

The Promise and Problems with Using Information Technology to Achieve Routine Screening for Intimate Partner Violence

Karin Verlaine Rhodes, MD MS
 Director, Health Services Research Group
 Section of Emergency Medicine
 University of Chicago
 5841 South Maryland Avenue, MC 5068
 Rm L545, Chicago, IL 60637
 krhodes@medicine.bsd.uchicago.edu
 V/M # 773-834-7467
 Fax # 773-702-3135

Acknowledgements: The author wants to acknowledge the work of her key research associates: Elizabeth Anliker, Delanda Bryson, Amanda Bennett, Theresa He, and Naomi Levine, as well the helpful input from the anonymous reviewers. She also thanks future emergency physician, Anita Vashi, for help with manuscript preparation.

Background

Effective physician-patient communication has been linked to improved health outcomes across the spectrum of medicine (Greenfield, Kaplan & Ware, 1989; Hall & Dornan, 1988; Stewart, 1995). This relationship may also hold true for victims of intimate partner violence (IPV). Qualitative reports from women who have escaped abuse indicate that even brief discussions with physicians were therapeutic if conversations were conducted in a concerned, non-judgmental way (Gerbert, Abercrombie, Caspers, Love & Bronstone, 1999; Rodriguez, Szkupinski, Quiroga & Bauer, 1996). Patients who have experienced IPV report that when a provider acknowledged the abuse and validated the patient's self worth, it had a powerful impact on the patient's perception of her situation and, in some cases, facilitated the

process of extrication from the abusive relationship (Gerbert et al., 1999; Weiss, 2000).

However, benefits that might result from patient-physician interaction in cases of IPV are often unrealized. The depth of isolation experienced by battered women is poignantly demonstrated by data from the 1996 Women's Health Study. Less than 8% of women who disclosed physical abuse had ever told a physician and over one-half had never told anyone (Commonwealth Fund 1996). In light of these findings, it seems to follow that encouraging disclosure of IPV in the Emergency Department (ED) can be considered a positive outcome that may set the stage for change in the future. Provider recognition and documentation of the abuse, safety assessments, and referrals to community-based domestic violence resources are additional valid process-related outcomes to track from a brief screening intervention. Fundamental to these key processes, however, is provider recognition that abuse may be an issue. Sadly, this happens all too infrequently in health care settings, highlighting the need for alternative screening methods to identify at-risk patients. The focus of this article is to address the potential for using information technology to achieve routine screening and stimulate provider-patient discussions of IPV with medically stable patients.

Survey research data suggest that interactive computer-based surveys can achieve higher routine rates of disclosure regarding sensitive issues than personal

interviews (Turner, 1998). In health care settings, self-administered computer surveys have the potential to be a relatively low cost and staff-free method of increasing the identification of serious health risks, including IPV. Gerbert et al. found that technologically advanced screening methods produced between 4%-8% higher rates of IPV disclosures (1999). The author of this paper has conducted several studies using a computer-based health risk assessment to screen for IPV and associated health risks. This paper summarizes previously unpublished feasibility studies, acceptability and validation results, and on-going work in-progress.

Studies on IPV Computer Screening

Feasibility of Computer-aided Screening

In a controlled pilot study with alternating participant assignment to computer-aided screening or usual care, computer-aided screening for sensitive health risks such as substance abuse, major depression, interpersonal violence, and high-risk sexual behavior was acceptable to patients and resulted in 31% of emergency department patients (both men and women) disclosing emotional or physical abuse in a current relationship. Table 1 details the demographic characteristics by IPV screening status for the 248 patients who were alternately assigned to computer-aided screening. Overall, 83 (33%) of the computer-screened patients self-reported either emotional or physical abuse by a current partner (IPV+), and 40 (16%) disclosed either a history or a concern that they might hurt someone close to them, which we considered to be a risk of perpetration. In fact, of those patients who disclosed any potential victimization (including having a very jealous partner), 44% of men and 22% of

women also disclosed possible IPV perpetration. Disclosures of victimization and perpetration were associated with multiple other psychosocial and adverse behavioral health risks. Table 2 highlights IPV risks disclosed by patient by IPV status and by gender. Interestingly, IPV victims and perpetrators share many of the same behavioral, mental health, and substance abuse risk factors. Risks associated with IPV perpetration by gender are shown in Table 3. There was also a surprisingly high rate of perpetrator disclosures of depression and requests for information on how to get help for depression.

