Interventions for Violence Against Women

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Since the 1970s, intimate partner violence has been recognized as associated with significant morbidity and mortality, particularly among women.1 While some surveys suggest that similar proportions of men and women report intimate partner violence (IPV), abused women experience more physical and emotional impairment than men.2,4 It is not surprising, therefore, that the great majority of interventions aimed at prevention and treatment of IPV focus on violence by men against women. Although violence against men by women and between same-sex partners are important issues, presently there are too few original research articles with this focus to warrant a systematic review of these topics.

Violence surveys generally place lifetime prevalence of IPV against women at between 25% and 30% and annual prevalence at between approximately 2% and 12%.2,5 A recent Canadian population-based survey found 5-year rates of 8%,6 a decrease from 12% found in an earlier survey.6 In Canada, 1-year rates in 1999 were reported at 3%.7 The variability in these estimates has been attributed to a variety of factors, such as the definition of abuse used in the survey (ie, whether emotional and verbal abuse, stalking, and rape are considered); whether the samples are drawn from community or health care settings; and whether the respondents are asked to restrict their responses to abuse in the current relationship.2,6,8

See also p 601.

Context Intimate partner violence is prevalent and is associated with significant impairment, yet it remains unclear which interventions, if any, reduce rates of abuse and reabuse.

Objective To systematically review, from the perspective of primary health care, the available evidence on interventions aimed at preventing abuse or reabuse of women.

Data Sources MEDLINE, PsycINFO, CINAHL, HealthStar, and Sociological Abstracts were searched from the database start dates to March 2001 using database-specific key words such as domestic violence, spouse abuse, partner abuse, shelters, and battered women. References of key articles were hand searched. The search was updated in December 2002.

Study Selection Both authors reviewed all titles and abstracts using established inclusion/exclusion criteria. Twenty-two articles met the inclusion criteria for critical appraisal.

Data Extraction Following the evidence-based methods of the Canadian Task Force on Preventive Health Care, both authors independently reviewed the 22 included studies using an established hierarchy of study designs and criteria for rating internal validity. Quality ratings of individual studies—good, fair, or poor—were determined based on a set of operational parameters specific to each design category developed with the US Preventive Services Task Force.

Data Synthesis Screening instruments exist that can identify women who are experiencing intimate partner violence. No study has examined, in a comparative design, the effectiveness of screening when the end point is improved outcomes for women (as opposed to identification of abuse). No high-quality evidence exists to evaluate the effectiveness of shelter stays to reduce violence. Among women who have spent at least 1 night in a shelter, there is fair evidence that those who received a specific program of advocacy and counseling services reported a decreased rate of reabuse and an improved quality of life. The benefits of several other intervention strategies in treating both women and men are unclear, primarily because of a lack of suitably designed research measuring appropriate outcomes. In most cases, the potential harms of interventions are not assessed within the studies reviewed.

Conclusions Much has been learned in recent years about the epidemiology of violence against women, yet information about evidence-based approaches in the primary care setting for preventing intimate partner violence is seriously lacking. The evaluation of interventions to improve the health and well-being of abused women remains a key research priority.

JAMA. 2003;289:589-600

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Similarly, prevalence estimates for abuse during pregnancy have significant variability. In their review of pregnant women from the United States and other developed countries, Gazmara and colleagues found rates of abuse ranging from 0.9% to 20.1%, with the majority in the range of 3.9% to 8.3%, which is consistent with US state-wide surveys. There is a relationship between abuse before, during, and after pregnancy, with abuse during an earlier period in the relationship strongly predicting abuse during a later period.

Women who experience IPV are at increased risk of injury and death, as well as a range of physical, emotional, and social problems. Physical health consequences include a 50% to 70% increase in gynecological, central nervous system, and stress-related problems. Impairment in mental and emotional health is associated with exposure to IPV, including depression, anxiety, suicidality, posttraumatic stress disorder, mood and eating disorders, substance dependence, antisocial personality disorders, and nonaffective psychosis.

Abuse during pregnancy is associated with impairment in both the mother and child. For the mother, the outcomes described above are all relevant, as well as the additional psychological and physical implications of experiencing abuse while pregnant. For the child, abuse can cause direct harm, such as pre-term birth or injury caused by a blow to the mother’s abdomen, or indirect harm caused by psychological distress, and/or a woman’s reluctance or inability to obtain prenatal care. A recent meta-analysis and systematic review found that women abused during pregnancy are significantly more likely to give birth to low-birth-weight infants.

