# Exploring the Links Between Components of Coordinated Community Responses and Their Impact on Contact With Intimate Partner Violence Services 

Joanne Klevens<br>Charlene K. Baker<br>Gene A. Shelley<br>Eben M. Ingram<br>Centers for Disease Control and Prevention, Atlanta, Georgia


#### Abstract

In the 1990s, concerns with response fragmentation for intimate partner violence (IPV) led to the promotion of coordinated community responses (CCRs) to prevent and control IPV. Evaluation of CCRs has been limited. A previous evaluation of 10 CCRs funded by the Centers for Disease Control and Prevention showed no overall impact on rates of IPV when compared to matched communities. However, there was great variability in the quality and quantity of CCR efforts between sites and thus potentially different levels of impact. This article establishes the impact of each of the 10 CCRs on women's past-year exposure to IPV and contact with IPV services and explores the associations between specific CCR components and contact with IPV services.


Keywords: community intervention; domestic violence; evaluation

Violence against women is an important social and public health problem. It is estimated that 1.9 million women are physically assaulted each year (Tjaden \& Thoennes, 2000), with more than three fourths of those assaults perpetrated by an intimate partner. About one third of female murder victims are killed by intimate partners (Rennison, 2003). In addition, intimate partner violence (IPV) has serious effects on women's physical and mental health, with consequences including injury, chronic pain, gastro intestinal and gynecological problems, obstetrical complications, sleep disorders,

[^0]anxiety, depression, substance abuse, and posttraumatic stress disorder (Campbell, 2002). Partner violence also exerts a strongly negative impact on children who witness it. Children exposed to IPV are at increased risk for adverse outcomes including anxiety, depression, and stress symptoms; oppositional and aggressive behavior; low self-esteem (e.g., Grych, Jouriles, Swank, McDonald, \& Norwood, 2000; Margolin, 1998); deficits in social, relational, and communication skills (e.g., Huth-Bocks, Levendosky, \& Semel, 2001); and later partner violence during adolescence and adulthood (Margolin, 1998; Wolfe \& Jaffe, 1999). In addition to physical and mental health consequences, IPV generates an economic burden on society estimated at $\$ 5.8$ billion per year in direct medical costs and lost productivity (National Center for Injury Prevention and Control, 2003).

In the United States, efforts to deal with IPV for the past 25 years have focused, for the most part, on providing shelter and counseling to battered women and their children and enhancing the response of criminal and civil justice systems (Shepard, Falk, \& Elliott, 2002). However, concerns with response fragmentation and lack of public accountability led many communities during the 1990s to establish a mechanism to better coordinate their responses to prevent and control IPV (Hart, 1995). The rationale behind these efforts was that coordination of IPV service providers was key to mobilizing community leadership and resources, maximizing the effectiveness and efficiency of existing resources, and avoiding duplicative and counterproductive services. Limited research available at that time suggested that intervention programs were more effective if they were part of a larger coordinated community response (CCR; Gamache, Edelson, \& Schock, 1988; Steinman, 1990; Syers \& Edelson, 1992; Tolman \& Weiz, 1995).

Based on this rationale and preliminary evidence, the U.S. Congress allocated funding in 1995 to help nonprofit organizations establish collaborative projects involving various community partners to locally coordinate IPV intervention and prevention efforts (Public Law 103-322, Section 40261). In response to this legislation, the Centers for Disease Control and Prevention (CDC) funded 6 Coordinated Community Responses (CCR) projects in 1996 with the purpose of enhancing community coalitions and CCRs for preventing IPV and providing services to reduce injury and death. In 1999-2000, additional funding was provided for continuation of activities in the 6 original projects and new funding was provided to 4 other projects, bringing the total to 10 sites.

The CCRs were developed under the assumption that communities would develop various primary and secondary prevention initiatives that would target community attitudes and beliefs about IPV, increase opportunities for victim assistance through direct and indirect services, and increase accountability for perpetrators. In sum, a coordinated web of services would translate into reduced levels of IPV.

The CDC-funded CCRs implemented numerous and varied activities to address IPV in their communities. Activities differed across CCR sites based on the philosophy that programming decisions be locally determined. Accordingly, no two CCR sites implemented exactly the same package of interventions, although all worked to enhance a CCR.

