)
≥College graduate (Ref)	1.00	1.00	1.00
Household income, \$			
<20 000	1.07 (0.37, 3.09)	2.58 (1.13, 5.87)	1.54 (1.11, 2.14)
20 000–39 000	2.68 (0.90, 8.00)	1.52 (0.74, 3.14)	1.36 (1.06, 1.73)
40 000–74 000	2.15 (0.79, 5.85)	1.36 (0.71, 2.62)	1.07 (0.87, 1.33)
≥75 000 (Ref)	1.00	1.00	1.00
Health insurance			
None	0.72 (0.43, 1.18)	1.13 (0.53, 2.40)	0.81 (0.64, 1.02)
Government subsidized	1.63 (0.82, 3.24)	0.90 (0.41, 2.01)	1.99 (1.46, 2.71)
Private/other (Ref)	1.00	1.00	1.00
Substance use			
Heavy alcohol use	...	3.75 (0.85, 16.54)	...
Drug abuse/dependence	...	...	2.31 (1.41, 3.77)

Notes. AOR = adjusted odds ratio; CI = confidence interval. Adjusted for all variables listed unless noted. Ellipses indicate that the variable was not included in model (neither a confounder nor an independent risk factor).

full time, and more likely to have a lower household income and not have health insurance (all  $P < .001$ ). We also found significant differences across groups in relation to alcohol use patterns but not in illicit drug use or drug abuse or dependence. Hispanic women were less likely than were Black or White women to binge drink (14.3%, 19.7%, and 18.9%, respectively;  $P < .05$ ) and to be heavy drinkers (1.4%, 3.9%, and 3.9%, respectively;  $P < .001$ ).

## DISCUSSION

Our key finding suggests that only Hispanic victims appear to be more likely than their nonvictim counterparts to utilize the emergency department, as illustrated in the

race/ethnic-specific models. It is of interest to note, however, that no alcohol or illicit drug factor confounded that relationship or was independently associated with emergency department use among Hispanic women. By contrast, heavy drinking among Black women and illicit drug abuse or dependence among White women were associated with emergency department utilization.

These findings may be explained in part by differences in substance use among racial/ethnic groups. Hispanic women were less likely to binge drink and to be heavy drinkers. These patterns of drinking among Hispanic women are supported in part by those of other population-based surveys that have reported lower levels of alcohol intake among Hispanic women compared with White

women after adjustment for socioeconomic status.<sup>46</sup> Although the rate of frequent heavy drinking among Hispanic women (3%) has been found to be comparable to that of White women and slightly lower than that of Black women,<sup>47</sup> a positive relationship has been demonstrated between acculturation and drinking as well as with frequent drunkenness among Hispanic women.<sup>48,49</sup> It is possible, however, that the variables available in the NSDUH data set do not adequately measure acculturation. Despite the fact that a substantial proportion of emergency department visits in the United States are associated with alcohol use and misuse,<sup>25,50–52</sup> our findings suggest that alcohol misuse may play a lesser role among Hispanic women in their use of emergency department services, with IPV being the driving factor.

Socioeconomic status may also play a role in the relationship between IPV and emergency department use among Hispanics. Although socioeconomic factors were controlled in the race/ethnic-specific analyses, Hispanic women were of lower socioeconomic status overall compared with White and Black women. This concentration of lower socioeconomic status may have increased our ability to detect differences among Hispanic women. Further, national survey data have revealed that Hispanic women were more likely to utilize emergency department services as a result of less access to or lower utilization rates of primary care regardless of insurance status.<sup>19,21,24,31,34,35</sup>

Although our findings suggested that female Hispanic victims were more likely to use the emergency department than were their nonvictim counterparts, acculturation was not a significant or confounding factor in the relationship between IPV and emergency department use. Lipsky et al.<sup>36</sup> reported that Hispanic women IPV victims who attended an urban emergency department were less likely than White or Black women victims to report having used social and health services in the previous year and that low acculturation may have accounted for at least a portion of this underutilization. This was particularly true in the case of health care utilization, in that Hispanic IPV victims with low acculturation were less likely to access emergency department and hospital services compared with their

more acculturated counterparts. As previously noted, the NSDUH assessment of acculturation may have been incomplete. It is also likely that our findings, taken from a general population sample, reflected less severe IPV compared with clinical samples, given that few women reported multiple episodes of IPV. Less-severe IPV may not have the same impact as severe IPV with regard to emergency department utilization. Other barriers to health care for abused ethnic minority women, in particular, have been previously identified,<sup>53</sup> such as social isolation, language barriers, discrimination, fear of deportation, dedication to family, shame, and cultural stigma of divorce. We addressed language preference but not other sociocultural factors.

