

PROVIDING REFUGE

The Value of Domestic Violence Shelter Services

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This study is a social cost-benefit analysis of domestic violence shelter services. In conducting the analysis, the authors distinguish between short-term and longer-term program costs and benefits. They obtained estimates of several of the short-term costs and benefits and used these figures for their quantitative analysis. They then discuss the potential longer-term costs and benefits of shelter programs but do not monetize these effects. The costs of domestic violence shelter services include operating expenses and public assistance for women and children. The benefits of the domestic violence shelter services include assaults averted and mental health benefits. The authors find that domestic violence shelter services have social benefits that significantly outweigh the social costs. The minimum net social benefit of the domestic violence shelter program is \$3,494,934 and the minimum benefit-cost ratio is 4:6.

The ideal of safe, supportive family relationships is not achieved in all homes. To the contrary, many families are characterized by abuse, including physical violence. A study by Stark and Flitcraft (1981) found that approximately 20% of adult women have been physically assaulted by male partners at least once in their lifetimes (as cited in Zuckerman & Friedman, 1998). According to some estimates, 1 million American women are attacked by their partners each year; other studies estimate the number of women subjected to domestic violence is at least 4 million annually (American Bar Association, 1998). On a per-couple basis, it has been estimated that between 84 and 113 women are physically abused per 1,000 couples (as cited in Zuckerman & Friedman, 1998). By any accounting, far too many women are victims of partner abuse.

Children also suffer from domestic violence. Annually, an estimated 3.3 million children are witnesses to the physical abuse of women by men in their households (American Bar Association, 1998). It has also been estimated that 40% to 60% of men who abuse women also abuse children (American Bar Association, 1998).

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Domestic violence results in many costs for its victims, for witnesses, for communities, and for society. Among the costs are those associated with injuries, deaths, psychological damage, lowered productivity, and property damage, as well as those costs associated with law enforcement and the justice system. Women bear great costs from domestic abuse in both the short and the long term. Children also suffer immediately and in the long term, whether they are direct victims of the violence or are witnesses to the abuse. And, in the longer term, society will continue to suffer the harmful consequences, especially if children learn to use violence to deal with conflicts, thereby continuing the cycle of violence.

Why Social Cost-Benefit Analysis?

To alleviate the toll of domestic violence, many public policy responses have been proposed. To address the immediate consequences of domestic abuse, efforts have been suggested and implemented to increase reporting by victims and medical personnel, to train police and court employees in appropriate responses, and, since the 1970s, to provide emergency shelters for battered women and their children. Longer-term proposals to reduce the incidence of violence include providing assistance and job training to women, thus according them the opportunity to acquire the external resources they need to end violent relationships. Other long-term proposals advocate counseling and other intervention strategies for perpetrators. Still others underscore the need to conduct community education efforts to promote awareness of assistance available for victims and to reduce community tolerance of domestic violence.

To determine the efficacy of the variety of policy responses to domestic violence, it is important that we evaluate existing policies and programs as well as those that are being considered for implementation. Social cost-benefit analysis is one technique for assessment (Barnett, 1992; Boardman, Greenberg, Vining, & Weimer, 1996, p. 2; Welsh & Farrington, 2000). In a social cost-benefit analysis, in contrast to a more narrowly defined program evaluation, the total *societal* costs and benefits of the program are identified, and, where possible, monetized.

In this article, we perform social cost-benefit analysis of a domestic violence shelter program in Kingman, Arizona. In conducting the analysis, the costs and benefits of this shelter are viewed from the vantage point of American society as a whole. Funding for shelter programs is provided by state and federal governments and by volunteer donations that also may come from outside of the particular community in which the funds are expended. Therefore, domestic violence shelter costs are born by American society generally. Shelter benefits accrue most immediately to individual women and children and to local communities. However, providing these benefits to individuals and communities ultimately benefits all Americans because the benefits improve communities in which any of us may visit or live. Therefore, we do not view the costs and benefits of shelter programs in only local terms. If the total social benefits of services provided are greater than the total social costs, the program improves overall social welfare and, from a social cost-benefit

perspective, has value. This broader social benefit is, in fact, one rationale for public funding of local social services.

One of the criticisms¹ of economic analyses is that they focus on economic efficiency and omit other important values (Boardman et al., 1996, p. 37). We acknowledge this limitation of cost-benefit analysis. Our intent is not to deny or replace other arguments for the value of domestic violence shelters. We find other arguments for the value of responding to domestic violence compelling, such as arguments based on justice, decency, and compassion. However, it is still worth asking whether the resources invested in shelters are being used effectively and efficiently to reduce domestic violence or its negative consequences. Social cost-benefit analyses can help us identify policy responses that use resources in ways that produce the greatest benefit for the victims of domestic violence and society in general.

We will calculate two measures of the economic efficiency of the shelter program. First, we calculate the net efficiency of the program (total social benefits minus total social costs). This will measure the total net economic effects of the domestic violence shelter. Second, we calculate the benefit-cost ratio.² The benefit-cost ratio indicates how much economic benefit is gained from each dollar of investment in a program. The benefit-cost ratio expresses economic efficiency in a way that is easily understood and therefore useful in policy deliberations (Welsh & Farrington, 2000).