Given the recent emphasis on development of primary care screening approaches for IPV, this article systematically reviews the available evidence for strategies applicable in the primary care setting to identify and treat women who experience IPV. In a companion article, Rhodes and Levinson discuss the clinical applications of the evidence in the context of options available to primary care clinicians.

METHODS
Data Sources
MEDLINE, PsycINFO, CINAHL, HealthStar, and Sociological Abstracts were searched from the respective database start dates to March 2001 using appropriate database-specific keywords such as domestic violence, spouse abuse, sexual abuse, partner abuse, shelters, and battered women, among others. The reference lists of key articles were hand searched. Both primary authors reviewed all titles and abstracts according to the study selection criteria (see “Study Selection” below) to arrive at a final pool of articles for review. Also included were relevant articles from after the search end date and those articles identified by external reviewers.

A total of 2185 citations were retrieved during the first search. Twenty-two citations were identified via hand searching and a focused search update. One reviewer (C.N.W.) reviewed all titles and abstracts for further review. The final pool of articles was 97, 22 of which described interventions meeting the criteria for critical appraisal. An additional 18 articles, suggested by external expert reviewers and/or those published between the search end date and an updated focused search in December 2002, were added, none of which met the selection criteria for critical appraisal.

Both authors independently reviewed each study using the evidence-based methods of the Canadian Task Force on Preventive Health Care (Box). Quality ratings of individual studies—good, fair, and poor—were determined based on a set of operational parameters specific to each design category (eg, systematic review, case-
control studies, randomized controlled trials [RCTs], and cohort studies) developed with the US Preventive Services Task Force.25

**Study Selection**

For this review, IPV was defined as physical and psychological abuse of women by their male partners, including sexual abuse and abuse during pregnancy. The systematic review focused on the effectiveness of interventions to prevent IPV, including all comparative studies evaluating interventions to which a primary care clinician could refer a patient. These studies included interventions for women, battered partners, and/or couples. The type of comparison group could be a no intervention control, a usual care control, or a group receiving an alternate intervention for study purposes.

In the case of physical, sexual, and emotional violence, the primary health outcomes (ie, changes in disease morbidity or mortality) are those related to physical and psychological morbidity of abuse; however, these data often are not available. Thus, self-reported incidence of abuse is often used as the primary outcome in these studies; however, there is evidence that women underreport abuse.3

Furthermore, debate exists regarding whether incidence of reabuse is the appropriate measure for evaluating treatment interventions. For example, many authors argue that reabuse is an inappropriate measure because women have no control over whether they are abused again, and they are often forced to return to an abusive relationship for economic or other reasons. Some authors claim that the significant outcomes should be determined by the women themselves.26,27 Other types of outcomes suggested in the literature include the impact of clinically based interventions (eg, screening, counseling) on the patient-physician interaction and subsequent physician action if women are identified as abused,28 whether women revisit emergency departments (EDs),29 and whether women's mental health improves,30 among others. However, these were not considered primary outcomes for the present review, largely because of a lack of analytic studies.

Thus some studies, especially those describing interventions for women, do not provide outcomes for abuse per se, and the main outcome measures are those such as the amount of social support the women have access to, their use of safety behaviors or safety planning, or their use of community resources. While the link between these types of outcomes and subsequent abuse has not been empirically established, studies that meet other inclusion criteria and report only these types of outcomes are included in the analysis, with a caveat that they can inform effectiveness of interventions only vis a vis these outcomes. Potential harms of interventions also are reviewed. In their companion article, Rhodes and Levinson23 elaborate on the issue of relevant clinical outcomes to consider in primary care decision making.

### RESULTS

**Interventions to Prevent Abuse: Systematic Review**

From the primary care perspective, there are 2 main intervention options to detect and to prevent violence against women. Primary care clinicians can screen women to determine if they are being abused or are at risk of abuse, and they can refer abused women or their partners to various intervention programs.

A number of screening tools exist, many of which have shown reasonable accuracy in detecting abuse,35-41 including tools designed for primary care settings,42,43 to screen pregnant women,44-47 and even a tool designed to screen men.48 However, no study to date has examined, in a comparative design, the effectiveness of screening where the end point was improved outcomes for women (as opposed to identification of abuse status). Therefore, this systematic review focuses on the effectiveness of treatment interventions for women identified as at risk of or experiencing IPV. From the perspective of the primary care clinician, this effectiveness of screening generally means a referral to either a safe place, such as a women's shelter, to counseling, or to other community-based resources.

