Visits Coded as Intimate Partner Violence in Emergency Departments: Characteristics of the Individuals and the System as Reported in a National Survey of Emergency Departments

Authors: Rula Btoush, RN, DNSc, Jacquelyn C. Campbell, PhD, RN, FAAN, and Kristine M. Gebbie, RN, DrPH

Introduction: This study was conducted to explore the characteristics of intimate partner violence (IPV) victims whose visit was coded as IPV and the health care delivery system in emergency departments (ED).

Methods: This study utilized a secondary data analysis of a national probability sample that comprised the National Hospital Ambulatory Medical Care Survey for 1997 to 2001.

Results: There were 111 coded ED visits of IPV victims 16 years or older (equivalent of 482,979 out of 4 million national visits for the 5-year study period). Women (94%), African Americans (35%), those 25 to 44 years of age (64%), and uninsured patients (38%) were significantly more likely to be categorized as an IPV visit (odds ratios 14, 1.9, 2.7, and 2.4, respectively) compared with non-IPV visits. Characteristics of the health care delivery system (region, metropolitan vs. non-metropolitan, type of hospital, and type of health care provider) were not associated with IPV.

Discussion: Caution should be implemented when interpreting the study results because they represent only coded IPV visits in the emergency department. The study findings suggest the critical need to improve identification, documentation, and coding of IPV visits.

Rula Btoush is Assistant Professor, University of Medicine and Dentistry of New Jersey School of Nursing, Newark, NJ.

Jacquelyn C. Campbell is Anna D. Wolf Chair, Professor, and Associate Dean of Faculty Affairs, Johns Hopkins University School of Nursing, Baltimore, Md.

Kristine M. Gebbie is Elizabeth Standish Gill Associate Professor of Nursing and Director, Center for Health Policy, Columbia University School of Nursing, New York, NY.

For correspondence, write: Rula Btoush, DNSc, RN, University of Medicine and Dentistry of New Jersey School of Nursing, 65 Bergen St, Newark, NJ 07101; E-mail: btoushrm@umdnj.edu.

J Emerg Nurs 2008;34:419-27.

Available online 5 June 2008.

0099-1767/$34.00

doi: 10.1016/j.jen.2007.10.015

Intimate partner violence (IPV) affects between 20% to 50% of women in the United States sometime in their life.[1-5] Victims of IPV are at high risk for physical injuries, psychosocial problems, and death.[6-11] The National Center for Injury Prevention and Control (NCIPC)[12] reported that 33% of all female homicides are perpetrated by current or former intimate partners and that IPV results in approximately 550,000 injuries that require medical attention every year. The same report estimated the total annual cost of IPV at $3.9 to $7.6 billion in the United States.[12] Professional organizations recommend routine screening of all female patients for IPV and staff training to identify and manage victims of abuse[13-17]; however, IPV victims are significantly underreported, unidentified, and mismanaged by health care providers.[3,18-22]

This article reports ED utilization patterns of coded IPV victims using a secondary data analysis of the National Hospital Ambulatory Medical Care Survey (NHAMCS) for the years 1997 to 2001. The purpose of this study was to identify the frequency of coded IPV visits to the emergency department, the characteristics of coded IPV victims (age, sex, race, ethnicity, and insurance status), and the characteristics of the health care delivery system (ED geographical region, type of facility, and type of health care provider).

Background

Intimate partner violence encompasses a wide variety of definitions, forms, and patterns.[23-27] The definition of IPV can include abuse inflicted by an intimate partner physically, sexually, psychologically/emotionally, verbally, or economically, or in the form of stalking.[27] Other issues associated with IPV definition, and consequently measurement, is lifetime exposure to violence versus annual (past year). Also, the literature reports prevalence of IPV among different target populations as a result of noncomparable means of identification such as self-report, provider identification,

chart documentation, and/or reporting of cases to major agencies. Each means of identification has limitations. Reporting does not reflect victims who did not reach out for help, who never disclosed the abuse/violence, who were never identified as victims of abuse by the health care provider, and/or whose victimization was never documented in their charts or reported by the coders/abstractors to the database. Variation of reporting also results from using different definitions for IPV visits, such as the visit being the result of an IPV injury versus patients being in the emergency department for other issues (which may or may not be directly or indirectly related to IPV).[28] A final difference is in denominators—often all ED visits, but sometimes all female patients; usually all adult patients, but sometimes including adolescents and/or children.