Evaluation of the impact of coordinated community interventions has been limited to case studies (e.g., Danis, 2003; Gamache et al., 1988; Murphy, Musser, \& Maton, 1998; Shepard et al., 2002; Steinman, 1990; Syers \& Edelson, 1992; Tolman \& Weiz, 1995), with no comparison communities. The dearth of outcome evaluation is explained as stemming from multiple factors, including initiatives beginning before baseline data were collected; single-site observations not controlling for local factors; multilevel or cross-agency efforts being more complex, challenging, time-consuming, and expensive; and ethical considerations clashing with research strategies (Chalk \& King, 1998).

The 10 CDC-funded CCR projects provided an opportunity to establish the impact of a CCR with a more rigorous design that overcame some of the limitations evident in prior studies. In this design, each CCR site was paired with a sociodemographically comparable control community. Unfortunately, because of logistical problems, baseline data regarding IPV rates in each community were not collected. A stratified random digit dialing (RDD) survey was conducted postintervention with a sample size of 600 respondents in each of the CCR and comparison sites. Hierarchical linear modeling of those data controlling for age, gender, ethnicity, income, and education indicated that the implementation of CCRs did not appear to affect knowledge, beliefs, or attitudes about IPV, knowledge and use of available IPV services, or risk of past-year exposure to IPV (Post, Klevens, Maxwell, Shelley, \& Ingram, in press). Furthermore, the RDD gathered information about each respondent's history with IPV, specifically the year of onset for as many past relationships as the respondent reported. This information allowed us to construct a time series with estimates for the incidence of IPV; analysis of this time series showed no overall difference between intervention and comparison sites across time (Post et al., in press). This suggests that IPV incidence rates did not differ for CCR and comparison sites prior to the initiation of the CCR interventions.

Because sample size and differences between communities were controlled for in the analyses, the null findings from these analyses could not be explained by the small number of communities studied or the lack of comparability of the CCR and comparison sites. However, as noted, although all CCR sites purportedly promoted a CCR, the content, quantity (both in amount of activities or services and in duration of the intervention), and quality of the coordinated response, the activities implemented, and the populations affected varied across sites in response to local needs and resources. Grouping these dissimilar interventions may have masked potential benefits of CCRs. Moreover, with the implementation of more complex interventions with multiple components, researchers have suggested the need to evaluate each individual component rather than examining the effect of the entire intervention package at once (West, Aiken, \& Todd, 1993). Some researchers have noted that there is a lack of connection between specific programmatic changes and processes of CCRs and their outcomes (Sheppard, 1999; Sullivan \& Allen, 2001). Thus, our goal in this article is to establish the impact of individual CCRs and examine how specific program characteristics of the 10 CCRs related to their impact on IPV rates.

## Method

## Design

Outcomes (past-year exposure to IPV and contact with IPV services as reported in a RDD survey) calculated for each intervention-comparison community pair using multiple logistic regression modeling techniques were correlated with CCR components and characteristics as described in sites' final reports.

## Participants

Ten CCR intervention sites were competitively selected by an external panel of peer reviewers based on need for a CCR and ability to carry out the proposed activities. These sites were Dorchester, Massachusetts; Lane County, Oregon; Liberty City, Florida; Marquette County, Michigan; Bexar County, Texas; Chatham County, North Carolina; Spokane County, Washington; Sauk and Columbia Counties, Wisconsin; Washington and Franklin Counties, Maine; and Watsonville, California. Each site selected a nearby comparison community similar to the intervention site in rates of IPV, size, racial composition, and socioeconomic status.

## Outcomes

To obtain an estimate of the impact of each CCR, we used data collected at the end of the 3 -year funding period from female respondents obtained from a stratified RDD survey of adults 18 years old and over ( $N=12,039$ ), approximately 600 participants from each of the 10 sites and their comparison communities ( $75.3 \%$ of contacted eligible households). Respondents were asked about exposure to 16 different items assessing verbal, psychological, physical, and sexual abuse by an intimate partner during the past year. An affirmative answer to any item in the scale resulted in classifying the respondent as having experienced IPV during the past year. Respondents were also asked if they had contacted specifically named IPV agencies or services in their community. With these data, we computed odds ratios (ORs) controlling for age, marital status, income, and level of education, first to compare rates for past-year exposure to IPV between intervention and comparison communities and second to compare having ever contacted an IPV service between intervention and comparison communities. An OR of more than 1 suggested that the CCR had greater impact than the comparison community on either IPV rates or contact of services; ORs of less than 1 suggested the opposite.

To help rule out potential differences in IPV rates before the intervention and the effects of maturation, we estimated yearly IPV prevalence rates for women from 1980 to 2003 using information obtained from females in the RDD survey about when IPV began and ended in each relationship and then compared the resulting time trends for each CCR and comparison community.