Another set of intervention options is referral of men to batterer treatment programs. Compared with interventions for women, more empirical data exist evaluating the effectiveness of different treatments for men. The link between detecting IPV in men and then treating the men is not clear, especially for the primary care clinician. However, given the potential for the reduction in IPV through treatment of perpetrators,49-51 it is important to understand the effectiveness of these approaches.

A few studies have examined the effectiveness of information and education interventions targeted at young people as primary prevention strategies for later domestic violence.52-54 Also, some authors have proposed that societal-level interventions, such as policing and legislative policies, can affect the incidence of violence against women.55-59 These latter interventions are considered to be outside the scope of the primary care setting, but a brief section outlining the key issues surrounding these types of policies is provided.

### Interventions for Women

No interventions for use in the primary care setting, to our knowledge, have been evaluated in studies meeting the inclusion criteria for this systematic review. Eleven studies that met the inclusion criteria were classified as interventions to which primary care clinicians could refer abused women. These 11 articles described 4 interventions, with advocacy counseling following at least 1 night's stay in a shelter as the subject of 6 articles.60-65 The other interventions included an assessment of the effectiveness of staying at a shelter,66 a program of personal and vocational counseling for abused women,67 and prenatal counseling designed to reduce further abuse.68,70 **TABLE 1** (truncated version; the full table is published online at http://www.jama.com) shows studies with a quality rating of fair. Strict adherence to

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Table 1. Summary of Domestic Violence Intervention Studies: Primary Care Referral of Women*

<table>
<thead>
<tr>
<th>Source and Design</th>
<th>Study Description and Participants</th>
<th>Study Interventions</th>
<th>Outcomes Assessment</th>
<th>Results</th>
<th>Strengths and Weaknesses*</th>
<th>Quality Rating†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sullivan,60 1991; Sullivan and Davidson,61 1991; RCT</td>
<td>Women leaving shelter after at least 1 night’s stay Initial participants, N = 46 Included in analysis, n = 41 Intervention group, n = 25 Control group, n = 16</td>
<td>6-8 h/wk for 10 weeks postshelter of one-on-one advocacy counseling Interviews conducted at preintervention, at 5 weeks during intervention, at 10 weeks postintervention and at 20 weeks follow-up</td>
<td>Incidence and severity of abuse (MCTS), independence from assailants, and ability to obtain community resources (all self-report)</td>
<td>Abuse outcomes: unable to adequately compare due to very small number of women involved with assailant Other outcomes: Intervention group better able to obtain resources No differences between groups for independence from assailants were reported</td>
<td>Small sample size disproportionately weighted to intervention group No blinding Impossible to evaluate abuse outcomes due to very small cohort size</td>
<td>Fair</td>
</tr>
<tr>
<td>Sullivan et al,62 1992; RCT</td>
<td>Women leaving shelter after at least 1 night’s stay Initial participants, N = 146 Included in analysis, n = 141 Intervention group, n = 71 Control group, n = 70</td>
<td>4-6 h/wk for 10 weeks postshelter of one-on-one advocacy counseling Interviews conducted at preintervention, at 10 weeks postintervention</td>
<td>Physical violence: incidence of abuse (MCTS), risk for being reabused, social support, quality of life, and ability to obtain community resources Psychological abuse: several psychological outcomes (all self-report)</td>
<td>Abuse outcomes: no differences between groups Other outcomes: intervention group reported more access to resources, better social support, and greater quality of life</td>
<td>No blinding outcomes Self-report outcomes No blinding</td>
<td>Fair</td>
</tr>
<tr>
<td>Sullivan et al,63 1994; RCT</td>
<td>6-month follow-up results of Sullivan et al62 Study groups same as above Total lost to follow-up, n = 10 (groups not specified)</td>
<td>4-6 h/wk for 10 weeks postshelter of one-on-one advocacy counseling Interviews conducted at preintervention, at 10 weeks postintervention, and at 6 months follow-up</td>
<td>Same as above</td>
<td>Same as above, except no differences in social support</td>
<td>Acceptable loss to follow-up (95% retention rate at 6 months) Self-report outcomes No blinding</td>
<td>Fair</td>
</tr>
<tr>
<td>Tan et al,64 1995; RCT</td>
<td>Secondary analysis of data from Sullivan et al63 1994, to explore link between social support and abuse Study groups and loss to follow-up same as above</td>
<td>Same as above</td>
<td>Same as above</td>
<td>Abuse outcome: at postintervention (10 weeks) interview, women in the control group who had experienced violence were less satisfied with their social support while women in the intervention group were satisfied whether they experienced further abuse or not. This did not persist at follow-up</td>
<td>Same as above</td>
<td>Fair</td>
</tr>
</tbody>
</table>

(continued)

the a priori criteria established for this review resulted in no studies receiving a quality rating of good. Often, a main limitation was the use of self-report data as the primary outcome (incidence of violence) using a measure(s) that had not undergone adequate testing of its validity. Thus the highest level of evidence available would have been outcomes, including self-report data, that had been validated, for example, by medical or police records.