Therefore, researchers report varied prevalence rates of IPV victims who seek health services in the emergency department. The NCIPC[12] reported that IPV results in nearly 2 million injuries annually, of which 550,000 require medical attention, and that 2 in 5 IPV victims seek medical treatment for their injuries.[29] The Bureau of Justice Statistics reported that approximately 243,000 of IPV victims were treated in emergency departments in 1994.[30] Other studies reported the prevalence of IPV in the emergency department as being between 2% and 63%.[28,30-38]

In regard to patient characteristics, according to the U.S. Department of Justice, women are 8 times more likely to be victimized by an intimate partner than are men.[29] The Bureau of Justice Statistics reported that IPV victims treated in ED settings were most often women (84%), African American (24%), and 19 to 34 years of age (50%).[30] Other studies found that IPV victims in the emergency department were younger with lower income and no or limited health insurance.[3,28,39] Several studies documented that unemployment or intermittent employment in addition to homelessness are associated with IPV.[29,40,41] These factors also are associated with being uninsured.

Several studies investigated the practices of health care providers in identifying and managing IPV patients in the emergency department and various settings.[21,34,42,43] Data were not available in the literature on the characteristics of the health care delivery system where IPV victims seek medical attention such as region/area, type of hospital, and specialty of health care provider.

It is extremely important to understand the utilization patterns of IPV victims and their access to health care services. Access to services is influenced by patient characteristics, the health care delivery system, the quality of provided care, and patient satisfaction with services.[44,45] Using secondary analysis of national data provides researchers with a national probability sample that is representative of the targeted population; most ED IPV studies have been of individual or groups of emergency departments. Using secondary analysis of national data also is useful in investigating the characteristics of the health care delivery system where victims of IPV seek services, with the understanding that detection varies across emergency departments. Very few studies utilized such method to investigate domestic violence.[46-48] This strategy allows a broader understanding of coded IPV visits to the emergency department, the characteristics of coded IPV victims, and the characteristics of the health care delivery system.

Methods

DATA SOURCE AND STUDY SAMPLE

ED data from the NHAMCS (1997-2001) was used in this study. Collected by the Centers for Disease Control and Prevention National Center for Health Statistics, the NHAMCS is visit-based data from a national probability sample of visits to hospital outpatient and emergency departments located in the 50 states and the District of Columbia. This study utilized only the ED data. The survey involves a 4-stage probability design with samples of geographically defined areas (as the primary sampling unit), hospitals within these areas, ED services within hospitals, and patient visits to these emergency services areas. The basic sampling unit is formed of 100 patient visits or encounters systematically selected over a randomly assigned 4-week data collection period. Trained interviewers visit the hospitals, explain survey procedures, verify eligibility, develop a sampling plan, and train hospital staff in data collection procedures. Trained abstractors collect the visit data, including patient information (eg, age, sex, and ethnicity) and facility information (eg, geographic region and type of facility) in addition to other variables not addressed in this study.[49] More information about the NHAMCS sampling procedures/units, confidentiality, data coding, and estimation procedures is available at *www.cdc.gov/nchs*.

The sample for this study consisted of visits of coded IPV victims 16 years or older in the NHAMCS database for 1997 to 2001. Visits for IPV were defined by the ICD-9-CM codes listed in Table 1 for current or past experience of IPV under the questions for reason for visit, cause of injury, and diagnosis. The codes were chosen after reviewing the available and recommended codes by other researchers.[46,49-51] Codes such as rape and assault (in general unless specified as caused by partner/spouse) were not included in this study, because someone other than an intimate partner might have caused them. The codes used

TABLE 1
Study ICD-9-CM codes for IPV visits

ED visits of IPV victims	ICD-9-CM code
• Reason for visit (1st, 2nd, or 3rd): "Battered Spouse"	5815.2
• Cause of injury (1st, 2nd, or 3rd): "Injured by Partner"	E967.3
• Diagnosis (1st, 2nd, or 3rd):	
"Adult Maltreatment; Unspecified"	9958.0
"Adult Physical Abuse"	9958.1
"Adult Emotional/Psychological Abuse"	9958.2
"Adult Sexual Abuse"	9958.2
"Other Adult Abuse"	9958.5
"Observation for Abuse"	V7181
"Marital Problems"	V611-, V6110, and V6111
"History of Physical Abuse"	V154.1
"History of Emotional Abuse"	V154.2

IPV, Intimate partner violence.

in this study are over-reaching to capture all visits associated with IPV.