Patient acceptability of Computer-aided Screening

To find out how patients responded to disclosing sensitive, personal issues via computer-aided screening, research assistants recorded patients' qualitative reactions after finishing the questionnaire. The majority of the patients responded positively to the tone of the computer survey and appreciated the opportunity to be part of it. Out of 124 patients who gave us their comments, 96 (77.5%) were extremely positive about the quiz, 16 (13%) were mildly positive, and the remainder--roughly 9%--were negative. Patients provided a wide range of reasons regarding why they liked the quiz. For example, patients felt the quiz allowed them to "get information for myself, or someone else," afforded the opportunity for "a lot of things to learn about your health and your body," "come to grips with what I should talk to the doc about," and "make the relationship with the doc more personal." Several indicated that "it was easier answering a computer than a person," and "there are a lot of things you don't want to tell anyone." Only one-tenth expressed any dissatisfaction with the quiz. Their reasons were similarly

varied. For example, “it took time to understand the questions,” “the quiz was too long,” “didn’t like the questions about sex or family history,” doubts about whether it would be “kept private,” and “the questions kind of scared me.” A number of patients specifically indicated that it motivated them to want to change their behavior: “I requested all this info because I want to straighten my life out.” Others recognized potential limitations: “Questions can assess risk factors for domestic violence and perhaps prevent it, but only if the doctor takes the time to look at the profile.”

Chart Review

In order to gain insight into both the problems and potential of computer-aided screening in influencing care outcomes, an in-depth review of the charts of some of the IPV+ patients was performed. One interesting finding revealed that although 83 patients in the computer screened group screened positive for some sort of current IPV, only 19 had any chart documentation of IPV by the provider. We believe the reasons for this are multifactorial and should be further explored. One of the reasons may be the lack of specificity of the IPV screen we were using at the time.

Problems with Sensitivity and Specificity

Realizing that an IPV screen that is embedded within an overall health risk assessment is limited in the number of questions that can be asked, we were concerned that the sensitivity/specificity of our IPV screen was less than ideal. To study this, we conducted several small validation studies. In one study, 129 women who completed the Promote Health computer program (20% screened positive for IPV of which 14% were

positive for physical victimization) were also given the revised Conflict Tactic Scale (CTS2) (Straus, et al. 1996). The CTS2, which has 39 paired items that are designed to symmetrically ask about the behavior of both the participant and the partner, was overly sensitive in our population – 71% of the same women screened positive for any IPV using the CTS2. Therefore, after posthoc analysis, we defined a positive CTS2 screen to be 3 or more incidents of IPV in each subscale, or an overall CTS2 score of 12 or higher. Using these new thresholds, we still had 62% screening positive. Our sensitivity for identifying IPV victims of physical abuse, ranged from 45% for minor to 53% for severe physical violence, with a specificity of 84%. Interestingly, our sensitivity was much higher for detecting physical IPV perpetration by women, over 80% on all subscales with specificities between 40% and 50%.

Provider Documentation of Positive IPV Screens and Variability of IPV Disclosures

The rate of provider documentation of positive IPV screens in our feasibility study was disappointing. As mentioned above, only 19/83 cases disclosed to the computer had any documented IPV recognition, current or distant. The variation in chart documentation compared to patient disclosures seemed to be attributable to both provider and patient factors. Unfortunately, it was not always the lower level abuse that was ignored by the provider. Additionally, it was not at all unusual for patients to answer affirmatively to questions about current abuse but when interviewed, readily acknowledge that the abuse took place in a distant relationship without any concern about current threat. This incongruence in answers caused us to wonder if some patients were

misunderstanding our focus on screening for current abuse given our setting in the emergency department. Consequent cognitive interviewing, however, proved that this was not the case. We were able to conclude that these supposedly incorrect responses on the computer program were a result of the patient's desire to discuss the distant experiences – not any misunderstanding of the questions. While this finding might not be well received in an ED setting, if this screening method is adapted to primary care, including questions about distant abuse would allow patients to engage in this desired opportunity. This is not unreasonable given the evidence that abuse histories continue to impact a patient's emotional and physical health for years and even decades (Felitti et al., 1998). Clearly our patients want to have and should have their health care providers informed about their abuse histories.