No studies meeting the criteria for a quality rating of good or fair exist that test the effectiveness of shelters for battered women. Using a cohort design, Berk et al66 interviewed battered women (identified either by their referral to a shelter or to the county prosecutor), comparing those women who had elected to enter a shelter during the interval between interviews (mean of 54 days) with those who had not. Of 155 women, 37% (n = 57) reported 1 shelter stay between interviews. Most of the sample (81%, n = 125), regardless of shelter status, reported no new violence in the time between interviews (for details of this study see the online Table 1 at http://jama.com). Of the 30 women (19%) experiencing violence, 22 (14%) reported a single incident, and 8 (5%) reported multiple incidents. Rates of reported violence did not differ between those who stayed at a shelter and those who did not. This study had several methodological weaknesses, including selection bias. The relatively short interval between interviews made it difficult to interpret whether the lack of reported violence in the majority of the sample was due to the intervention, the women’s participation in the study, or the relatively short time between intervals.
Advocacy counseling following shelter stay was evaluated using an RCT design, in a pilot study,60,61 and in a larger trial.82-83 The study reported by Sullivan and Bybee65 included the largest sample and reported the longest follow-up period (2 years) (Table 1). Overall, this study was assessed as having fair internal validity, mainly because of reliance on self-report measures for all of the outcomes. Women who had spent at least 1 night in a shelter were randomly assigned either to receive advocacy services 4 to 6 hours a week for 10 weeks following leaving the shelter or to have no contact other than for interviews. The focus of the intervention was on assisting women with devising safety plans (if needed) and accessing community resources, such as housing, employment, and social support. Of the 284 initial study participants, 278 women remained in the trial, and complete longitudinal data were available for 242 of them. Women in the intervention group reported less reabuse at the 2 year follow-up compared with those in the control group (76% and 89%, respectively). At 2 years, 89% of controls reported reabuse, vs 76% of women in the intervention group.

No overall main effect of condition across the entire study
No significant differences between groups over time for psychological abuse
Overall significant decrease for both groups
Intervention group had lower risk for reabuse at 2-year follow-up
Other outcomes:
Intervention group reported less involvement with assailants across time and more effective in “ending relationship when they wanted” and “reaching their goals”
Intervention group was better able to obtain resources and reported higher satisfaction with social support and improved quality of life across time
No significant differences in depression between groups

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Table 1. Summary of Domestic Violence Intervention Studies: Primary Care Referral of Women* (cont)

<table>
<thead>
<tr>
<th>Source and Design</th>
<th>Study Description and Participants</th>
<th>Study Interventions</th>
<th>Outcomes Assessment</th>
<th>Results</th>
<th>Strengths and Weaknesses*</th>
<th>Quality Rating†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sullivan and Bybee,65 1999; RCT (the completed longitudinal study of the studies reported above)</td>
<td>Women leaving shelter after at least 1 night’s stay</td>
<td>4-6 h/wk for 10 weeks postshelter of one-on-one advocacy counseling Interviews conducted at preintervention, shelter exit, at 10 weeks postintervention, and at 6, 12, 18, and 24 months of follow-up</td>
<td>Same as above</td>
<td>Abuse outcomes: Physical violence at postintervention and 2-year follow-up Intervention group reported significantly less violence than controls postintervention (group × time interaction F4,260 = 2.38, P&lt;.05). At 2 years, 89% of controls reported reabuse, vs 76% of women in the intervention group No overall main effect of condition across the entire study No significant differences between groups over time for psychological abuse</td>
<td>Acceptable loss to follow-up: 95% retention rate at 2 years and no differences in attrition between groups Complete longitudinal data available for 87% of participants Self-report outcomes No blinding</td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations: MCTS, Modified Conflict Tactics Scale31; RCT, randomized controlled trial.
*Table 1 is truncated, showing only those studies with a quality rating of fair. The full version of Table 1 can be found online at http://www.jama.com.
†Quality ratings are made according to established criteria described in the Box.
service for at least 2 weeks was evaluated (for details of studies not shown in Table 1, see the online Table at http://www.jama.com). However, this study had a small initial sample (N = 50) and high drop-out rates. Although there was some improvement in measures such as self-esteem, the limits in the design and analysis did not allow for conclusions to be drawn from this study.