STUDY VARIABLES AND DATA ANALYSIS

Patient characteristics in this study included age, sex, race, ethnicity, and insurance status. Characteristics of the health care delivery system included geographic location, type of hospital, metropolitan versus non-metropolitan area, and specialty of health care provider. Data analysis was carried out with SUDAAN SAS-Callable statistical package (release 8.0.2) in order to generate consistent variance estimates and more reliable national estimates that would otherwise be absent because of the NHAMCS weighted data obtained from multi-stage complex probability samples.[52] The nest and weight variables were used to provide national estimates for each of the variables. The nest variables resemble the sampling levels or stages used for data collection. The weight variable (sampling weight for each individual ED visit) was used to obtain unbiased estimates of population parameters when the sample members are chosen with unequal probabilities. Therefore, to increase the reliability of the results, sample data were weighted to produce larger sampling power and national estimates. In other words, unweighted (raw) data cannot be used for analysis because it does not take into account the disproportionate NHAMCS sampling design such as oversampling techniques of low-frequency minority groups. The purpose of weighting the data is to produce national estimates that take into account the unique sampling design used in this dataset.

Results

FREQUENCY OF CODED IPV VISITS IN THE EMERGENCY DEPARTMENT

The NHAMCS data analysis for ED visits showed 111 coded visits of IPV victims out of 99,518 total visits for the years 1997 to 2001. After using the visit weight and nest variables (see Data Analysis section above), there were an estimated 482,979 national visits of coded IPV victims out of 397,258,549 total national visits for the 5-year period, or 12 out of every 10,000 coded ED visits. As shown in Table 2, the majority were female IPV patients (452,753 national IPV visits out of 218,469,838 total female visits), which is equivalent to 21 out of 10,000 female ED visits. These visits were almost evenly distributed among the 5 years of the study (85,487 in 2001; 120,437 in 2000; 79,539 in 1999; 110,655 in 1998; and 86,861 in 1997). Year of visit was not statistically associated with IPV when compared with non-IPV visits ($P = .75$).

PATIENT CHARACTERISTICS AND THEIR CORRELATION WITH IPV VISIT CODING

Patient characteristic variables are summarized in Tables 3 and 4. Among the ED visits for IPV, 94% of the victims were female, 64% were 25 to 44 years of age, 60% were white, 35% were African American, 15% were Hispanic, 38% were uninsured, 31% had private insurance, and 31% had other types of insurance. Sex, race, age, and insurance status were significantly ($P \leq .04$) associated with coded IPV visits when compared with non-IPV visits. Hispanic ethnicity was not significantly associated with coded IPV visits compared with non-IPV visits ($P = .37$). The mean age of coded IPV victims in ED visits was 35.5 years of age compared with 44.18 years of age for non-IPV visits (95% confidence interval [CI] 33.5-37.5 and 42.2-46.2, respectively). A comparison of the patient characteristics by sex was not conducted because of the small cell size in the male gender category (<30).

In Table 4, the significant variables from the bivariate analysis were tested in a multivariate logistic regression model to determine their association with coded ED visits for IPV. Significant risk factors for coding IPV visits were female gender (odds ratio [OR] = 13.7; 95% CI 6.0-31.5),

TABLE 2
Coded IPV visits versus all visits to the emergency department (actual and weighted[a])

	Total		Female		Male	
	IPV visits	**All ED visits**	**IPV visits**	**All ED visits**	**IPV visits**	**All ED visits**
Actual	111	99,518	98	54,195	13	45,323
Weighted[a]	482,979	397,258,549	452,753	218,469,838	30,226	178,788,711
Prevalence/10,000	12[b]		21[b]		2[b]	
% of total			94	55	6	45

IPV, Intimate partner violence.
[a]Data are weighted to represent national estimates based on the National Hospital Ambulatory Medical Care Survey dataset.
[b]ED visits reflect only the ones coded as such, using ICD-9 codes of IPV in Table 1.