We have found no previous research that analyzes the costs and benefits of domestic violence injuries and assaults averted at the community level as a result of services provided by a battered women's shelter. Most studies of the costs of domestic violence and the benefits of reducing domestic violence have been national-level analyses (Greaves, Hankivsky, & Kingston-Riechers, 1995; Snively, 1996; Zuckerman & Friedman, 1998). These studies have not focused on a particular policy response but rather have discussed a range of responses. Furthermore, previous researchers have only attempted to measure the aggregate costs associated with domestic violence. Consequently, existing studies have limited utility in determining the value of a specific policy response.

Domestic Violence Shelter Outcomes

Nationally and locally, there has been substantial political discussion about identifying appropriate outcome measures for publicly supported programs. Most recent discussions regarding the value of shelter services have tended to focus on the ultimate outcome of women ending abusive relationships. The unfortunate consequence of this is an obsession with valuing shelter services only if they result in women leaving relationships. Not only are such outcomes difficult to assess, that focus ignores the value that a brief refuge to de-escalate violence has for many battered women and their children, even if they ultimately return to the relationship.

In this research, we focus first on an analysis of the primary purpose of battered women's shelters—that of immediate refuge from actual or imminent assault and injury. We have defined short-term costs and benefits as those that accrue for a

1-year period of a shelter's operation. We have titled this aspect of a shelter program "Shelter as Refuge," and it is on this service component that the quantitative cost-benefit analysis is focused (see the following section).

In addition to the short-term value for individual battered women and their children, shelter programs also act as longer-term, community-change agents. Shelter staff and volunteers work closely with other community organizations and institutions that are involved with responding to the systemic problem of domestic violence. For example, the shelter staff works with local law enforcement agencies to increase their awareness of the dilemmas faced by battered women and how police officers can more appropriately respond to calls for help and adequately enforce domestic violence laws. The shelter staff may also work with local judges to encourage their fair and adequate response to battered women seeking orders of protection, for example. In these ways, the shelter encourages changes in the community that benefit battered women beyond those who seek direct services from the shelter (Farmer & Tiefenthaler, 1997).

Shelters also aid in promoting change in the community's tolerance for domestic violence. Through their community awareness activities and their work toward institutional change, shelters participate in the process of decreasing domestic violence in the community. If domestic violence can be reduced through those efforts, assertive steps are being taken toward breaking the cycle of violence. We have titled these longer-term costs and benefits of shelter services as "Shelter as Community-Change Agent," discussed below. We are not able to calculate cost and benefits for this element but outline areas of costs and benefits.

In this study, we conduct a social cost-benefit analysis of domestic violence shelter services using figures from the domestic violence literature and from a shelter in Kingman, Arizona. Although almost all data available in the literature are based on studies conducted in urban areas, the incidence of domestic violence in rural communities is similar to that experienced in urban and suburban areas (Websdale, 1998; Zawitz, 1994). Furthermore, the data collected, both interview and archival, from the Kingman Aid to Abused Persons (KAAP) was provided by Marilyn Flynn Singer, executive director, who has extensive experience with domestic violence both in Kingman and in Washington state (personal communication, December 14, 1998, and December 31, 1998). Although the data (i.e., the budget and the resident service numbers) were obtained from an operating shelter, whenever possible we have used additional data to improve the generalizability of our results.

DESCRIPTION OF DOMESTIC VIOLENCE SHELTER SERVICES

Kingman, Arizona, is located in the west central portion of the state and has a local population of approximately 30,000. The only domestic violence shelter in Kingman is located in a large, residential-style building. The building has two

administrative offices, a living room, kitchen, laundry room, five bedrooms, and bathrooms. Each of the five bedrooms has four beds for a total of 20 shelter beds.

The shelter employs seven full-time staff members. The staff includes an executive director, an assistant supervisor, an evening supervisor, and four shelter attendants. The shelter is staffed 24 hours a day, 7 days a week and maintains an emergency, toll-free telephone hot line.

The primary purpose of the shelter is to provide a safe haven for victims of domestic violence. Women and children come to the shelter after being assaulted or to avoid an assault. Once at the shelter, women and children are reassured that they are safe, and efforts are made to make them comfortable and to provide them with needed food, clothing, and personal effects. Staff members schedule an intake interview and conduct it within 5 days of arrival. During the intake interview, a psychosocial summary and inventory of personal resources is completed and a plan is developed. Women receive 5 hours a week of one-on-one counseling and 10 to 12 hours each week of group counseling. Children receive 5 hours a week of one-on-one counseling. All shelter residents also receive encouragement and support from staff and fellow residents during informal interactions. Women generally stay at the shelter 1 to 2 weeks.

The shelter staff also conducts programs designed to benefit battered women and their children on a longer-term basis, that is, beyond the provision of immediate refuge services. Typically, most women using the shelter do so for a short-term stay at the end of which they return to their relationship, of course hoping for a reduction in the violence. Nevertheless, there is a group of women at shelters who have decided to try to build a life for themselves (and their children) without the abuser. For these women, the shelter provides longer-term refuge, often a month or longer, during which time they attempt to find housing and seek employment or public assistance.

The executive director of the shelter also works with community agencies, such as social service and health care providers and law enforcement agencies, to raise awareness of domestic violence and to provide training in domestic violence identification and appropriate responses.