### Limitations

One of the main limitations in this study was the ascertainment of IPV. A single question regarding IPV did not fully allow for the complete portrayal of partner violence. In addition, sexual violence in any form and emotional, verbal, or psychological IPV were not assessed. Further, IPV was only assessed among married or cohabiting respondents, potentially biasing the estimate of IPV downward. Noncohabiting women may also experience IPV with a current or previous partner and separation may increase the risk and severity of IPV.<sup>54–57</sup> Nonetheless, Tjaden and Thoennes<sup>58</sup> found similarly low rates of IPV victimization among cohabiting or married and all women respondents in the National Violence Against Women Survey. Overall, the effect of these potential biases would be to weaken the association between IPV and emergency department utilization.

A second limitation was the smaller sample size among Blacks and Hispanics. These populations were not oversampled in the NSDUH, potentially constraining our ability to detect important differences among racial/ethnic groups and within subgroups. This is especially important given that alcohol use and IPV vary within racial and ethnic groups.<sup>59–64</sup> Third, causality could not be established because of the cross-sectional nature of the study design, with both the outcome and exposure of interest assessed for the previous 12 months. Although we did not seek to determine IPV-related emergency

department utilization, it is not possible to determine from this data set whether a victim of IPV was seen in the emergency department prior or subsequent to an IPV event. We do know that IPV is often chronic, which would suggest that the initiation of IPV may well precede emergency department utilization.<sup>65</sup>

### Conclusions

The results of our study suggest that Hispanic women in particular would benefit from IPV screening in the emergency department. Screening is recommended by professional organizations<sup>66,67</sup> and is an important step in determining who is at risk for future abuse and injury as well as other physical and mental health problems.<sup>8,68–70</sup> Further, the development of culturally sensitive and specific provider responses and social services for IPV is critical, then, to address race/ethnic-specific social, cultural, and legal concerns of female victims. Finally, more research is needed to determine why Hispanic victims in particular are more likely to utilize the emergency department compared with nonvictims—whether it is lack of access to primary care; greater severity of IPV and, thus, greater rates of injuries; or other sociocultural determinants. ■

### About the Authors

At the time of the study, Sherry Lipsky was with the School of Public Health, University of Texas, Dallas Regional Campus, Dallas. Raul Caetano is with the School of Public Health, University of Texas, Dallas Regional Campus, Dallas.

Requests for reprints should be sent to Sherry Lipsky, University of Washington at Harborview Medical Center, Department of Psychiatry and Behavioral Sciences, Box 359911, 325 9th Ave, Seattle, WA 98104 (e-mail: lipsky@u.washington.edu).

This article was accepted November 19, 2006.

### Contributors

S. Lipsky and R. Caetano originated the study, supervised all aspects of its implementation, conceptualized ideas, interpreted findings, and reviewed drafts of the article. S. Lipsky conducted the analyses and led the writing.

### Human Participant Protection

The original records were randomly subsampled for the public use file to ensure confidentiality. In addition, this study was approved by the Committee for Protection of Human Subjects at the University of Texas Health Science Center at Houston.

### Acknowledgments

This work was supported by a grant from the National Institute on Alcohol Abuse and Alcoholism (1 K01

AA15187-01A1) to the University of Texas School of Public Health at Houston.

**Note.** The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute of Alcohol Abuse and Alcoholism or the National Institutes of Health.