25 to 44 years age group (OR = 2.7; 95% CI 1.6-4) African American race (OR = 1.9; 95% CI 1.1-3.5); and uninsured (OR = 2.4; 95% CI 1.4-4.0).

CHARACTERISTICS OF THE HEALTH CARE DELIVERY SYSTEM AND THEIR CORRELATION WITH IPV VISIT CODING

The characteristics of the health care delivery systems are displayed in Table 4. ED visits of coded IPV victims were almost evenly distributed across country regions. Approximately 83% of coded IPV visits were treated in hospitals in Metropolitan areas, and 71% were treated in voluntary nonprofit hospitals. None of these characteristics was significantly associated with IPV coding when compared with non-IPV visits.

Discussion

In this study, the estimated national number of coded ED visits of IPV victims was 12 out of 10,000 ED visits and 21 out of 10,000 female ED visits. The number of coded IPV visits to the ED as reported to NHAMCS appears much lower than what has been reported in the literature (between 2% to 63% of all ED visits), but it is much closer to the 2% to 3% prevalence usually reported for injuries related to IPV.[28,30-38] This finding can be a result of IPV victims using outpatient department services or physician offices for treatment of injuries not severe enough to require emergency care, more so than in prior years when the majority of other studies were conducted. Another contributing factor is the use of various and different definitions of IPV. However, we believe that the number of coded IPV visits in this study is a reflection of significant under-reporting of this problem. The number of coded victims depends on whether the patient reveals that the cause of the injury was IPV, whether the provider screens routinely for IPV, the provider assumption that injuries are caused by IPV, documentation practices, willingness to code the complaint as IPV on the part of the provider because of concern about confidentiality, and the abstractor's understanding of the injury cause.[18,21,46,47,51] Therefore, the discussion will focus on issues associated with detection, documentation, and coding of IPV visits.

Lack of identification and proper documentation of IPV in the medical record is a major problem reported in the literature.[53-55] In most self-report surveys of IPV in the emergency department, the rate of self-identified IPV victims was much lower than what was identified as such on the patient chart.[34,54,56,57] Health care providers also are missing opportunities to screen and identify patients for intimate partner abuse in a variety of clinical situations.[20-22,58,59] Barriers to detection of IPV victims include lack of provider education, time, and effective interventions. They also can be attributed to the patients' decision to not disclose such information.

Lack of proper documentation might be attributed to health care providers' concern about the confidentiality of patient records particularly in rural and small community emergency departments where patients, providers, and medical records personnel almost always know each other. Health care providers also might be concerned about patients losing their health insurance because of IPV designations. Health care providers play a critical role in improving documentation and coding of IPV visits, which will consequently lead to better reporting of victims to national, state, and local surveillance systems.[60]

As indicated on the CDC National Center for Health Statistics Web site (*www.cdc.gov/nchs*), national datasets such as NHAMCS were intended to monitor trends in health status and health care delivery, identify health problems, provide information for making changes in public policies and programs, and evaluate the impact of health

TABLE 3
Weighted[a] patient variables of coded IPV visits versus all ED visits

	IPV visits[b]			All ED visits		
Variables	**No.[a]**	**%**	**SE %[c]**	**No.[a]**	**%**	**SE %[c]**
Sex						
Male	30,226	6	0	178,788,711	45	1
Female	452,753	94	0	218,469,838	55	3
Race						
White	290,852	60	0	307,571,185	77	1
African American	168,563	35	0	79,506,238	20	5
Other	23,564	5	0	10,181,126	3	15
Ethnicity						
16-24 y	95,273	20	0	75,145,757	19	4
25-44 y	308,773	64	0	156,513,486	39	3
≥45 y	78,933	16	0	165,599,306	42	1
Insurance						
Hispanic	62,288	13	0	32,760,597	8	7
Non-Hispanic	359,980	75	0	281,218,428	71	2
Total						
Insured	320,888	66	0	329,646,025	83	2
Non-insured	162,091	34	0	67,612,524	17	5
		482,979			397,258,549	