An Examination of Provider Documented Cases

A review of the 19 IPV cases that were documented by physicians provides some evidence for the promise of computer-aided screening to influence the outcomes of care. Seven cases with the IPV computer-aided screening results, patient comments about the computer-aided screening, and MD chart documentation are presented in Table 4. These scenarios were selected to cover the spectrum of IPV disclosures and chart documentation. While chart review revealed that in some cases the IPV prompt was addressed and appeared to make a difference in the patient's care [Cases A and D], in many instances, there is no documentation to suggest the IPV prompt was even noticed. With rare exception [Case F], this was also true of patient disclosure of potential perpetration. In men, the IPV information was not documented unless the patient

also screened positive for suicidal ideology [Cases E and G]. In a number of cases, such as Case B, the patient disclosed abuse and the treating physician documented that the abuse was not recent. Sometimes the physician simply indicated that the patient was safe to go home.

ED and Outpatient Clinic Utilization by IPV-involved Patients

Patients who screened positive for abuse were more likely to return to the ED in the year subsequent to screening positive (Rhodes, He, Drum & Levinson, 2001). This was identified through an analysis of both outpatient and ED utilization patterns of the 248 patients who took the computer-based health risk assessment. To do this, we conducted a retrospective, case-controlled evaluation of ED and outpatient visits for the year prior and year subsequent to the index screening event. Computerized medical records were used to assess utilization patterns of patients who screened IPV+ compared to patients who screened negative (IPV-). Using Poisson regression and controlling for age, sex, and utilization in the prior year (Table 5), we found that the patients who screened positive for emotional or physical abuse in an intimate relationship were half as likely to have been seen in our ED in the year prior to the index visit and were 27% less likely to be seen in the outpatient clinics than the patients who screened negative. They were also 1.7 times more likely to have missed a scheduled appointment. In the year following the index visit, there was no change in utilization patterns of outpatient services but the rate of ED utilization was 2.2 times higher for IPV+ patients. From this, we concluded that prior outpatient clinic and ED utilization was lower than expected and marked by failure to keep scheduled appointments for urban

patients with self-identified risk of IPV. However, screening positive for abuse during an ED visit was an important predictor of increased ED utilization in the subsequent year following computer-aided screening. While the reason for this increase could well have been due to the sequela of on-going abuse, it also provides supportive evidence that the IPV screening was acceptable to IPV-involved patients and certainly did not discourage further ED use.

Provider Reaction to Computer-aided Screening

To assess provider reaction to computer-aided screening for IPV, we surveyed the 36 ED physicians involved in the study. Nearly all (33/36) physicians answered the physician survey. Of those responding, 16/33 said the survey was a topic of conversation when it was on the patient's chart, and 18/33 said they were more likely to give health advice when they saw the computer generated summary. Overall, they were positive about the concept of having the patient "prescreened." ED Physicians identified IPV as the most common risk they identified from the physician summary form. Eighty percent of ED physicians answering the survey listed "domestic violence" when asked about cases where the knowledge of the health risk summary results influenced their care. Some specifically indicated that the physician prompt helped them initiate a discussion about IPV: "Provided easier translation to deliver info/remedies for domestic violence."

Effects of Computer-aided Screening on Outcomes of Care

We concluded that screening for IPV as part of a major personal and public health

risk screen via a computer-based questionnaire was acceptable to both patients and providers. The process provided the potential to detect serious as well as minor abuse. It also, at least for a handful of patients, seemed to change the interaction between physicians and women at risk for IPV in some important fashion. Moreover, it appeared that the results of computer-aided screening were used to improve care by providing the results of the screen to the treating physician. For the 85% of study patients reached in follow-up calls, patients in the computer-screened group were almost two and a half times more likely to remember having received health advice (Rhodes, et al. 2001). The vast majority (95%) of patients in our acceptability studies elected to receive additional information about specific health topics. Notably, 70% of IPV+ patients and 80% of patients at risk for perpetration elected on the computer questionnaire to receive information for themselves or someone else on "how to get help for depression." The high rate of requesting information about health risks also seemed to indicate that computer-aided screening provides health information and referrals that may have potential for spreading information into the patient's social network and possibly the community at large. Such an effect may warrant future public health interventions that could make health information more publicly available, such as placing computer "health kiosks" in various settings.