### References

- Campbell JC. Health consequences of intimate partner violence. *Lancet*. 2002;359:1331–1336.
- Petersen R, Gazmararian J, Andersen Clark K. Partner violence: implications for health and community settings. *Womens Health Issues*. 2001;11:116–125.
- Plichta S. The effects of women abuse on health care utilization and health status: a literature review. *Womens Health Issues*. 1992;2:154–163.
- Ulrich YC, Cain KC, Sugg NK, Rivara FP, Rubanowice DM, Thompson RS. Medical care utilization patterns in women with diagnosed domestic violence. *Am J Prev Med*. 2003;24:9–15.
- Wisner CL, Gilmer TP, Saltzman LE, Zink TM. Intimate partner violence against women: do victims cost health plans more? *J Fam Pract*. 1999;48:439–443.
- Lipsky S, Holt VL, Easterling TR, Critchlow CW. Police-reported intimate partner violence during pregnancy and the risk of antenatal hospitalization. *Matern Child Health J*. 2004;8:55–63.
- National Center for Injury Prevention and Control. *Costs of Intimate Partner Violence Against Women in the United States*. Atlanta, Ga: Centers for Disease Control and Prevention; 2003.
- Kernic MA, Wolf ME, Holt VL. Rates and relative risk of hospital admission among women in violent intimate partner relationships. *Am J Public Health*. 2000;90:1416–1420.
- Field C, Caetano R. Ethnic differences in intimate partner violence in the US general population: the role of alcohol use and socioeconomic status. *Trauma Violence Abuse*. 2004;5:303–317.
- Cunradi CB, Caetano R, Schafer J. Alcohol-related problems, drug use, and male intimate partner violence severity among US couples. *Alcohol Clin Exp Res*. 2002;26:493–500.
- Caetano R, Nelson S, Cunradi C. Intimate partner violence, dependence symptoms and social consequences from drinking among White, Black and Hispanic couples in the United States. *Am J Addict*. 2001;10:60–69.
- White HR, Chen PH. Problem drinking and intimate partner violence. *J Stud Alcohol*. 2002;63:205–214.
- Kilpatrick DG, Acierno R, Resnick HS, Saunders BE, Best CL. A 2-year longitudinal analysis of the relationships between violent assault and substance use in women. *J Consult Clin Psychol*. 1997;65:834–847.
- Testa M, Livingston JA, Leonard KE. Women's substance use and experiences of intimate partner violence: a longitudinal investigation among a community sample. *Addict Behav*. 2003;28:1649–1664.
- Chalk R, King P. *Violence in Families: Assessing Prevention and Treatment Programs*. Washington, DC: National Academy Press; 1998.
- Ehrensaft MK, Cohen P, Brown J, Smailes E, Chen H, Johnson JG. Intergenerational transmission of partner violence: a 20-year prospective study. *J Consult Clin Psychol*. 2003;71:741–753.
- Zuckerman S, Shen YC. Characteristics of occasional