SHELTER AS REFUGE: THE SHORT-TERM COSTS AND BENEFITS OF A DOMESTIC VIOLENCE SHELTER

Short-Term Shelter Costs

Operating Costs

In a cost-benefit analysis, a program's total social costs are determined by the social costs of the resources employed, not simply by the direct program operating costs as reflected in a budget. Many nonprofit organizations, including battered

women's shelters, operate with limited budgets. To maximize the productivity of their budgets, shelters often pay below-market wages for personnel and below-market prices for other services and materials. Although these lower wages and prices may be accepted by staff and vendors because of a personal commitment to the shelter's mission, from a cost-benefit perspective, it is the higher market wage or price that should be used to measure the full social cost of employment in and services or materials for the program. We have used the agency's operating budget information to determine the base, or the minimum, operating costs. We have made estimates of social costs when the budget costs would tend to underestimate the true social cost.

The shelter budget and adjusted costs are provided in Table 1. The primary cost of the shelter program is for staffing³ (\$160,157). Because nonprofits frequently pay below-market wages, we have prepared an upper estimate for staffing costs that adjusts for the low salaries by using the 1998 average annual salary for the service industry calculated by the Bureau of Labor Statistics (1999). That average salary of \$38,000, if applied to the seven paid employees at KAAP,⁴ would result in total adjusted annual salaries of \$266,000 and employee-related expenses of \$61,180. Other regularly budgeted operating costs total \$53,378 (see Table 1). These costs include professional/outside services, travel, utilities and building maintenance, equipment, materials and supplies, and miscellaneous expenses. These budget figures do not need to be adjusted for social costs because the monies are expended in regular markets. The total annual KAAP operating budget for contract year 1998-1999 is \$213,535, with an adjusted upper estimate of \$380,558.

A second program expense is that of housing (see Table 1). Housing is not included in the annual budget for the shelter so the housing costs must be calculated separately. The land for KAAP was purchased and the building constructed using a \$220,000 federal block grant. We have amortized the purchase price over an estimated useful life of 10 years, resulting in a per-year operating cost of \$22,000 for the land and building to estimate the program's operating cost for housing. This estimate is in accordance with generally accepted accounting practices for determining the annualized costs of plant and equipment as prescribed by the Financial Accounting Standards Board Statement 93 (Anthony & Young, 1994, p. 417). However, the land and the building, if properly maintained, are likely to appreciate in value. That value, in addition to the annualized cost in our estimate, would compose the total social cost of the housing provided by the shelter.

A third program cost of a shelter is that of volunteer labor (see Table 1). The Kingman shelter is unusual in that no volunteers are used to provide shelter staffing, though its board of 20 members meets regularly and assists with transportation for residents of the shelter. According to an article in *The Standard Times*, volunteers are vital to battered women's shelters because shelters operate on such small budgets (Boyle, 1998). For this study, we assume that a shelter would receive volunteer assistance, as is more typical, equivalent to a full-time shelter attendant (10 volunteers who each contribute 4 hours per week). For the Kingman shelter, the average value of a full-time shelter attendant is \$17,648.⁵ However, as with personnel costs,

TABLE 1: Itemized Program Budget per Year—Actual and Adjusted Kingman Aid to Abused People (Contract period: July 1998 to June 1999) (in U.S. dollars)

<i>Budget Item</i>	<i>Actual Budget</i>	<i>Adjusted Budget^a</i>	<i>Adjusted Social Cost^b</i>
Salaries	130,484	130,484	266,000
Employee-related expenses	29,673	29,673	61,180
Professional/outside services	8,020	8,020	8,020
Travel	4,000	4,000	4,000
Utilities/maintenance	7,928	7,928	7,928
Equipment	1,000	1,000	1,000
Materials/supplies	18,152	18,152	18,152
Miscellaneous expenses	14,278	14,278	14,278
Housing costs (land and building)	0	22,000	22,000
Volunteer staffing	0	17,648	38,000
Total	213,535	253,183	440,558

a. The adjusted budget includes estimated values for housing costs and volunteer staffing that are not in the regular budget.

b. The adjusted social cost adjusts actual costs according to market values, when actual costs do not adequately reflect the full social cost. Some budget costs are unadjusted because the funds are expended in regular markets.

even this cost added to the KAAP budget still potentially underestimates the full social costs associated with volunteer services. Again, to adjust for this underestimate, the average annual salary of \$38,000 determined by the Bureau of Labor Statistics has been used as the upper-end estimate of social cost of volunteer labor for a shelter program.

In summary, the total operating costs for the shelter include staff salaries, other operating costs, housing costs, and volunteer labor. The lower estimates of these costs total \$253,183. The upper estimate for operating costs is \$440,558.

Public Assistance Costs

To estimate the public assistance costs, we have made several assumptions that should be made explicit. First, we assume that the women who seek refuge at a domestic violence shelter are predominantly low income with limited financial and other resources and that many will seek financial aid through public assistance programs to leave the violent relationship permanently. Support for this assumption exists through extensive research conducted by the University of Michigan and the Taylor Institute on the link between domestic violence and welfare (Raphael, 1996; Raphael & Tolman, 1997). Singer estimates that only about 1% of the residents at KAAP are employed (personal communication, December 14, 1998, and December 31, 1998). Furthermore, the Bureau of Justice Statistics states that “women with family incomes under \$9,999 had the highest rates of violence attributable to an intimate (11 per 1,000 persons) and those with family incomes over \$30,000 had the lowest rates (2 per 1,000)” (Zawitz, 1994, p. 2).