Conducting a Randomized Trial to Assess Communication Outcomes

The above pilot studies formed the basis for a larger randomized controlled clinical trial. The larger randomized trial used audiotaping of the entire ED visit for both intervention (computer-based questionnaire) and control-group (usual

care) patients to assess the generalizability and mechanism of these results. Our first hypothesis was that computer-aided screening would increase the likelihood that patients would disclose their abusive relationships. Secondly, we hypothesized that those physicians who were prompted by a summary of the patient's health risks would assess the risk of IPV, provide therapeutic communication, and appropriately refer to hospital and community domestic violence programs. While several manuscripts from that study are still under review, we did find an overall significant increase in the number of IPV discussions and patient disclosures resulting from computer IPV screening. However, computer-aided screening did not guarantee that the provider would address the results. Preliminary findings indicated this occurred in only one-half of cases in which patients are willing to self-disclose IPV risk (Rhodes, et al, 2004). On-going qualitative work is underway to characterize the exact nature of the IPV-related communication between providers and patients. Preliminary analysis finds that the provider did raise the issue in the vast majority of cases but usually as part of a perfunctory list, and not infrequently required the patient to view herself as a victim. Nonetheless, female patients with any mention of IPV or abuse in their visit were significantly more likely to rate their satisfaction with the visit as very high, compared to patients without these discussions (Rhodes, 2003).

Ongoing Work-in-Progress

We have recently revised our computer-based IPV screen and included a risk assessment tool, which is derivative of Jackie Campbell's Danger Assessment (2004). Our current IPV computer screen is still embedded as part of an overall health risk assessment (Appendix 1). We are currently conducting further validation

studies and also enrolling IPV positive men and women for in-depth clinical interviews to evaluate the context, meaning, motive, and consequences of their IPV experiences both in current and previous relationships. Our lack of full provider response to the computer-generated prompt raises important concerns about the safety of computer-aided screening when there are inadequate resources to address the issues raised. As such, we are currently involved in a CDC-funded study at a large county hospital which likewise has inadequate staffing to adequately address IPV disclosures by patients. The study will specifically address safety issues that may influence patient reporting in computer-aided screening. That study is assessing baseline rates of IPV in both male and female non-urgent ED patients at a large county hospital ED, tracking any adverse incidents during the visit, and following up with victims to assess for any incidents of IPV that might be related to the screening event. Data collection for that study will conclude in the next year and we are hopeful that it will provide important evidence regarding any potential harm related to IPV screening in the ED setting, a more uncontrolled environment compared to routine primary care.

A Model for Computer-aided Screening in Health Care Settings

While assessing the outcomes of computer-aided screening, it would be ideal to measure actual behavioral change. However, change is a long-term process that is more likely to be related to the patient's life history and other environmental influences. Like the process of changing any health behavior, change takes time and may happen gradually (Prochaska, Velicer, & Rossi, 1994). We propose the following model of

a health care intervention for IPV as just one part of a needed, society-wide public health effort to decrease the incidence of IPV (Figure 1). We present an explicit model of how computer-aided screening with provider input might impact processes of behavioral change for IPV-involved patients because we are focused on how we can best help the patient who is in a violent relationship. However, underlying this model is an implicit model of physician behavioral change. Computer-aided screening, with a prompt to the physician if the patient discloses a risk for partner violence, may function as a doctor-patient communication tool. Giving the patient an opportunity to confidentially self-disclose may lower a perceived barrier or give the physician permission to initiate a discussion regarding partner violence.

Conclusions

We have tried to present both the promise and problems that we have found with computer-aided screening for IPV in a busy ED setting. There is a possibility that computer-aided IPV screening may have greater impact in a primary care setting where providers view the uncovering of psychosocial aspects of health to be more within the scope of their practice. Understanding the full potential and problems related to computer-aided screening is still very much a work-in-progress. It will require further evaluation of both patient safety and intervention effectiveness. In the meantime, we would strongly recommend that any computer IPV screening programs be accompanied by system-wide support strategies including, but not limited to, automatic referral to social work or an on-site advocacy group.

Implications

There has been a great deal of controversy about whether health care settings should provide routine screening for IPV (Chamberlain, 2005; Neilsen, 2004; Ramsey, 2002). Currently the evidence for IPV screening is confounded by the fact that no study has been able to achieve routine screening in health care settings. Perhaps if we can attain true routine screening through the use of information technology we will be able to develop clearly defined, desirable, and measurable outcomes related to the value of screening and identification of IPV in a health care setting.

Potential Financial Conflicts of Interest: None disclosed.