- and frequent emergency department users: do insurance coverage and access to care matter? *Med Care*. 2004;42:176–182.
18. Friedman B, Basu J. The rate and cost of hospital readmissions for preventable conditions. *Med Care Res Rev*. 2004;61:225–240.
  19. Gaskin DJ, Hoffman C. Racial and ethnic differences in preventable hospitalizations across 10 states. *Med Care Res Rev*. 2000;57(suppl 1):85–107.
  20. Laditka JN, Laditka SB, Mastanduno MP. Hospital utilization for ambulatory care sensitive conditions: health outcome disparities associated with race and ethnicity. *Soc Sci Med*. 2003;57:1429–1441.
  21. Collins K, Hall A, Neuhaus C. *U.S. Minority Health: A Chartbook*. New York, NY: The Commonwealth Fund; 1999.
  22. Schappert SM, Burt CW. Ambulatory care visits to physician offices, hospital outpatient departments, and emergency departments: United States, 2001–02. *Vital Health Stat 13*. 2006;159:1–66.
  23. Hazlett SB, McCarthy ML, Londner MS, Onyike CU. Epidemiology of adult psychiatric visits to US emergency departments. *Acad Emerg Med*. 2004;11:193–195.
  24. Centers for Disease Control and Prevention. *Access to Health Care Among Hispanic or Latino Women: United States, 2000–2002*. Atlanta, Ga: US Department of Health and Human Services, National Center for Health Statistics; 2006.
  25. McDonald AJ III, Wang N, Camargo CA Jr. US emergency department visits for alcohol-related diseases and injuries between 1992 and 2000. *Arch Intern Med*. 2004;164:531–537.
  26. Grisso JA, Schwarz DF, Hirschinger N, et al. Violent injuries among women in an urban area. *N Engl J Med*. 1999;341:1899–1905.
  27. Kyriacou DN, Anglin D, Taliaferro E, et al. Risk factors for injury to women from domestic violence against women. *N Engl J Med*. 1999;341:1892–1898.
  28. Weinsheimer RL, Schermer CR, Malcoe LH, Balduf LM, Bloomfield LA. Severe intimate partner violence and alcohol use among female trauma patients. *J Trauma*. 2005;58:22–29.
  29. Ernst AA, Nick TG, Weiss SJ, Houry D, Mills T. Domestic violence in an inner-city ED. *Ann Emerg Med*. 1997;30:190–197.
  30. El-Bassel N, Gilbert L, Witte S, et al. Intimate partner violence and substance abuse among minority women receiving care from an inner-city emergency department. *Womens Health Issues*. 2003;13:16–22.
  31. Centers for Disease Control and Prevention. Access to health-care and preventive services among Hispanics and non-Hispanics—United States, 2001–2002. *MMWR Morb Mortal Wkly Rep*. 2004;53:937–941.
  32. Institute of Medicine. *Coverage Matters: Insurance and Health Care*. Washington, DC: National Academies Press; 2001.
  33. Institute of Medicine. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. Washington, DC: National Academies Press; 2002.
  34. Weinick RM, Zuvekas SH, Cohen JW. Racial and ethnic differences in access to and use of health care services, 1977 to 1996. *Med Care Res Rev*. 2000;57(suppl 1):36–54.
  35. Carillo J, Treviño BJ, Coustasse A. Latino access to health care, the role of insurance, managed care, and institutional barriers. In: Aguirre-Molina M, Molina CW, Zambrana RE, eds. *Health Issues in the Latino Community*. San Francisco, Calif: Jossey-Bass; 2001:55–73.
  36. Lipsky S, Caetano R, Field CA, Larkin GL. The role of intimate partner violence, race, and ethnicity in help-seeking behaviors. *Ethn Health*. 2006;11:81–100.
  37. Hathaway JE, Mucci LA, Silverman JG, Brooks DR, Mathews R, Pavlos CA. Health status and health care use of Massachusetts women reporting partner abuse. *Am J Prev Med*. 2000;19:302–307.
  38. Lemon SC, Verhoek-Oftedahl W, Donnelly EF. Preventive health care use, smoking, and alcohol use among Rhode Island women experiencing intimate partner violence. *J Womens Health Gend Based Med*. 2002;11:555–562.
  39. Plichta SB, Falik M. Prevalence of violence and its implications for women's health. *Womens Health Issues*. 2001;11:244–258.
  40. Office of Applied Studies. *National Survey on Drug Use and Health, 2002* [computer file]. 2nd ICPRS version. Ann Arbor, Mich: Inter-university Consortium for Political and Social Research; 2004.
  41. Substance Abuse and Mental Health Services Administration. *Results From the 2002 National Survey on Drug Use and Health: National Findings*. Rockville, Md: Office of Applied Studies; 2003. NHSDA series H-22.
  42. Greenfield L, Rand M, Craven D, et al. *Violence by Intimates. Analysis of Data on Crimes by Current or Former Spouses, Boyfriends, and Girlfriends*. Washington, DC: Bureau of Justice Statistics, US Department of Justice; 1998.
  43. *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*. Washington, DC: American Psychiatric Association; 1994.