IPV, Intimate partner violence; *SE*, standard error.
[a]Data are weighted to represent National estimates based on the National Hospital Ambulatory Medical Care Survey dataset.
[b]ED visits reflect only the ones coded as such, using ICD-9 codes of IPV in Table 1.
[c]The standard error should be less than 30% of the estimate to be considered reliable.

policies and programs. Accurate documentation and coding of IPV are essential for affecting appropriate reimbursement for patient care,[51] knowing that health care financing agencies, insurance companies, Medicaid, Medicare, and health maintenance organizations are primarily data driven. Furthermore, improving the coding system and the quality of data are essential in reflecting the impact of family violence on our health care system and the need for appropriate funds and resources to improve health and quality of life for victims.[46,47]

Gilbert and colleagues[61] reported that the quality of chart reviews and abstraction, 2 procedures used to code and report visits for surveillance systems, is very poor and requires drastic improvement and standardization. In addition, lack of knowledge among health care providers about diagnostic codes for child and adult abuse also has been reported in the literature.[46,47] Weiss et al.[50] reported that perpetrator injury codes were documented in only 8.8% of the cases.[50] Research is needed to evaluate coder and abstractor competency, awareness of IPV codes, and the ease of use for these codes as well as the impact of confidentiality and loss of insurance fears. It also is critical for practitioners to document IPV in the medical record and use proper codes assigned for type and cause of injury in addition to the perpetrator code (see Table 1), especially E967.3 for cause of injury being "Injured by Partner" and 5815.2 for reason of visit being "Battered Spouse."

The results of this study in regard to patient characteristics associated with IPV are consistent with what have been reported in the literature. Patient characteristics are very important in identifying high-risk groups and using targeted interventions that suit their needs. However, the identified patient characteristics also may reflect a reporting bias on the part of providers. In other words, providers may be more likely to inquire about IPV more often when the patient is, for example, a poor, young, African American woman. This issue is one of the problems with "indicator based" rather than routine inquiry about IPV.

TABLE 4
Multivariate analysis of patient and health care delivery system variables for IPV visits

Variables/Categories	IPV N (%)[a]	Adjusted OR (95% CI)[b]
Patient characteristics variables		
Sex		
Female	452,753 (94)	13.7 (6.0-31.5)
Male	30,226 (6)	(reference)
Age		
16-24 y	95,273 (20)	(reference)[c]
25-44 y	308,773 (64)	2.7 (1.6-4.5)[c]
45-64 y	57,780 (12)	(reference)[c]
Ethnicity		
Hispanic	62,288 (15)	*P* value = 0.37[d]
Non-Hispanic	59,980 (85)	
Race		
African American	168,563 (35)	1.9 (1.1-3.5)
Other	314,416 (65)	(reference)
Payment source		
Private	133,765 (31)	(reference)[c]
Self-pay	162,091 (38)	2.4 (1.4-4.0)[c]
Other	130,332 (31)	(reference)[c]
Characteristics of health care delivery system variables		
Region		
Northeast	81,231 (17)	*P* value = 0.57[d]
Midwest	23,134 (26)	
South	40,803 (30)	
West	119,614 (26)	
Metropolitan		
Yes	402,147 (83)	*P* value = 0.20[d]
No	80,832 (17)	
Hospital type		
Voluntary	345,089 (71)	*P* value = 0.95[d]
Government	73,060 (7)	
Other	64,830 (13)	
Health care provider		
Medical doctor	43,643 (9)	*P* value = 0.24[d]
Registered nurse	90,417 (60)	
Other	48,919 (31)	

CI, Confidence interval; *IPV*, intimate partner violence; *OR*, odds ratio.
[a]Estimated number and percentage of national IPV visits to the emergency department (weighted).
[b]The odds ratios for each variable were adjusted for sex, age, race, and payment source.
[c]The 2 reference categories were combined then tested against the remaining category.
[d]No significant relationship with IPV visits to the emergency department.

More studies are needed to further investigate the characteristics of the health care delivery system. However, the results in this study suggest that IPV occurs equally across all geographic regions of the country, with the distribution of visits in metropolitan and non-metropolitan areas and to different types of facilities consistent with the general distribution of ED visits. The majority of ED patients, if not all, are seen by nurses, which emphasizes the need to focus efforts on improving identification and documentation of IPV.