In Arizona, public assistance includes cash assistance, housing, food stamps, and medical care. On average, Arizona provides \$492 per case per month for cash assistance and food stamp benefits combined (Arizona Department of Economic Security, 1998). Direct figures for per-person costs of other public assistance programs, such as health care, are not available. We have, however, attempted to estimate health care costs by making the further assumption that cash assistance and food stamps represent only one fourth of the total public assistance costs per recipient. This assumption is based on the fiscal year (FY) 1998 Arizona Department of Economic Security expenditures for Benefits and Medical Eligibility (\$205,137,200), combined with its Employment and Rehabilitation expenditures for the same period (\$98,884,800), as compared to the FY98 expenditures (\$1,202,545,900) for the Acute Care Program of Arizona Health Care Cost Containment System (Arizona Joint Legislative Budget Committee, 1998). Based on this comparison, the Arizona budget for cash assistance is 25% of the budget for medical assistance. Multiplying the figure for cash assistance (\$492) by a factor of 4, the adjusted estimate of monthly per person public assistance cost is \$1,968. The annual per person public assistance cost is \$23,616 (\$1,968 per month for 12 months).

We have two estimates of the number of women who are likely to leave their partners with assistance from a shelter program. Singer estimates that approximately 75% of the shelter residents will return to their partners and that only 25% are likely to leave their violent relationship permanently (personal communications, December 14, 1998, and December 31, 1998). Singer bases this estimate on both the stated intentions of women on entering the shelter and their actions to gain independence during their stay. Research conducted by Taylor (1993) indicates that the strongest predictor of a woman's likelihood of leaving a violent relationship is her stated intention on arrival at the shelter. That the majority of battered women will return to their batterers is widely acknowledged.⁶ According to the American Medical Association's (AMA) *Diagnostic and Treatment Guidelines on Mental Health Effects of Family Violence* (1998), battered women "will initially attempt to remedy the situation themselves: by talking, by seeking help, by fighting back, or by trying to change the conditions either they perceive or the perpetrator tells them causes the abuse" (p. 8). Statistics on recidivism cited by the American Bar Association's (ABA) Commission on Domestic Violence (1998, pp. 5-6) reveal high levels of repeat victimization as a result of domestic violence. Both AMA and ABA studies point to a high percentage of women returning to abusive relationships following a violent, or near violent, encounter.

Our second estimate of the percentage of women who will leave their partners with shelter assistance comes from a study of former shelter residents by Simerly (1995). Simerly reported that 33% (62 of 186) of former shelter residents had left their abuser. We will use the first figure (25%) to calculate the lower estimate of public assistance costs. We will use the second figure (33%) to produce an upper estimate of public assistance costs. Because KAAP served 107 women in 1998, the

lower estimate of women likely to leave their batterer is 27 (25% of 107), and the upper estimate of women ending violent relationships is 35 (33% of 107).

Of the shelter residents who leave their abusers, only those who have children would be eligible for public assistance. Based on KAAP resident service numbers in contract year 1997-1998, 63% of the residents had one or more children (M. F. Singer, personal communication, December 14, 1998, and December 31, 1998). Therefore, of the women expected to leave their batterers, we estimate that between 17 (63% of 27) and 22 (63% of 35) women will be eligible for public assistance. Because other research (including our interviews with women at domestic violence shelters) shows an almost 100% application rate for public assistance by women with children at Arizona domestic violence shelters, we assume that all of the women with children who leave their batterers will receive some form of public assistance for at least 1 year as they try to move to self-sufficiency.

Multiplying the figures for number of eligible women (17 to 22) with annual per-person public assistance costs (\$23,616) produces a lower estimate of total public assistance costs of \$401,472 and an upper estimate of \$519,552.

It is worth noting that these estimates of the social cost of public assistance of the shelter could be high, even if our estimates for compensation have omitted some costs. Some of the women might have ended their violent relationship and required public assistance, even if they had not gone to the shelter. However, without the assistance of the shelter in obtaining benefits, some of the women may have become homeless or may have deteriorated into mental illness because of the stress of their relationships. These women may then have required other forms of public assistance in the absence of the shelter program. If that is the case, then some of the costs of public assistance are transferred from one public program to another, rather than additional costs of establishing shelter services. We have been conservative in attributing to the shelter program all of the public assistance costs for women trying to leave their abusive relationships.

Justice System Costs

The shelter program may lead to increased justice system costs as women are informed of their legal rights and of the potential value of justice system intervention. More women may seek temporary orders of protection and place more calls to law enforcement, which could lead to more arrests and court actions. As with most emergency shelter programs, KAAP does not have systematic records of justice system activity initiated by shelter residents. Even if the data existed, additional research would be needed to identify the proportion of justice system activity that occurred due to the shelter. Although a complete analysis should include justice system costs, we believe that any increased costs will be more than offset by decreased justice system costs from averted domestic violence, as discussed below in the section on program benefits.