Prenatal counseling for pregnant women with a history of abuse was evaluated using 1 or more comparison groups. McFarlane et al’s 1997 study focused on the relationship between resource use and reports of abuse, rather than on the effectiveness of the intervention. In a cohort study, 3 sessions of individual counseling by a nurse trained for abuse prevention were provided to 132 women. A comparison group of 67 postpartum women were given an information card containing telephone numbers of local agencies that assist with domestic violence. While women who received the counseling intervention reported less violence, flaws in study design, such as difference in parity status between the 2 groups, precluded determining the effectiveness of the intervention. In a recent quasi-randomized trial by McFarlane and colleagues, 3 levels of intervention—brief (information card), counseling (professional), and outreach (professional plus “mentor mother”)—were compared in a sample of predominantly Hispanic women who were pregnant and had experienced physical abuse. Although severity of abuse decreased significantly across all intervention groups, there were no statistically significant differences among the groups at 18 months. Furthermore, the methodological shortcomings of the trial, including a flawed randomization procedure, have limited the conclusions that can be drawn from this study.

### Interventions for Batterers and/or Couples

Ten studies and 1 systematic review of batterer and/or couple programs are summarized in Table 2 (truncated version showing only those studies with quality ratings of good and fair; the full table is published online at http://www.jama.com). Some of these intervention programs are aimed exclusively at men while others include their partners. Within individual studies, more than 1 treatment approach often was evaluated. More than half of the studies compared treatments without a control group; only 2 studies used an RCT design. The systematic review included 2 RCTs, one of which overlapped with the individual studies.

The systematic review was given a quality rating of fair. While the methodological quality of the individual studies was assessed in detail within the review, it was unclear whether 2 authors independently assessed the studies, and

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**Table 2. Summary of Domestic Violence Intervention Studies: Batterer and Couple Interventions**

<table>
<thead>
<tr>
<th>Study Design</th>
<th>Study Description and Participants</th>
<th>Interventions</th>
<th>Outcome Measures</th>
<th>Results</th>
<th>Strengths/Weaknesses</th>
<th>Quality Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunford, RCT</td>
<td>San Diego Navy Experiment</td>
<td>Couples were randomly assigned to 1 of 4 groups:</td>
<td>Outcomes at 1-year follow-up after first 6 months of treatment:</td>
<td>Abuse outcomes:</td>
<td>Large sample size</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>Marital abuse</td>
<td>(1) men’s group—weekly sessions (1.5 hours) for 6 months followed by</td>
<td>(1) self-report episodic measure of violence</td>
<td>No statistically significant differences were found across 4 groups for</td>
<td>Rigorous design</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marital abuse</td>
<td>monthly sessions for 6 months; based on cognitive-behavioral model and</td>
<td>(2) MCTS</td>
<td>prevalence of new or continued abuse for either men’s or women’s</td>
<td>High follow-up rate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marital abuse</td>
<td>included review and process activities</td>
<td>(3) official police and court records for all respondents</td>
<td>reports</td>
<td>Outcomes validated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marital abuse</td>
<td>(2) conjoint group—as above but included women</td>
<td>(4) date of recidivism of violence</td>
<td>No statistically significant differences were found across groups for</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marital abuse</td>
<td>(3) rigorous monitoring group—men seen for 1 year of monthly individual</td>
<td></td>
<td>new arrests based on official records</td>
<td>No binding</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marital abuse</td>
<td>counseling sessions (1 h) by case manager with FAC, included 6-week record</td>
<td></td>
<td>Rates of arrest recidivism were low across all 4 groups (range, 3%-6%).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marital abuse</td>
<td>search and information provided to commanding officer</td>
<td></td>
<td>Time to recidivism across groups did not show statistically significant differences</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marital abuse</td>
<td>(4) control group—no FAC treatment</td>
<td></td>
<td>Women’s self-reports of spousal abuse on 1 or more of 3 measures</td>
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</tbody>
</table>

* (continued)
search strategies were not described. Of the 10 individual studies, only 1 was given a quality rating of good. 51 While several of the studies rated poor or fair reported some evidence of effectiveness for interventions aimed at batterers and/or couples, the study of good quality concluded that 3 types of interventions were not effective in reducing subsequent violence against women. 51 This RCT study of good quality, the San Diego Navy Experiment, tested 12-month interventions, which included group sessions for men, group sessions with men and their female part-