LIMITATIONS

The study results are only relevant to the type of cases coded as IPV visits on the medical record. Lack of IPV identification, documentation, and proper coding contributed to the major limitation in this study, which is the relatively small study sample and consequently inadequate cell size for several variables to generate reliable results (eg, race being Native American and insurance status being Medicare/Medicaid). Results were limited to information obtained from cells with more than 30 observations. Another limitation associated with secondary data analysis in general is that availability of data was limited to what was collected for the NHAMCS dataset. Variables that might be of interest to researchers might not be available in NHAMCS, such as the patients' marital status and region of residence. Other variables were available for some of the 5 years but not all, such as alcohol or drug use, length of visit, and referral to social services. Last but most important in this study, the ICD coding system has limited capability for detailed documentation of domestic violence.[60]

Conclusions

Improving the detection, documentation, and coding of IPV victims is the first step in improving the visibility of the problem by creating an accurate estimation of violence and its impact on the victims, their families, and the general community. Creating an accurate estimation of violence and its impact requires more involvement by providers to screen all female patients for IPV as recommended by several professional health societies.[14-17] We also encourage health care providers to improve documentation of partner violence and the use of proper codes, mainly E967.3 and 5815.2 as previously described. Finally, there is a critical need to improve the quality of our national surveillance datasets to justify enhanced services and allocation of new or existing resources. Reliable data will help advocacy efforts to increase funding for shelters and other services and could conceivably encourage local, state, and federal agencies to adopt effective and measurable public policies and interventions.

REFERENCES

1. Coker AL, Smith PH, McKeown RE, King MJ. Frequency and correlates of intimate partner violence by type: physical, sexual, and psychological battering. Am J Public Health 2000;90:553-9.
2. Jones A, Gielen A, Campbell J, Schollenberger J, Dienemann J, Kub J, et al. Annual and lifetime prevalence of partner abuse in a sample of female HMO enrollees. Womens Health Issues 1999;9:295-305.
3. Kramer A, Lorenzon D, Mueller G. Prevalence of intimate partner violence and health implications for women using emergency departments and primary care clinics. Womens Health Issues 2004;14:19-29.
4. Smith PH, Thornton GE, DeVellis R, Earp J, Coker AL. A population-based study of the prevalence and distinctiveness of battering, physical assault, and sexual assault in intimate relationships. Violence Against Women 2002;8:1208-32.
5. 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 Against Women 2000;6:142-61.
6. Bauer HM, Gibson P, Hernandez M, Kent C, Klausner J, Bolan G. Intimate partner violence and high-risk sexual behaviors among female patients with sexually transmitted diseases. Sex Transm Dis 2002;29:411-6.
7. Campbell J, Jones AS, Dienemann J, Kub J, Schollenberger J, O'Campo P, et al. Intimate partner violence and physical health consequences. Arch Intern Med 2002;162:1157-63.
8. Campbell J. Health consequences of intimate partner violence. Lancet 2002;359:1331-6.
9. Durant T, Colley Gilbert B, Saltzman LE, Johnson CH. Opportunities for intervention: discussing physical abuse during prenatal care visits. Am J Prev Med 2000;19:238-44.
10. Ochs HA, Neuenschwander MC, Dodson TB. Are head, neck and facial injuries markers of domestic violence? J Am Dent Assoc 1996;127:757-61.
11. Perciaccante VJ, Ochs HA, Dodson TB. Head, neck, and facial injuries as markers of domestic violence in women. J Oral Maxillofac Surg 1999;57:760-2; discussion 762-3.
12. National Center for Injury Prevention and Control. Costs of intimate partner violence against women in the United States. Atlanta: Centers for Disease Control and Prevention; 2003.
13. American Association of Colleges of Nursing. Position statement: violence as a public health problem. Available at: *http://www.aacn.nche.edu/Publications/positions/violence.htm*. Accessed November 2005.
14. American College of Nurse-Midwives. Position statement: violence against women. Available at: *http://www.midwife.org/siteFiles/position/Violence_Against_Women_05.pdf*. Accessed November 2005.
15. American Nurses Association. Position statement: physical violence against women. Available at: *http://www.nursingworld.org/readroom/position/social/scviol.htm*. Accessed November 2005.