Productivity Costs

As more batterers are arrested and convicted of domestic violence assaults, there would be an expected loss in hours worked, resulting in lost wages. We have no data on the increase in arrests or court proceedings resulting from shelter services. However, we believe that use of the shelter will avert more arrests and court actions than it will cause and, if so, will potentially increase productivity rather than reduce productivity.

Shelter Program Benefits*Injuries Averted*

The primary benefit provided by the shelter as a refuge is to allow women to avoid violent assaults. Of the women who came to the Kingman shelter, 95% (102 of 107) were uninjured (M. F. Singer, personal communication, December 14, 1998, and December 31, 1998). Each of these women entered the shelter to avoid an imminent assault by their abuser (102 assaults avoided).

It is estimated that 27 women will end their abusive relationship with the assistance of the shelter program. Studies in other communities have found that women in abusive relationships are subjected to between 5 and 29 assaults each year (as cited in Farmer & Tiefenthaler, 1997, pp. 355-356). If we subtract the 1 assault from these figures that we have already counted as part of the immediate assaults averted, the 27 women who end their relationship may avoid between 4 and 28 additional assaults in the next year. Therefore, the 27 women we estimate will leave their abuser avoid a total of between 108 and 756 assaults over the next year.

Summing the immediate assaults avoided (102) and the future assaults avoided by ending abusive relationships (108 to 756) results in a total of between 210 and 858 assaults avoided each year because of the services of the shelter.

Assaults are not all of equal severity. Singer estimates that 10% of the domestic assaults seen at the shelter result in injuries that require emergency medical treatment. The National Crime Victimization Survey findings indicate that although only "about 3% of the women who were victimized by intimates received serious but nonfatal injuries," 27% received medical care, and 15% required hospitalization (as cited in Zawitz, 1994, p. 4). According to the Family Violence Prevention Fund (1998), a study conducted at a metropolitan emergency room showed 28% of the women seeking emergency medical care due to domestic violence injuries "required admission to the hospital from injuries, and 13% required major medical treatment." As these cases indicate, a 10% estimate of battered women at the shelter requiring medical care—a key variable in our analysis—should be considered conservative. When we apply this estimate to the assaults-averted estimates (210 to 858), we calculate that between 21 and 86 serious, injurious assaults would be avoided. Subtracting these figures from the total averted assaults estimated above leaves between 189 and 772 less injurious assaults avoided.

In addition to the assaults avoided for women, there are also a small number of assaults that would be averted for children. According to Singer, about 5% of the children coming to the shelter in Kingman are brought by their mothers to avoid an assault on the children (personal communication, December 14, 1998, and December 31, 1998). With 133 children served annually by that program, this would result in 7 averted assaults, 1 of which could have required medical care.

Combining the assault figures for women and children, this brings the total of averted assaults to 22 to 87 serious assaults and between 195 and 778 less injurious assaults avoided.

According to Boardman et al. (1996), Miller and associates estimated costs of assaults resulting in injuries at \$24,000 per assault in 1990 dollars. To find the 1998 value of averted assaults, the 1990 figure can be adjusted using the Consumer Price Index. During the period from 1990 to 1998, prices increased by a factor of 1.25 (calculated from Bureau of Labor Statistics, 1999). Adjusting for this inflation, the present value of avoiding a serious assault is \$29,900 per assault. This cost includes immediate direct health costs, opportunity costs from forgone productivity, and the cost of pain and suffering incurred by the victim. Applying this figure to the estimate of between 22 and 87 serious injurious assaults avoided results in an estimated benefit of serious assaults avoided between \$657,800 and \$2,601,300.

In addition, according to Miller and associates (Boardman et al., 1996), the costs for noninjurious assaults are \$14,738 in 1989 dollars. Between 1989 and 1998, prices increased by a factor of 1.31 (calculated from Bureau of Labor Statistics, 1999). Therefore, the present value of averting a noninjurious assault is \$19,307 per assault. If this value is applied to the 195 to 778 less injurious assaults avoided, it results in an estimated total benefit of between \$3,764,865 and \$15,020,846.⁷

Another issue that deserves further study is the impact of shelter services on the number and severity of assaults that women experience if they return to their partners after a stay at a shelter. Women who visit shelters are provided with counseling designed to improve their emotional status, information about resources available to assist them with dealing with domestic violence, and information about how to use available resources to avoid future assaults. Therefore, ideally, shelter services may also reduce domestic violence, especially physical assaults, for women who return to the partners who have been abusing them. If so, this would be an additional valuable benefit of shelter services. Unfortunately, the data needed to evaluate the impact of shelter stays on levels of domestic violence for specific women are difficult to obtain because of the difficulty of tracking and contacting women after they leave a shelter.

The above calculations may also underestimate the short-term benefit of the shelter in averting assaults for women in the community who do not use the shelter services directly. Farmer and Tiefenthaler (1997) suggest that the level of violence in relationships is inversely related to the resources available to women outside of their relationships. They have developed Tobit equations that estimate the impact of a variety of factors on the number of violent incidents women experience. Examining factors such as the batterer's employment, his income, the woman's

employment and income, the number of children, the duration of the relationship, and the woman's age and education, Farmer and Tiefenthaler find that women who have more income and education experience less violence. Farmer and Tiefenthaler argue that women with greater extra-relationship resources have more leverage to reduce partner violence. Furthermore, the authors reason that public programs that assist women, such as domestic violence shelters, can be expected to lower the incidence of violence women experience by providing women with greater leverage in their relationships, even if the women do not directly use the services. Unfortunately, as Farmer and Tiefenthaler point out, the data are not yet available to allow the comparison among communities needed to test this hypothesis and, if it is correct, to estimate the magnitude of the impact in reducing domestic violence.