## Independent Variables

To identify the components, characteristics, and processes of a CCR associated with its potential impact on IPV and possible mediating variables, sites were asked to provide information in their final reports to CDC on the following aspects: sociodemographics, rates of IPV, and availability of services in the intervention and comparison communities before funding; initial goals and objectives of the CCR; a detailed description of the process of building a coalition, including the sectors involved, structure, and functioning; contextual events in intervention and comparison communities that may have influenced IPV rates; activities implemented and services offered; and data on the achievement of preliminary outcomes (e.g., new protocols for sharing information among IPV agencies, enhanced awareness among residents of the magnitude of IPV). We developed a data-coding guide to capture this information reported from each site in its final report. The coding guide was divided into sections representing coalition qualities, outreach and education activities, and services developed for victims.

Coalition qualities included

- The number of agencies actively participating in the CCR,
- Restrictiveness of membership ( $0=$ open to anyone to $2=$ restricted to those invited or able to pay dues),
- Length of time (in years) the coalition had been in existence,
- Stage at the end of funding $(0=$ formation to $5=$ expansion $)$,
- Whether the CCR received funds from other sources,
- Structure (e.g., had regularly scheduled meetings, a board of directors, subcommittees to do specific tasks, attendance requirements, by laws; CCRs with more of these elements were considered more structured),
- Number of sectors represented (e.g., health, business, criminal justice system),
- Member turnover $(0=$ none to $3=a \operatorname{lot})$,
- Whether the CCR had a clear vision and mission,
- Whether there was tension among members $(0=$ none to $2=a l o t)$,
- Level of engagement by project management $(0=$ minimal engagement to $2=$ maximum engagement), and
- Planning process (i.e., Were goals or activities based on a needs assessment? Were coalition priorities selected based on salience in the community? Were goals measurable? Did coalition activities contribute to reaching goals? Did goals contribute to activities that would reduce IPV?-yes or no).

In addition, coalition education and outreach activities were also coded. Media activities were separately coded for messages informing about the magnitude of IPV, informing about causes of IPV, informing about availability of services, promoting support for criminal justice intervention, or suggesting ways of helping a victim ( $0=$ none to $4=$ more than two announcements on a major channel; e.g., radio, television, newspaper). Also included in outreach and education activities were whether CCRs
held trainings to promote or improve screening for IPV in health services, the number of changes in policies and existing programs, the number of new programs started, and the number of programs that continued after CDC funding ended.

Services offered by each CCR were also coded. These included existence (yes or no) and number of services for victims (shelter, hotline, counseling, advocacy, safety planning, legal or financial assistance, child care, child witness program, transitional housing, vocational training, assistance in finding employment, welfare services) and batterers (batterer intervention, parenting, or substance abuse programs). The existence of special IPV units in the police department, district attorney's office, or court was also coded. In addition to the types of services offered to victims, we coded whether there was evidence of coordination of services for victims $(0=$ no evidence to $3=$ evidence showing services are well coordinated). An example of evidence that would suggest coordination is whether there were cross-trainings, referrals, and protocols for sharing information among agencies.

## Potential Confounders

Information on the comparability of the demographic profile and availability of IPV services in CCR and comparison sites at baseline and during the funding period (comparison community better than, equal to, or worse than intervention community), occurrence of contextual events in either community with potential impact on IPV rates (major, minor, or no events occurring), and similar interventions (IPV coalition, increase in IPV services or activities) in the comparison community ("contamination") were also coded from the final reports.

The data-coding guide for CCR qualities, activities, and confounders was developed by two of the authors on three site reports, making adjustments to the measure after each reading until arriving at an acceptable version. Each of the remaining sites’ final reports were read and independently coded by two of the authors. Percentage of agreement on the remaining seven reports was $86.4 \%$. Coding disagreements were discussed, and final coding of each item was reached by consensus. Missing information on the content of education activities and characteristics of the planning process from 4 of the 10 sites was obtained by telephone interviews.