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interactions (conjoint), and rigorous monitoring with monthly individual counseling sessions, compared with a control group. Men assigned to the control group received no Family Advocacy Center treatment, although their partners received stabilization and safety planning assistance like all partners in the treatment groups. This study involved a large sample of couples (N=861), had a low attrition rate, and measures included both self-reports of abused women and perpetrators as well as police arrest records. Since the sample consisted entirely of US Navy couples, it is not clear how these results can be generalized to other populations. As Dunford emphasized, however, this military setting provided certain advantages in that all men in the intervention groups were required to attend treatment. Also, Dunford highlights the fact that many of the batterer treatment programs described in the literature that reported success did not use an experimental research design. In the trial by Dunford, the low recidivism rate among those men who received 1 of the 3 treatments did not differ from the rate among control subjects. It is possible that deployment in a military setting acts as a deterrent among men who commit violence against their wives. This trial was not able to control for this variable, since all participants were US Navy couples where the husband was on active duty. It is important to note recidivism rates were low in all treatment groups (range, 3% to 6%) and the control group (4%) compared with the rates reported in other studies.

Other Interventions
The studies in the following sections evaluate interventions in settings outside the scope of primary care and did not meet the inclusion criteria for critical appraisal. These studies are included to provide a complete picture of the research conducted to date to prevent IPV.

Emergency Department Interventions. Approximately 37% of women presenting in EDs report having experienced emotional or physical abuse at some point during their lives; 2.2% report acute physical trauma resulting from partner abuse, and 14.4% report having been abused in the past year.80 In response to these significant proportions and also to the accreditation standards implemented in 1992, interventions designed for ED settings have been designed and evaluated. Fanslow et al81,82 developed and examined a protocol of care for individuals abused by their partner and provided 1-year follow-up data. This was a comparative study of the only 2 EDs in Auckland, New Zealand. The protocol was based on the principles of care outlined by the American Medical Association,83 including providing staff training on recognizing signs and symptoms indicative of domestic violence, asking appropriate screening/case-finding questions, assessing immediate risk and providing appropriate intervention (including depression assessment, counseling about police and legal options, and safety planning, in addition to treatment of physical injuries), and referral to community and social services. To determine the presence or absence of assault and how it was treated, baseline data were acquired in both hospital EDs via random chart audit of women older than 15 years. Following this, medical and reception staff in the intervention ED were trained to implement the protocol.

Results immediately postintervention (experimental group, n=2276; comparison group, n=1768) indicated that more cases of domestic violence were rated as confirmed (rather than suspected) following the implementation of the intervention protocol at the ED experimental site, and a trend toward improved documentation of abuse was observed.84 These findings were coupled with a significant increase in use of treatment interventions in the experimental ED, particularly in safety assessment and planning, counseling regarding use of police and law enforcement services, and referral to other treatment services. However, these positive changes were not maintained at the 1-year follow-up.82 The authors attributed the lack of sustainability of use of intervention programs to a failure in ongoing maintenance training of the ED staff, rather than to problems with the intervention protocol itself, thus limiting the generalizability of this study. Of note, the prevalence of domestic violence–related presentation to the ED in this New Zealand sample was low compared with samples from North American populations (2.6% of all presentations and 7% of trauma presentations to the ED were because of partner abuse); and the intervention protocol advocated a case-finding approach based on presenting symptoms, rather than a routine screening approach.81,82

Similarly, there is some evidence that system-based training of ED professionals can improve the identification of and response to violence against women84; however, more research is required to determine if this kind of approach will improve identification of abused women (especially those presenting without trauma, who are a significant proportion).85 Again, the subsequent key link between identification of abuse and treatment or outcomes requires investigation and substantiation.

Social Interventions. In the sole study using a comparison group and measure of appropriate outcomes, Davis and Taylor36 conducted a unique RCT in New York City testing 2 types of public intervention programs addressing both primary and secondary prevention of violence. Their primary prevention initiative randomly assigned 64 housing projects (approximately 93000 individuals) to receive or not to receive a public education campaign against violence, consisting of tenant meetings, leaflets, and posters. Their secondary prevention intervention randomly assigned households of 436 individuals (380 women [87%] and 56 men [13%]), who experienced family violence (as identified by a police-reported complaint) and who were drawn from public housing households in 3 New York City precincts to receive or not to receive a 10-
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...to 30-minute home follow-up visit from a police officer and social worker. For both interventions, outcome measures included interviews with individuals abused regarding subsequent violence (as measured using the Conflict Tactics Scales), reports to police, abused women's knowledge and use of intervention services, and official police reports of violence. Measures for both interventions were collected during a 6-month follow-up. Results indicated that for abuse outcomes, neither public education nor home visits reduced the frequency of new violence or severity of violence reported by abused individuals. In the secondary prevention intervention, abused individuals who received public education and those who received home visits called the police more frequently compared with their respective controls. Neither of the interventions affected service awareness or service-use scores of individuals abused. The study was generally well-conducted, although some misassignment of the home-visit intervention (16.6% of cases) was reported, and there was a lack of blinding. The analysis did not show any pattern to the misassigned cases. Loss to follow-up was moderate (28%).