Mental Health Benefits

Due to the availability of refuge and shelter counseling services, there would be an expected increase in the psychological health of women and children. Counselors/therapists and support groups, such as those available at domestic violence shelters, have been rated as the most helpful for women seeking assistance with domestic violence issues (Gordon, 1996). Women staying at the Kingman shelter tend to have few resources and little access, if any, to private mental health care services. Therefore, the counseling women receive at the shelter is a significant benefit to them that they would be otherwise unlikely to obtain.

It is difficult to monetize the value of improved mental health. One minimum valuation of benefits in social cost-benefit analysis is market price, as people will not pay more for a good than the benefit they receive. Thus, one method of calculating the value of counseling services is to use the market value of private psychologists or other licensed professional counselors. However, because most shelter workers are lay counselors, the value of their services may be less than market value. One means of estimating the value of shelter counseling services is based on the community's willingness to pay for this service (Boardman et al., 1996). The minimum willingness to pay for the shelter program's mental health services can be estimated based on the salaries paid to the employees for the time they spend counseling women. Here we use salaries, rather than average service sector wages, to keep the estimate of benefits conservative.

Singer stated that women and children in her program receive 5 hours of individual counseling each week. KAAP served 107 women and 133 children with 4,105 bed nights⁸ during contract year 1997-1998. The number of weeks of counseling provided to all individuals can be determined by dividing the number of bed nights by 7, the number of days in a week. With 4,105 bed nights, there are approximately 586 weeks of counseling service. Because all residents receive 5 hours per week of individual counseling, this is 2,930 hours of individual counseling. In addition, the shelter staff provides 10 to 12 hours of group counseling per week for the women. This service received by women would result in 520 to 624 hours of group

counseling each year. The total hours of counseling (individual and group) are between 3,430 and 3,534 hours in the study year.

Using the actual shelter budget and averaging the value of shelter clinical technicians' time (1 full-time equivalent evening supervisor and 4 full-time equivalent shelter attendants), we calculate an average hourly wage for counseling services of \$7.40. Adding average employee-related expenses of \$2.04 per hour results in a total counseling hourly cost of \$9.44. The total number of counseling hours of service provided (3,430 to 3,534) at \$9.44 per hour results in a willingness-to-pay (based on the state of Arizona's and KAAP's other funding sources' willingness-to-pay) of \$32,379 to \$33,361 for counseling services provided.

Justice System Benefits

By helping women avoid assaults, the shelter program reduces the number of domestic violence crimes that occur. This reduces the need for police, court, and correction system interventions. We do not have estimates for enforcement, court, and corrections costs for domestic violence assaults, so we do not attempt to monetize the benefit here. However, this benefit is important and could be considerable based on our estimate of at least 210 assaults averted in a year.

Productivity Benefits

The reduction in violent assaults will result in increased productivity. The value of this benefit was included in the estimated value of averting those assaults.

Comparison of Short-term Costs and Benefits

The estimates of short-term social costs and benefits of the shelter program are shown in Table 2. The social costs of the shelter are fairly evenly divided between operating costs and public assistance costs, especially for the upper cost estimates. The social benefits of the shelter are largely due to the value of the assaults averted by women who seek refuge there. The total social benefits of the program exceed total social costs for both lower and upper estimates of these values. The net annual social benefit for the lower estimates is \$3,800,389, and the net annual social benefit for the upper estimates is \$16,695,397. It is also important to note that the program has substantial net benefits even comparing the lower estimate of benefits with the upper estimate of costs. Comparing these estimates, the program has a conservative annual net social benefit of \$3,494,934.

The estimated range of the benefit-cost ratio for this program is between 6:8 (for the lower estimates of benefits and costs) and 18:4 (for the upper estimates) (see Table 3). This means that for every \$1.00 invested in the shelter program, between \$6.80 and \$18.40 of social value is returned. Using the most conservative estimate (lowest benefit/highest cost), the benefit-cost ratio for this program is 4:6, or \$4.60

TABLE 2: Summary of Social Costs and Benefits (in U.S. dollars)

<i>Social Costs</i>	<i>Lower Estimate</i>	<i>Upper Estimate</i>
Program operating costs	253,183	440,558
Public assistance	401,472	519,552
Total social costs	654,655	960,110
Social benefits		
Injurious assaults averted	657,800	2,601,300
Noninjurious assaults averted	3,764,865	15,020,846
Mental health services	32,379	33,361
Total social benefits	4,455,044	17,655,507
Net social benefits	3,800,389	16,695,397
Net minimum benefits ^a	= 3,494,934	

a. Lower estimate social benefits minus upper estimate social costs.

TABLE 3: Benefit-Cost Ratios (in U.S. dollars)

	<i>Lower Estimate</i>	<i>Upper Estimate</i>
Total social benefits	4,455,044	17,655,507
Total social costs	654,655	960,110
Benefit-cost ratio	6:8	18:4
Minimum benefit-cost ratio ^a	= 4:6	

a. Lower estimate social benefits divided by upper estimate social costs.

of value returned for each \$1.00 invested. By either measure of economic efficiency, the short-term, refuge benefits of this domestic violence shelter are high relative to the cost of the program.