## Analysis

Simple frequency distributions identified the following characteristics as having too little variability to be included in subsequent analyses: whether the CCR received funds from other sources (all but one received additional funds), level of engagement by project management (all reported moderate to maximum engagement), whether the CCR had measurable goals, activities that contributed to reaching those goals, and implemented activities that would reduce IPV (in each case all but one met these criteria). For items with sufficient variability, bivariate Spearman rho correlations

Table 1
Odds Ratios (ORs) for Intimate Partner Violence (IPV) Rates and Contact With IPV Services in Coordinated Community Response (CCR) and Comparison Communities

| CCR-Comparison | OR for IPV Rates | OR for Contact With Services |
| :--- | :---: | :---: |
| Pair 1 | 0.89 | 1.33 |
| Pair 2 | 1.14 | $0.34^{*}$ |
| Pair 3 | 0.90 | $0.69^{* *}$ |
| Pair 4 | 1.25 | $4.39^{*}$ |
| Pair 5 | 1.15 | 1.08 |
| Pair 6 | 1.26 | 0.96 |
| Pair 7 | 1.18 | 1.52 |
| Pair 8 | 1.29 | $2.50^{* *}$ |
| Pair 9 | 1.00 | 1.07 |
| Pair 10 | 0.93 | 0.92 |

* $p<.05 .{ }^{* *} p<.01$.
were conducted to establish potential associations between CCR characteristics and impact, as measured by the ORs obtained in the logistic regression. Results are discussed in terms of moderate correlations (.50 to .70 ) to strong (> .70) correlations with impact.


## Results

The impact of the CCR on IPV rates among female survey respondents in each of the 10 sites, as measured by the ORs and adjusted for age, marital status, income, and level of education, was nonsignificant and varied between 0.89 and 1.29 (see Table 1). On the other hand, the impact of the CCR on women's contact with services in each of the 10 sites, also measured by the OR and adjusted for age, marital status, income, and level of education, varied between 0.34 and 4.39 and was statistically significant for four sites. A comparison of each of the 10 sites' intervention and comparison communities' time trends of IPV prevalence rates among women between 1980 and 2003, based on retrospective reports of exposure obtained in the RDD survey, showed no differences between each paired CCR and comparison community.

Four of the sites were considered comparable to their comparison communities at the start of the funding period. In three sites, the comparison community had a better sociodemographic (e.g., smaller population, higher income or level of education, lower crime rates) or IPV profile (e.g., lower IPV rates, more services), whereas in the other three the CCR community was considered to have had a better profile. In four sites, either the CCR community worsened or the comparison community

Table 2
Range, Mean, and Correlation of Coalition Qualities With Contact With Services in Coordinated Community Response Projects, Ordered by Size of Correlation

| Coalition Quality | Range | $M$ | Correlation |
| :--- | :--- | ---: | :---: |
| Priorities based on salience | $0-1$ | 0.4 | $.64^{*}$ |
| Goals based on needs | $0-1$ | 0.5 | $.59^{*}$ |
| Stage of development | $2-5$ | 3.7 | .47 |
| Structure | $2-7$ | 3.7 | .48 |
| Restrictiveness in joining | $0-3$ | 0.6 | .31 |
| Defined mission | $0-1$ | 0.7 | .27 |
| Sectors represented | $6-15$ | 10.2 | .19 |
| Duration (years) | $3-11$ | 6.0 | .11 |
| Tension among members | $0-1$ | 0.5 | .05 |
| Size (number of agencies) | $7-217$ | 46.1 | .01 |
| Turnover | $0-3$ | 1.7 | -.36 |

* $p<.05$.
improved its sociodemographic or IPV profile during the funding period. There were no consistent trends in the occurrence of contextual events that could affect IPV rates in either the CCR or the comparison communities.

Comparison communities tended to have small to moderate coalitions and increases in IPV services during the funding period, creating a potential contamination effect. However, two of the CCRs where this occurred still showed ORs greater than 1 , suggesting that despite potential contamination, the CCR had greater impact. Nonetheless, in another two sites in which IPV activity in the comparison communities was moderate, the ORs were close to 1, and contamination may have occurred.

Given the nonsignificant ORs observed for past-year exposure to IPV, no correlations are reported for this indicator of impact. Table 2 presents the range, mean, and correlation of coalition qualities with our other measure of impact (contacting services). All 10 CCRs had at least one full-time staff member who was responsible for coordinating meetings and activities among the agencies. Of the 10,8 had a central committee or board to direct or oversee activities and tended to have regular meetings; however, degree of structure was not correlated with outcomes. Almost all of the CCRs were considered to have measurable goals, activities that contributed to reaching those goals, and activities that could potentially reduce rates of IPV; however, only half had based their goals or activities on a community-based needs assessment, and fewer than half selected their priorities based on the salience of those needs in the community. Both of these characteristics were moderately and significantly correlated with greater rates of contact of services in the CCR communities. None of the other coalition qualities explored showed moderate or strong correlations.