In other efforts aimed at primary prevention of partner abuse, some studies have attempted to evaluate the effect of educational campaigns directed at young people. A major limitation of these studies is that the main outcome is change in knowledge and attitudes either immediately postintervention or after a brief follow-up. No such study reviewed has attempted to follow the subjects for an extended period to determine the impact of education on later incidence of IPV. Use of rigorous designs is required to determine if educational approaches reduce the rates of IPV.

Legal and Policy Interventions. An important and well-publicized series of research studies was conducted in the 1980s to determine the effectiveness of various police responses to domestic violence. The original study, the Minneapolis Domestic Violence Experiment, had police officers respond to calls of misdemeanor domestic violence according to 1 of 3 randomly selected protocols: arrest the perpetrator, separate the couple, or provide advice. The study found that violence recidivism rates 6 months later were significantly lower for those arrested than for the other groups.

These results had a significant effect on public policy in the United States, with arrest becoming a main strategy for dealing with misdemeanor domestic violence and the perception of domestic violence changing from a personal family problem, to a crime. However, a series of 6 replication studies, the Spouse Abuse Replication Program, which were funded to confirm the original results, found variable levels of the effectiveness of arrest. In some sites, there was an escalation of subsequent violence among the arrested men, while other sites showed the predicted deterrent effect.

A key finding arising from these studies was the importance of interaction effects between individual characteristics and arrest. For example, arrest has a much stronger deterrent effect on employed men (ie, those who have more to lose) than unemployed men. The implications of these types of findings have not been studied. The arrest policies arising from this research led to many subsequent studies on the effectiveness of batterer treatment programs, since this type of treatment is often mandated as a probation requirement.

A recent retrospective cohort study evaluating the association between civil protection orders and subsequent police-reported violence found that permanent (12-month), but not temporary (2-week) protective orders, as compared with no orders, were associated with a significant (80%) decrease in reported incidence of physical violence in the year following the initial incident. Temporary, but not permanent, orders were associated with a significant increase in psychological abuse, but no change in physical abuse.

In a recent pilot study evaluating the role of legal advocates for women entering the court system to obtain civil protection orders, Bell and Goodman used a quasi-randomized design to compare women receiving advocacy services (including legal representation and support, as well as referral to community agencies, information about abuse, and other forms of social and instrumental support) with those not receiving these services. Results indicated significantly less psychological and physical reabuse in the intervention group as compared with the comparison group. While this study was small and had some methodological weaknesses (nonstandard randomization procedure, high loss to follow-up in the comparison group, and restrictions on eligibility of women in the intervention group), its positive results are promising and additional research would seem warranted.

Few comparative studies have examined the influence of other legal or policy interventions on domestic violence outcomes.

Potential Harms of Interventions. No studies to date have evaluated either the benefits or harms associated with the use of screening tools, including the potential harms from failing to identify women who have experienced abuse. Similarly, none of the interventions developed to prevent or to reduce violence against women used measures to determine possible harms associated with the intervention. Several of the studies compared different treatment groups without comparison to a no treatment or usual care group, so the likelihood of identifying any harms associated with the interventions was reduced. The results of the study by Berk et al suggest that the use of shelters might increase the risk of further abuse for some women. This possible risk of reprisal violence, while not yet measured directly, is a potential concern, and indeed it was the main patient-related barrier to screening cited (by 82% of respondents) in a study that surveyed primary care physicians about their screening and intervention practices for IPV. Clinicians should consider this risk, as it underscores the need to conduct visits that include discussion of these issues.

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in a private setting, with adequate safety and confidentiality measures taken in any referral process.

Summary of Key Evidence
Screening instruments are available to identify women who have been abused, but no studies to date have evaluated the effectiveness of screening to reduce violence or to improve women’s health. In addition, data about the potential harms associated with screening are lacking.