SHELTER AS COMMUNITY-CHANGE AGENT: LONGER-TERM BENEFITS AND COSTS OF DOMESTIC VIOLENCE SHELTER SERVICES

Above, we have analyzed the short-term (1-year) costs and benefits of the shelter program. Below is a brief description of costs and benefits that should be considered when calculating the value of shelter services beyond the immediate refuge costs and benefits.

We expect that because of the increased awareness of domestic violence assistance and the increased empowerment of battered women, there will be a *decrease* in the number of assaults, injuries, and deaths. However, because of separation violence, in the midterm there may be a concomitant *increase* in assaults, injuries, and deaths, which may seem counterintuitive. Separation violence is the violence that results when a battered woman attempts to leave her abuser and, consequently, his violence escalates. Ironically, women are at the greatest risk of serious injury and death when they are ending an abusive relationship (Bachman & Saltzman, 1995).

When looking into the more distant future—and here we are focusing on changes in future generations and on breaking the cycle of violence—there should be no concomitant increase and decrease in violence. Rather, we expect that there will be decreases in the incidence of domestic violence with related cost reductions in the health care system and the justice system. Furthermore, there should be increases in productivity. There should also be improved quality of life for individual women, children, and families and benefits that accrue as a result of improved community peace of mind.

Below, we have detailed both the midterm potential increases in violence (as potential costs) as well as the midterm and long-term decreases in violence (as potential benefits). Although we believe that the reduction in assaults will outweigh the increase, even in the midterm, without more data than is currently available, we cannot verify that belief.

Long-Term Costs of the Shelter Program

Health Care Costs

Several long-term effects of the shelter program could contribute to increases in health care costs. The shelter staff engages in community education efforts. These efforts should lead to an increase in the number of women and their children seeking medical and psychological treatment (who otherwise would not have), which would result in increased health care costs. Also, as community awareness increases, health care personnel will be more likely to appropriately identify injuries as resulting from domestic violence assaults and to provide counseling and referrals to victims of domestic violence. This will result in an increase in the time health care professionals spend with injured women and children and result in an increase in costs.

As more community residents begin to view domestic violence as unacceptable and to provide better support for women to leave, battered women will be more likely to be able to end violent relationships. However, due to the phenomenon of separation violence, there would likely be an increase in the number and severity of emergency room and other health care services demanded and a concomitant increase in health care costs.

The shelter staff also advocates stronger enforcement of domestic violence laws as they meet with law officers and court personnel. This should lead to an increase in voluntary and court-ordered perpetrator participation in treatment and counseling programs, resulting in increased health care costs.

Justice System Costs

As shelter community education efforts encourage women to assert their legal rights, the use of court assistance (e.g., orders of protection) should increase. There

is also expected to be an increase in the number of calls to the police and an increased number of arrests. Both of these factors would increase the costs of publicly funded legal services required for both criminal and civil proceedings.

Police officers and judges are being trained to enforce laws against domestic violence. This will also increase the number of arrests and convictions of abusers. As arrests and convictions for domestic violence increase, law enforcement, court, diversion, and incarceration costs will rise.

Public Assistance Costs

As more women leave violent relationships, there will be an increase in the number of women and children needing public assistance and other social services (e.g., food banks), resulting in an increase in public assistance costs. However, some of these costs could be offset by enforcement of child and spousal support orders.⁹

An increase in violence or its severity as a result of separation violence would lead to an expected increase in the need for subsidized day care and foster care services due to injuries to or deaths of mothers (and fathers or other caretakers).

Productivity Costs

As more batterers are arrested and convicted of domestic violence assaults, there would be an expected loss in their work productivity, resulting in lost wages. If some women experience higher rates of or more severe violence, there would be an expected loss in their work productivity as well, resulting in lost wages.

Long-Term Benefits of the Shelter Program

Health Care Benefits

Due to the availability of the shelter and its services and as a result of institutional changes, we would expect a long-term decrease in domestic violence. The reduction in violence is expected to result from greater community awareness of domestic violence and, consequently, institutional changes that will improve health system and justice system responses to domestic violence. As more appropriate responses to domestic violence are instituted, it will be easier for women to either obtain assistance to reduce the levels of violence within their relationships or to end abusive relationships. As a result of decreased domestic violence, the number of injuries sustained by women, children, and perpetrators (as well as third parties) will be reduced, resulting in a decrease in health care costs. As mentioned previously, violent assaults are very costly. Long-term reduction in domestic violence will result in valuable health benefits.

As domestic violence decreases, there would be an expected increase in the psychological health of women and children resulting in decreased health care costs (including medical, mental health, and drug abuse treatment).

As a result of law enforcement training, there would be a decrease in police responses that lead to escalated violence. This will also decrease health care costs.

Justice System Benefits

As a result of the long-term reduction in domestic violence, there will be fewer arrests, convictions, and incarcerations. By reducing the exposure of children to domestic violence, it will reduce the likelihood that the children will exhibit antisocial behavior, such as violence or drug abuse. Finally, by reducing the number of women victimized, the number of women who turn to prostitution, drug abuse, or other crimes will decrease. All of these factors will reduce justice system costs.