Table 3

> Range, Mean, and Correlation With Impact of Policies, Programs, Services, and Activities in Coordinated Community Response Projects Ordered by Size of Correlation

| Programs, Services, and Activities | Range | $M$ | Correlation |
| :--- | :--- | :--- | :--- |
| Evidence of coordination of services | $0-3$ | 1.8 | $.61^{*}$ |
| Media on frequency of intimate partner violence (IPV) | $0-4$ | 2.5 | $.61^{*}$ |
| IPV unit in district attorney's office | $0-1$ | 0.5 | .45 |
| Media on available services | $0-4$ | 2.9 | .37 |
| No. of services for victims | $3-10$ | 6.6 | .35 |
| Media on causes | $0-3$ | 2.0 | .31 |
| No. of changes in existing programs | $0-7$ | 2.6 | .27 |
| Media on helping victims | $1-3$ | 2.3 | .24 |
| Web site | $0-1$ | 0.7 | .19 |
| Media on support for criminal justice | $0-3$ | 2.0 | .16 |
| IPV unit in police department | $0-1$ | 0.7 | .04 |
| IPV unit in court | $0-1$ | 0.3 | -.04 |
| No. of policy changes | $0-4$ | 1.8 | -.07 |
| Programs sustained after end of funding | $1-8$ | 3.6 | -.24 |
| No. of new programs | $4-8$ | 5.2 | -.50 |
| School intervention | $0-2$ | 1.9 | $-.91^{* * *}$ |

${ }^{*} p<.05 .{ }^{* * *} p<.001$.

Table 3 presents programs, policies, activities, and services in the CCR sites ordered by the magnitude of their correlation with contact of IPV services. Evidence of coordination and disseminating information on the frequency of IPV were moderately correlated, with greater rates of contact of IPV services in CCR communities in contrast to comparison communities. However, having a school intervention and initiating a greater number of new programs were negatively correlated, that is, they were associated with lower rates of contact of IPV services.

## Discussion

Evaluation of CCRs is limited and typically focuses on process, with little or no attention to impact or how structure, process, or programs are related to impact. This article is unique in that it sought to disaggregate the multiple components of the CCR intervention and establish how individual components relate to IPV rates in intervention versus comparison communities. When examining the whole intervention package, there was no significant impact of the CCRs on IPV rates among women overall or in any one of the 10 sites after adjusting for age, marital status, income, and education. However, significant differences in rates of contact with IPV
services were observed in a few sites. We explored and found some coalition qualities and activities that were correlated with higher rates of contact with IPV services in CCR communities when compared to communities without this intervention. These were developing goals based on community needs, selecting priorities based on the salience of the need in the community, efforts to coordinate services, and disseminating information on the frequency of IPV in the community. On the other hand, implementing an intervention in the schools and increasing the number of new programs were associated with lower rates of contact with IPV services in CCR communities compared to control communities.

Despite the paucity of significant outcomes, the few correlations observed with CCR qualities might be explained in various ways. For example, the development of goals or activities from a community-based needs assessment and priority selection based on the salience of the need in the community are standard procedures in most community health initiatives, and models that include these steps have shown an impact on health (e.g., Epstein, Gofin, Gofin, \& Neumark, 2002). It makes sense that they might be correlated with increased contact with services. Awareness campaigns such as those conducted in CCR communities could have sensitized the population, improving their recall and contact with available IPV services and perhaps increasing their willingness to self-report contact. On the other hand, diverting efforts and resources to new programs, including school interventions, might have reduced resources invested in providing IPV services.

These findings and our speculations should be tempered by an awareness of the various methodological limitations in this study. First, our measure of impact is based on the RDD telephone survey, and, as in all self-reports, recall and social desirability may be problems. Moreover, the outcome measures are based on nonrandom assignment to intervention and comparison groups, and there was no baseline measure. However, in our coding of the final reports, only three sites appeared to have comparison communities with better sociodemographic and IPV profiles. Differences between CCR and comparison communities as to age, marital status, income, and level of education were controlled for in estimating the OR for our outcomes. In addition, our analyses of the time trends at each site showed no differences across time in prevalence rates of IPV between each CCR and comparison community.

The characteristics of CCRs analyzed in this study rely on the completeness and veracity of the final reports submitted by each site, and this may be another limitation. Although sites were asked to follow a structured outline, preliminary drafts of the reports were reviewed to assess completeness, and missing information was collected by telephone, these reports may not capture the complete picture. Our findings may also be limited by the information we did not collect (e.g., quality of services provided, survivors' experiences of those services).