No current evidence of suitable quality exists in the literature reviewed to evaluate the effectiveness of shelter stay as a means of decreasing the incidence of violence. Among women who had spent at least 1 night in a shelter, there was fair evidence that those who received a specific program of advocacy counseling services reported a decreased rate of reabuse and an improved quality of life during the subsequent 2 years. With regard to other types of interventions for women, limitations in the available studies precluded drawing any conclusions about program effectiveness.

Programs that target male batterers alone or with their partners represent the largest group of interventions. Of 10 studies and 1 review, only the trial by Dunford was considered of good quality. This RCT showed that 3 intervention programs for batterers and/or their female partners did not reduce domestic violence in the intervention groups compared with the control group, which did not receive any treatment. Despite the excellent internal validity of this trial, it is unclear to what extent these findings are applicable to the general population since the sample consisted entirely of US Navy couples.

One study found that a protocol for treatment of abused women in the ED showed some initial positive changes (such as referral to other intervention services), but these were not sustained at 1 year. A study of 2 community-based interventions (public education and police and social worker home visits) showed that neither intervention affected service-awareness or service-use scores of individuals who experienced abuse.

A second education intervention that targeted youth in schools focused on change in knowledge and attitude and did not include a control group. A series of US studies evaluating the effectiveness of arrest as a deterrent for recurrent domestic violence showed mixed results. Although the original study suggested that arrest was effective in reducing subsequent domestic violence compared with separating the couple or providing advice, 6 replication studies found variable results including increases in violence. Finally, an initial study of the use of civil protection orders and an innovative pilot study of legal advocacy and counseling showed promising results that these legal interventions can reduce physical abuse.

COMMENT
Although much has been learned in recent years about the epidemiology of violence against women, information about evidence-based approaches in the primary care setting for preventing IPV is seriously lacking. Our findings are consistent with those of Ramsay et al, whose recent systematic review concluded that there is a lack of evidence regarding the effectiveness of interventions for women experiencing abuse and that potential harms of identifying and treating abused women are not well- evaluated. They conclude that it is premature to recommend universal screening programs in health care settings, a finding similar to that of the Canadian Task Force on Preventive Health Care. Specifically, the effectiveness of routine primary care screening remains unclear, since screening studies have not evaluated outcomes beyond the ability of the screening test to identify abused women. Similarly, specific treatment interventions for women exposed to violence, including women’s shelters, have not been adequately evaluated. The notable exception is the advocacy counseling program following a stay in a shelter of Sullivan and Bybee.

It is important to distinguish between asking about abuse during the diagnostic evaluation of a patient and routine screening for domestic violence in health care settings. Questions about experiencing IPV should be included in any medical or psychiatric assessment of a patient with symptoms or signs that could be associated with such experience, and it is important for clinicians to be alert to these signs. Some authors have suggested that asking female patients about experiencing violence during routine history taking may be justified on the basis of prevalence alone, or the potential value of this information in caring for the patient, and may influence assessment and treatment of other health problems. Furthermore, failing to detect that a patient is at risk for or has experienced IPV may lead to unnecessary investigations and interventions. Rhodes and Levinson, in their companion article to this review, further discuss these issues, their implications for clinical practice, and the role of existing practice guidelines.

Research Agenda
There is an urgent need for additional research using rigorous designs to test the effectiveness of IPV interventions on important clinical outcomes. While research in this area is challenging, a number of questions need to be answered, both to allow primary health care clinicians to respond appropriately to IPV and to inform a more proactive approach to prevention at the level of public policy. Chief among these questions is whether screening in health care settings, coupled with appropriate, effective treatments, reduces physical injury and psychological abuse. Research is also required to determine whether batterer interventions are effective with men not mandated to treatment and not monitored by courts or other authorities.

Ongoing studies funded by the National Center for Injury Prevention and Control, the Agency for Healthcare Research and Quality, the Centers for Disease Control and Prevention, and the Canadian Institutes for Health Research, may answer some of these questions.
INTERVENTIONS FOR VIOLENCE AGAINST WOMEN


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(Reprinted) JAMA. February 5, 2003—Vol 289, No. 5 599
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It is usually not recognized that for every injurious or parasitic microbe there are dozens of beneficial ones. Without the latter, there would be no bread to eat nor wine to drink, no fertile soil and no potable waters, no clothing and no sanitation. One can visualize no form of higher life without the existence of the microbes. They are the universal scavengers. They keep in constant circulation the chemical elements which are so essential to the continuation of plant and animal life.

—Selman A. Waksman (1888-1973)