Grant Support: The Promote Health computer-based survey she refers to in this article was developed using funds from the Chicago Community Trust (CCT Grant# 15731) and the Agency for Health Care Research and Quality (R0-1 HS11096) and is being refined as part of a career development award from NIMH K23 MH64572 (Rhodes). There is also a version available for older adults. The program is still under development but is available for editing and clinical use as "freeware" through the FVPHF website.

References:

Campbell, J., Webster, D., Koziol-McLain, J. et.al (2003). Risk Factors for Femicide in Abusive Relationships: Results from a Multi-Site Case Control Study. *American Journal of Public Health*, 93(7), 1089-1097.

Chamberlain L. (2005). The USPSTF Recommendation on Intimate Partner Violence: What Can We Learn From It and What Can we Do About It. <http://endabuse.org/health/ejournal/archive/1-1/>

Felitti, V., Anda, R., Nordenberg, D., Williamson, D., Spitz, A., Edwards, V., Koss, M., Marks, J. (1998). Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, 14(4), 245-258.

Gerbert, B., Bronstone, A., Pantilat, S., McPhee, S., Allerton M., Moe, J. (1999). When asked, patients tell: disclosure of sensitive health-risk behaviors. *Med Care*, 37(1), 104-111.

Gerbert, B., Abercrombie, P., Caspers, N., Love, C., Bronstone, A. (1999). How health care providers help battered women: the survivor's perspective. *Women Health*, 29, 115-35.

Greenfield, S., Kaplan, S., Ware, J. (1989). Assessing the effects of physician-patient interaction in outcomes of chronic disease. *Med Care*, 27, S110-S127.

Hall, J., Dornan, M. (1988). Meta-analysis of satisfaction with medical care: description of research design and analysis of overall satisfaction levels. *Soc Sci Med*, 27, 637-644.

Neilson H.D., Nygren P., McInerney Y., Klein J. (2004). Screening Women and Elderly Adults for Family and Intimate Partner Violence: A Review of the Evidence for the U.S. Preventive Services Task Force. *Ann Intern Med*, 140(5), 387-396

Prochaska J., Velicer, O., Rossi, J. (1994). Stage of change and decision balance for 12 Problem Behaviors. *Health Psych*, 13(1):39-46.

Ramsay J, Richardson J, Carter H, Davidson LL, Feder G. (2002). Should health professionals screen women for domestic violence? A Systematic Review. *BMJ*. 325, 314-318.

Rhodes, K., Anliker, E., Drum, M., Frankel, R., Howes, D., Levinson, W. (2003). Increased Psychosocial Risk Communication With Computer Screening: Impact On Patient Satisfaction. *Acad Emerg Med*, 10(5), 568.

Rhodes, K., Drum, M., Anliker E., Frankel, R., Howes, D., Levinson, W. (2004). How Do Emergency Department Providers Respond When Patients Disclose Domestic Violence? *Acad Emerg Med*, 11(5), 559-560.

Rhodes, K., He, T., Drum, M., Levinson, W. (2001). ED And Outpatient Utilization One-Year Prior And One-Year Subsequent To Screening Positive for Domestic Violence. *Acad. Emerg Med*, 8(5), 460-461.

Rhodes, K., Lauderdale, D., Stocking, C., Howes, D., Roizen, M., Levinson, W. (2001). Better health while you wait: a controlled trial of a computer-based intervention for screening and health. *Ann Emerg Med*, 37, 284-291.

Rodriguez, M., Szkupinski, Q., Bauer, H. (1996). Breaking the silence: battered women's perspectives on medical care. *Arch Fam Med*, 5, 153-158.

Stewart, M. (1995). Effective physician-patient communication and health outcomes: A review. *Can Med Assoc J*, 152, 1423-1433.

Straus, M. Murray A., Sherry L. Hamby, Susan Boney-McCoy, Sugarman, D. (1996). "The revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data." *Journal of Family Issues*, 17, 283-316.

Weiss, E. *Surviving Domestic Violence: Voices of Women Who Broke Free*. (2000). Salt Lake City, Utah: Dept of Family and Preventive Medicine, University of Utah, Agreka Books.

Turner, C., Ku, L., Rogers, S., et al. (1998). Adolescent Sexual Behavior, Drug Use, and

Violence: Increased Reporting With Computer Survey Technology *Science Science*, 280, 867-873.

Violence Against Women in the United States: A Comprehensive Background Paper. (1996). The Commonwealth Fund Commission on Women's Health.