  44. Snodgrass JA, Grau EA, Caspar RA. *1999–2001 National Household Survey on Drug Abuse: Changes in Race and Ethnicity Questions*. Rockville, Md: Substance Abuse and Mental Health Services Administration; 2002.
  45. Maldonado G, Greenland S. Simulation study of confounder-selection strategies. *Am J Epidemiol*. 1993;138:923–936.
  46. Abraido-Lanza AF, Chao MT, Florez KR. Do healthy behaviors decline with greater acculturation? Implications for the Latino mortality paradox. *Soc Sci Med*. 2005;61:1243–1255.
  47. Caetano R, Clark CL. Trends in alcohol-related problems among whites, blacks, and Hispanics: 1984–1995. *Alcohol Clin Exp Res*. 1998;22:534–538.
  48. Zemore SE. Re-examining whether and why acculturation relates to drinking outcomes in a rigorous, national survey of Latinos. *Alcohol Clin Exp Res*. 2005;29:2144–2153.
  49. Caetano R, Clark CL. Acculturation, alcohol consumption, smoking, and drug use among Hispanics. In: Chun KM, Organista PB, Marin G, Sue S, eds. *Acculturation: Advances in Theory, Measurement, and Applied Research*. Washington, DC: American Psychological Association; 2003:223–239.
  50. Cherpitel CJ. Changes in substance use associated with emergency room and primary care services utilization in the United States general population: 1995–2000. *Am J Drug Alcohol Abuse*. 2003;29:789–802.
  51. McGeary KA, French MT. Illicit drug use and emergency room utilization. *Health Serv Res*. 2000;35:153–169.
  52. Rockett IR, Putnam SL, Jia H, Chang CF, Smith GS. Unmet substance abuse treatment need, health services utilization, and cost: a population-based emergency department study. *Ann Emerg Med*. 2005;45:118–127.
  53. Bauer HM, Rodriguez MA, Quiroga SS, Flores-Ortiz YG. Barriers to health care for abused Latina and Asian immigrant women. *J Health Care Poor Underserved*. 2000;11:33–44.
  54. Carlson M, McLanahan S, England P. Union formation in fragile families. *Demography*. 2004;41:237–261.
  55. Sev'er A. Recent or imminent separation and intimate violence against women. A conceptual overview and some Canadian examples. *Violence Against Women*. 1997;3:566–589.
  56. DeKlyen M, Brooks-Gunn J, McLanahan S, Knab J. The mental health of married, cohabiting, and non-coresident parents with infants. *Am J Public Health*. 2006;96:1836–1841.
  57. Campbell JC, Webster D, Koziol-McLain J, et al. Risk factors for femicide in abusive relationships: results from a multisite case control study. *Am J Public Health*. 2003;93:1089–1097.
  58. Tjaden P, Thoennes N. Prevalence and consequences of male-to-female and female-to-male intimate partner violence as measured by the National Violence Against Women Survey. *Violence Vict*. 2000;6:142–161.
  59. Collins RL, McNair LD. Minority women and alcohol use. *Alcohol Res Health*. 2002;26:251–256.
  60. Kantor GK, Jasinski JL, Aldarondo E. Sociocultural status and incidence of marital violence in Hispanic families. *Violence Vict*. 1994;9:207–222.
  61. Kantor GK. Alcohol and spouse abuse ethnic differences. *Recent Dev Alcohol*. 1997;13:57–79.
  62. Torres S, Campbell J, Campbell DW, et al. Abuse during and before pregnancy: prevalence and cultural correlates. *Violence Vict*. 2000;15:303–321.
  63. West CM. Black women and intimate partner violence: new directions for research. *J Interpers Violence*. 2004;19:1487–1493.
  64. Sullivan M, Bhuyan R, Senturia K, Shiu-Thornton S, Ciske S. Participatory action research in practice: a case study in addressing domestic violence in nine cultural communities. *J Interpers Violence*. 2005;20:977–995.
  65. Tjaden P, Thoennes N. *Extent, Nature, and Consequences of Intimate Partner Violence: Findings From the National Violence Against Women Survey*. Washington, DC: US Department of Justice, National Institute of Justice; 2000.
  66. *Accreditation Manual for Hospitals. Volume 1—Standards*. Oakbrook Terrace, Ill: Joint Commission on Accreditation of Healthcare Organizations; 1992.
  67. American College of Emergency Physicians. *Emergency Medicine and Domestic Violence* [policy statement]. Available at: <http://www.acep.org/webportal/PracticeResources/PolicyStatements/violabuse/EmergencyMedicineDomesticViolence.htm>. Accessed March 20, 2006.
  68. Campbell J, Lewandowski LA. Mental and physical health effects of intimate partner violence on women and children. *Psychiatr Clin North Am*. 1997;20:353–374.
  69. Coker A, Davis KE, Arias I, et al. Physical and mental health effects of intimate partner violence for men and women. *Am J Prev Med*. 2002;23:260–268.
  70. Petersen R, Gazmararian J, Andersen Clark K. Partner violence: implications for health and community settings. *Womens Health Issues*. 2001;11:116–125.