16. Brown R. Roadmaps for clinical practice: case studies in disease prevention and health promotion—intimate partner violence. Chicago: American Medical Association; 2002.
17. Emergency Nurses Association. Emergency Nurses Association position statement: intimate partner and family violence, maltreatment, and neglect. Available at: *http://ena.org/about/position/PDFs/0D3C0E9F7CB14CC087E8D35B6E740DEC.pdf*. Accessed September 2007.
18. Director TD, Linden JA. Domestic violence: an approach to identification and intervention. Emerg Med Clin North Am 2004;22:1117-32.
19. Chamberlain L, Perham-Hester KA. The impact of perceived barriers on primary care physicians' screening practices for female partner abuse. Women Health 2002;35:55-69.
20. Davis RE, Harsh KE. Confronting barriers to universal screening for domestic violence. J Prof Nurs 2001;17:313-20.
21. Waalen J, Goodwin MM, Spitz AM, Petersen R, Saltzman LE. Screening for intimate partner violence by health care providers. Barriers and interventions. Am J Prev Med 2000;19:230-7.
22. Rodriguez MA, Bauer HM, McLoughlin E, Grumbach K. Screening and intervention for intimate partner abuse: practices and attitudes of primary care physicians. JAMA 1999;282:468-74.
23. Plichta SB. Intimate partner violence and physical health consequences: policy and practice implications. J Interpersonal Violence 2004;19:1296-323.
24. Verhoek-Oftedahl W, Pearlman DN, Coutu Babcock J. Improving surveillance of intimate partner violence by use of multiple data sources. Am J Prev Med 2000;19:308-15.
25. Anderson KL. Theorizing gender in intimate partner violence research. Sex Roles 2005;52:853-65.
26. Gordon M. Definitional issues in violence against women: surveillance and research from a violence research perspective. Violence Against Women 2000;6:747-83.
27. DeKeseredy W, Schwartz M. Definitional issues. In: Renzetti C, Edleson J, Bergen R, editors. Sourcebook on violence against women. Thousand Oaks (CA): Sage Publishers; 2001. p. 23-34.
28. Dearwater SR, Coben JH, Campbell JC, Nah G, Glass N, McLoughlin E, et al. Prevalence of intimate partner abuse in women treated at community hospital emergency departments. JAMA 1998;280:433-8.
29. Rennison C. Intimate partner violence: Bureau of Justice Statistics special report (NCJ 178247). Washington: US Department of Justice; May 2000.
30. Rand M. Violence-related injuries treated in hospital emergency departments: Bureau of Justice Statistics special report. Washington: US Department of Justice; August 1997.
31. Ernst AA, Weiss SJ. Intimate partner violence from the emergency medicine perspective. Women Health 2002;35:71-81.
32. Ernst AA, Weiss SJ, Cham E, Hall L, Nick TG. Detecting ongoing intimate partner violence in the emergency department using a simple 4-question screen: the OVAT. Violence Victims 2004;19:375-84.
33. Fanslow JL, Norton RN, Robinson EM. One year follow-up of an emergency department protocol for abused women. Aust N Z J Public Health 1999;23:418-20.
34. Glass N, Dearwater S, Campbell J. Intimate partner violence screening and intervention: data from eleven Pennsylvania and California community hospital emergency departments. J Emerg Nurs 2001;27:141-9.
35. Krishnan SP, Hilbert JC, Pase M. An examination of intimate partner violence in rural communities: results from a hospital emergency department study from Southwest United States. Fam Community Health 2001;24:1-14.
36. Lipsky S, Caetano R, Field CA, Bazargan S. Violence-related injury and intimate partner violence in an urban emergency department. J Trauma Injury Infect Crit Care 2004;57:352-9.
37. McLaughlin SA, Crandall CS, Fullerton L, Brokaw J, Olson LM, Sklar DP. Comparison of intimate partner violence reporting between an emergency department and a clinic setting. Acad Emerg Med 1999;6:1292-5.
38. Rhodes KV, Lauderdale DS, He T, Howes DS, Levinson W. "Between me and the computer": increased detection of intimate partner violence using a computer questionnaire. Ann Emerg Med 2002;40:476-84.
39. McGrath ME, Hogan JW, Peipert JF. A prevalence survey of abuse and screening for abuse in urgent care patients. Obstet Gynecol 1998;91:511-4.
40. Humphreys J, Parker B, Campbell JC. Intimate partner violence against women. Ann Rev Nurs Res 2001;19:275-306.
41. Kyriacou DN, Anglin D, Taliaferro E, Stone S, Tubb T, Linden JA, et al. Risk factors for injury to women from domestic violence against women. N Engl J Med 1999;341:1892-8.
42. Fanslow JL, Norton RN, Robinson EM, Spinola CG. Outcome evaluation of an emergency department protocol of care on partner abuse. Aust N Z J Public Health 1998;22:598-603.
43. Thompson RS, Rivara FP, Thompson DC, Barlow WE, Sugg NK, Maiuro RD, et al. Identification and management of domestic violence: a randomized trial. Am J Prev Med 2000;19: 253-63.
44. Aday LA, Begley CE, Lairson DR, Slater CH, Richard AJ, Montoya ID. A framework for assessing the effectiveness, efficiency, and equity of behavioral healthcare. Am J Managed Care 1999;5(Spec No):SP25-44.
45. Aday LA, Fleming G, Andersen R. Access to medical care in the US: who has it, who doesn't? Chicago: Pluribus Press; 1984.
46. Rovi S, Johnson MS. Physician use of diagnostic codes for child and adult abuse. J Am Med Womens Assoc 1999;54:211-4.
47. Rovi S, Johnson MS. More harm than good? Diagnostic codes for child and adult abuse. Violence Victims 2003;18:491-502.
48. Rovi S, Shimoni N. Prophylaxis provided to sexual assault victims seen at US emergency departments. J Am Med Womens Assoc 2002;57:204-7.
49. National Center for Health Statistics. Ambulatory health care data (2003). Available at: *http://www.cdc.gov/nchs/about/major/ahcd/nhamcsds.htm*. Accessed October 2003.