Table 1 -- A comparison of demographic variables and reasons for visit for patients with and without IPV disclosure (total N=248)

	<i>% and number of patients</i>	
	<i>IPV disclosure</i> IPV+	<i>No IPV disclosure</i> IPV-
Patients	33.5% (83)	66.5% (165)
Gender		
Men	30.1% (25)	32.1% (53)
Women	69.9% (58)	67.9% (112)
Average Age (years)		
Men	30	36.7
Women	33	39
	29	36
Race		
White	2.4% (2)	8.5% (14)
Black	96.4% (80)	88.5% (146)
Other	1.2% (1)	3.0% (5)
Education		
< High school	26.5% (22)	17.6% (29)
High school diploma	63.7% (52)	66.1% (109)
College degree or higher	10.8% (9)	16.7% (27)
Insurance		
Medicaid	50.6% (42)	30.3% (50)
Medicare	9.6% (8)	20% (33)
Private	26.5% (22)	38.2% (63)
None	13.3% (11)	11.5% (19)
Marital Status		
Married	19.3% (16)	18.9% (31)
Single	63.9% (53)	57.9% (95)
Divorced/Separated	15.7% (13)	17.6% (29)
Widowed	1.2% (1)	5.5% (9)
Usual Source of Care		
ED	18.1% (15)	15.8% (26)
Clinic *	74.7% (62)	72.1% (119)
None	7.2% (6)	12.1% (20)
Reason for Visit		
Medical	48.2% (40)	49.1% (81)
Injury	21.7% (18)	29.1% (48)
Gyne/Urinary	19.3% (16)	17.0% (28)
Other reasons	3.6% (3)	1.8% (3)
Missing data	7.2% (6)	3.0% (5)

* Clinic includes HMO, hospital clinic, neighborhood clinic, and private medical doctor's office.

Table 2. – Comparison of characteristics of patients with positive and negative IPV disclosures[†] (N=248) by gender

Percentages (numbers) of patients disclosing risks

	<u>Female (N=170)</u>		<u>Male (N=78)</u>	
	IPV+ (N=58)	IPV- (N=112)	IPV+ (N=25)	IPV- (N=53)
Current Physical IPV Victimization <i>Are you in a relationship with someone who has pushed, hit, kicked, or otherwise physically hurt you?</i>	43% (25)	0% (0)**	20% (5)	0% (0)**
History or Concern of Perpetration <i>Have you ever physically hurt someone close to you? OR Are you worried that you might physically hurt someone close to you?</i>	22% (13)	9% (10)*	44% (12)	9% (5)**
Major Depression <i>Taking medication for depression or nerves <u>or</u> depressed > 2 weeks in row in last 12 months <u>or</u> suicidal ideation in last 12 months</i>	55% (32)	36% (40)*	52% (13)	19% (10)**
Suicidal Ideation in last 12 months	22% (13)	7% (8)*	36% (9)	6% (3)**
<i>In the last 12 months, have you ever felt so low that you thought about harming yourself or committing suicide?</i>				
History of Sexual Abuse <i>Have you ever been made to have sex when you didn't want to?</i>	31% (18)	8% (9)**	28% (7)	6% (3)*

[†]A disclosure was defined as a response of “Yes” to the question and also included “Not Sure” responses in the areas of patient disclosure of suicidal ideation.

* P-value < 0.05 comparing positive and negative domestic abuse disclosure within gender group

**P-value < 0.005 comparing positive and negative domestic abuse disclosure within gender group

Table 3. – Comparison of characteristics of patients with positive and negative IPV Perpetration risk by gender (N=248)[†]

	<i>percentages (number) of patients disclosing risks</i>			
	<u>Female (N=170)</u>		<u>Male (N=78)</u>	
	perpetration risk disclosure (N=23)	no perpetration risk disclosure (N=147)	perpetration risk disclosure (N=17)	no perpetration risk disclosure (N=61)
Major Depression <i>Taking medication for depression or nerves <u>or</u> depressed > 2 weeks in row in last 12 months <u>or</u> suicidal ideation in last 12 months</i>	78% (18)	37% (54)**	47% (8)	25% (15)
Requested mental health information	87% (20)	45% (66)**	76% (13)	38% (23)*
History of street drug use	48% (11)	17% (25)*	53% (9)	36% (22)
Witnessed or participated in gun violence	48% (11)	13% (19)**	52% (9)	25% (15)
Someone close to patient has access to gun	26% (6)	10% (15)	35% (6)	13% (8)*
Has gun at home or in the car	4% (1)	7% (11)*	18% (3)	21% (13)

[†]A disclosure was defined as a response of “Yes” to the question and also included “Not Sure” responses in the areas of patient disclosure of suicidal ideation.