Sample size is also an issue, as our correlations are based on 10 CCRs, and there was limited variability in many of the coalition qualities. In addition, given the number of correlations examined, there is a greater probability of obtaining a statistically significant finding just by chance.

Despite the lack of more robust findings, the variables explored and methods utilized in this analysis may help guide future evaluation efforts to disaggregate and establish the differential importance of individual components of complex interventions such as CCRs. Future evaluation efforts should focus on the systematic documentation of CCR qualities to better understand exactly what the CCR consists of and what program, policy, and structural changes occurred. Sullivan and Allen (2001) discussed the individual-, family-, and community-level variables one might consider when evaluating both the CCR process (What changes occur?) and outcomes (Do those changes relate to impact?). Tools are also available to help evaluators link process measures (i.e., documentation of program and policy changes) to specific outcomes. For example, the Community Toolbox Workstation provides a computerized system for tracking the changes occurring in community-based programs and linking those changes to program outcomes (http://ctb.ku.edu/index.jsp).

The present analyses were aimed at moving beyond the simple question, "Do CCRs work?" and attempt to address the more nuanced question, "What aspects of CCRs are related to program impact?" However, our previous analyses indicating the overall lack of impact of CCRs (Post et al., in press) and the consistency of this lack of impact on past-year exposure to IPV in each of the individual sites bring the effectiveness of CCRs in reducing IPV rates into question. Other similar community-based collaborations developed to address other types of social problems such as drug abuse (Hallfors, Cho, Livert, \& Kadushin, 2002), lead poisoning, homelessness, infant mortality, unintentional injury (Kreuter, Lezin, \& Young, 2000), tobacco and alcohol use, physical inactivity, and unsafe sexual practices (Roussos \& Fawcett, 2000) have also appeared to have been ineffective.

Nonetheless, it may be premature to conclude that CCRs are ineffective. Their apparent ineffectiveness in these communities could have been because of not doing enough. Paine-Andrews et al. (2002) have suggested that there may be a threshold number of changes that must be introduced in a community to generate an impact on health outcomes. According to the information presented in the final reports, the CCR that reported the greatest number of changes reached only 15 , and, overall, there were few changes in policies. But most important, research is still lacking as to which activities or services might be most effective. Although coordination of services makes sense, it is essential to determine what services are effective before efforts are made to coordinate those services.

In sum, we found no significant impact of CCRs on IPV rates among women in any one of the 10 sites after adjusting for age, marital status, income, and education and few significant differences in rates of contact with IPV services. Coalition qualities and activities that were correlated with higher rates of contact with IPV services in CCR communities when compared to communities without this intervention were developing goals based on community needs, selecting priorities based on the salience of the need in the community, efforts to coordinate services, and disseminating information on the frequency of IPV in the community.

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Joanne Klevens is an epidemiologist in the Division of Violence Prevention at the Centers for Disease Control and Prevention (CDC). Before coming to CDC, she worked for 20 years in public health and violence prevention in Bogotá, Colombia. She received her medical degree from the National University in Bogotá, her MPH from the Hebrew University in Jerusalem, and her PhD from the University of North Carolina at Chapel Hill.

Charlene K. Baker, PhD, is a behavioral scientist in the Division of Violence Prevention at the Centers for Disease Control and Prevention. Her areas of interest are intimate partner violence and its relationship with parenting and homelessness and the development of multilevel responses to violence prevention. As a community psychologist, she is particularly interested in developing comprehensive interventions to reduce the prevalence and impact of intimate partner violence that include all levels of the social ecology (e.g., individual, family, systems, community, and society).

Gene A. Shelley is a behavioral scientist with the Division of Violence Prevention at the Centers for Disease Control and Prevention. She received her BA in anthropology from Purdue University and her master's and PhD in anthropology from the University of Florida. She has taught cultural and medical anthropology courses at Georgia State University. Her interests and expertise include medical anthropology, research methods (both quantitative and qualitative), social network research, child maltreatment, partner violence, and the interface between ethnicity and attitudes toward violence and abuse.

Eben M. Ingram received his BA in psychology from the University of California, Los Angeles, and his MA and PhD from Michigan State University. He recently retired from the Centers for Disease Control and Prevention (CDC), Division of Violence Prevention. While at CDC, he was instrumental in designing research and evaluation studies, developing and testing data collection instruments and protocols, and supervising project implementation in the area of violence against women.


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