50. Weiss HB, Ismailov RM, Lawrence BA, Miller TR. Incomplete and biased perpetrator coding among hospitalized assaults for women in the United States. Inj Prev 2004;10:119-21.
51. Rudman W. Coding and documentation of domestic violence. San Francisco: Family Violence Prevention Fund; 2000.
52. Research Triangle Institute. SUDAAN's online help manual (2003). Available at: *http://www.rti.org/sudaan/onlinehelp/FlashHelp/SUDAAN.htm*. Accessed August 2003.
53. Kramer A. Domestic violence: how to ask and how to listen. Nurs Clin North Am 2002;37:189-210, ix.
54. Richter KP, Surprenant ZJ, Schmelzie KH, Mayo MS. Detecting and documenting intimate partner violence: an intake form question is not enough. Violence Against Women 2003;9:458-65.
55. Isaac NE, Enos VP. Documenting domestic violence: how health care providers can help victims (NCJ 188564). Washington: National Institute of Justice; 2001.
56. Covington DL, Maxwell JG, Clancy TV, Churchill MP, Ahrens WL. Poor hospital documentation of violence against women. J Trauma Injury Infect Crit Care 1995;38:412-6.
57. Houry D, Feldhaus KM, Nyquist SR, Abbott J, Pons PT. Emergency department documentation in cases of intentional assault. Ann Emerg Med 1999;34:715-9.
58. Griffin MP, Kossn MP. Clinical screening and intervention in cases of partner violence. Online J Iss Nurs 2002;7:3.
59. Ellis JM. Barriers to effective screening for domestic violence by registered nurses in the emergency department. Crit Care Nurs Q 1999;22:27-41.
60. Waller AE, Martin SL, Ornstein ML. Health related surveillance data on violence against women: state and local sources. Violence Against Women 2000;6:868-903.
61. Gilbert EH, Lowenstein SR, Koziol-McLain J, Barta DC, Steiner J. Chart reviews in emergency medicine research: where are the methods? Ann Emerg Med 1996;27:305-8.