* P-value < 0.05 comparing positive and negative domestic abuse disclosure within gender group

**P-value < 0.005 comparing positive and negative domestic abuse disclosure within gender group

Table 4. Selected scenarios and comments of IPV+ patients who took computer questionnaire with MD chart documentation

	Patient	Screened positive for:	Patient Comments about Prevent	MD chart documentation regarding abuse
A	23 year old Female cc: Low back pain, cough Dx. 1. Viral syndrome, 2. Domestic Violence	Emotional and physical abuse	<i>"It was alright. Some of the questions are things I am going through"</i>	<i>"Patient complained of being hit with a broom to R. leg and low back a few days ago by ex-boy friend, + ecchymosis. Police report filed. Patient has a safe place to go. Given DV information"</i>
B	27 year old Female cc: Head and neck pain Dx: Cervical Strain	Emotional and physical abuse	<i>"Thought the questions were great. It asks things you might not tell your doctor because other people might be in the room. More people need to do this."</i>	<i>"Abusive ex-spouse, not recent."</i>
C	16 year old Female cc: Vaginal bleeding, called back for positive GC culture	Emotional and physical abuse Sx Major Depression	<i>" I liked it. The questions are easy"</i>	<i>"Patient called back for + GC culture. Told patient to have partner treated" [No MD documentation of IPV]</i>
D	18 year old Female cc: 12 weeks pregnant Low abdominal pain x 2 days Dx: Round ligament pain	Emotional and physical abuse Sx Depression Patient concerned they might hurt someone	<i>"I liked how you didn't have to answer to a person. There are some things you don't want to tell anyone"</i>	<i>"Domestic violence. Patient informed of availability of DV support program/shelter. Provided with pamphlet and numbers for help. OK to go home and follow up with Family Rescue"</i>
E	26 year old Male cc: back and neck pain x11 years Dx: Chronic sciatica	Emotional abuse Suicidal ideation w/in the last 12 months Hx of sexual abuse	<i>"[The computer] asked me questions that I have never been asked before. It asks questions that doctors normally don't have time to ask. It is a doctor within itself"</i>	<i>"Sx of depression, hx of suicide attempt at age 15, not currently suicidal. Difficult home situation: issues with mother of patient's son, current wife with strained relationship. Patient wishes #s for counseling."</i>
F	35 year old Female cc: Blood in stool Dx: GI Bleed	Emotional and physical abuse Patient concerned she might hurt someone	[No comment volunteered]	<i>"Patient admits home stressors and violent confrontation with son. Admits she tried to run him over. Denies future danger as will instead contact his probation officer"</i>
G	37 year old Male cc: Abrasion to penis Dx: Urethritis, Suicidal ideation	Emotional abuse Symptoms of depression Handgun Problem drinking	<i>"I'm glad I took that. I feel better just getting [suicidal plan] off my chest"</i>	<i>"Patient is having suicidal thoughts, estranged ex-wife not allowing him to see kids. Previous suicide attempts... Has two loaded guns at home. Is a danger to self and others." [Committed to Psychiatric floor, discharged one week later with court-mandated outpatient therapy after mother brought in guns]</i>

cc = chief complaint
Sx = symptoms
Hx = history
Dx = diagnosis

Table 5. Incident Rate Ratios using Poisson Regression
**comparing IPV+ and IPV- patients, controlling for age, sex,
 and # of prior visits.**

	IPV+ vs. IPV- patients Incidence rate ratios N=248 83 IPV+ vs. 165 IPV- (95% confidence interval)
Year Prior to Index Visit	
ED visits	0.49 (0.39, 0.63)
Outpatient visits	0.73 (0.63, 0.85)
Missed Scheduled Appointments	1.7 (1.4, 2.1)
Year following Index Visit	
ED visits	2.2 (1.7, 2.8)
Outpatient visits	0.77 (0.68, 0.87)
Missed Scheduled Appointments	1.7 (1.5, 2.0)

Figure One

Model of Health Care Intervention for Intimate Partner Violence