Public Assistance Benefits

As the incidence of domestic violence decreases, fewer women will require public assistance to escape abusive relationships. In addition, fewer children will need to be placed in foster homes because of the loss of a parent, whether due to incarceration or death. As discussed in the section on short-term costs, public assistance costs associated with domestic violence are substantial. However, reducing the incidence of domestic violence will reduce the need for public assistance to escape violent relationships.

Productivity Benefits

As domestic violence decreases, there will be a decrease in the number of injuries to women, children, perpetrators, and third parties, resulting in an increase in productivity. Also, more women will have the opportunity to become productive wage earners and taxpayers. In addition, due to the availability of the shelter and its services, there would be an expected decrease in the number of deaths of women, children, perpetrators, and third parties, resulting in an increase in wages and taxes. Deaths can be averted not only because of the reduction of violent assaults but also because of the improved mental health of violence victims. Studies have shown that women in violent relationships suffer from depression and sometimes attempt suicide, for example. Although we do not argue that it is appropriate, or even possible, to put a value on human life, in previous cost-benefit analyses, the monetary value of a human life has been estimated to range between \$1 million and \$3 million (Boardman et al., 1996). If even one death is averted, the shelter program will have produced a tremendous benefit for the community.

CONCLUSION

Domestic violence, long ignored and often even glorified in our culture, has a devastating impact on its victims that has only recently begun to be fully exposed. Although our long-term goal should be to eliminate domestic violence, for the present we must also deal with its consequences. One means of dealing with the consequences of domestic violence is the creation of shelters for women and children who suffer from violent abuse. This is predominantly a short-term remedy.

In this study, we have evaluated the immediate, short-term social costs and social benefits of a domestic violence shelter using the shelter services in a community as our model. We found that the benefits of averting assaults and providing counseling to victims far outweigh the costs of the program. Even using the lower estimate of social benefits (\$4,455,044) and the upper estimate of social costs (\$960,110), including adjusted wages higher than those actually paid and the addition of volunteer labor costs, there is an annual net social benefit in that one community of \$3,494,934. Using these same figures, a conservative estimate of the benefit-cost ratio¹⁰ for this program is 4:6. This means that for every \$1.00 invested in this shelter, at least \$4.60 are saved in reduced suffering, health care, and other costs of domestic violence. We believe that our analysis significantly underestimates the full value of domestic violence shelter programs because we have biased our results in favor of costs and against benefits when lower and upper estimates were available.

We did not attempt to monetize the near and distant future community benefits that may result from the presence of the shelter and from the training that shelter staff members provide to other community agencies. Additional research is needed to evaluate the effectiveness of shelters as community-change agents. To assist in the long-term reduction of domestic violence, increased resources and programs, in addition to shelter services, should be considered. In the meantime, our results indicate that domestic violence shelter programs are socially valuable, cost-effective responses to domestic violence, even if the shelter programs do not serve as community-change agents.

We chose to conduct our analysis using a rural community with a single shelter to simplify the analysis of the community effects of a shelter program. However, given that the short-term benefits of a "shelter as refuge" greatly outweigh the program costs, this analysis should also be applicable to urban shelters. Although the specific values of the costs and benefits will differ in analyses of other shelters, we have no reason to believe that urban shelters have significantly higher short-term costs or provide significantly lower short-term benefits as compared to rural shelters. One potential difference between urban and rural shelters is in the percentage of shelter capacity typically used. The Kingman shelter operated at 56% capacity for the year (M. F. Singer, personal communication, December 14, 1998, and December 31, 1998). Shelters that operate at nearer to 100% capacity will provide higher benefits relative to their operating costs. Urban shelters, because they are

located in more populous areas, may typically operate at higher capacity and therefore provide higher benefits relative to costs.

We recommend that public administrators in other social service areas consider social cost-benefit analysis as one technique for assessing their services for a number of reasons. Social cost-benefit analysis encourages us to think very broadly about the impacts, intended and incidental, of our services. Systematically listing the immediate and long-term impacts of services provides a means to identify where we can strengthen intended positive impacts and, if necessary, reduce unintended negative impacts. Also, the impact of any one service can have impacts on other public service programs. For example, the value of shelter services to a poor woman who wants to end an abusive relationship will be reduced if other services, such as welfare assistance and educational services, are not made available simultaneously. Clearly identifying the impacts of one social service on another can assist in interagency cooperation to ensure appropriate funding to deal with cross-effects and to maximize the benefits of each service. Another potential benefit of cost-benefit analysis is that short-term benefits provided by an agency may be sufficient to justify a program even if longer-term benefits are not measurable, as we found in this analysis. Finally, as mentioned previously, the results of cost-benefit analyses can provide an important rationale for policy makers to support the provision of social services.

We recognize that only in an idealized world will there be no domestic violence. This will remain true particularly if societal values and institutions remain substantially unchanged. Certainly, we recognize that the operation of a shelter in a community is not sufficient for making all of the needed changes. But, sound public policy—which, in our view, includes the provision of emergency shelter and related community education services—does lead to changes in individual lives and in societal values and mores. We believe that with additional research, individual and societal changes can be identified, measured, and monetized more fully. Additional research efforts will improve the evaluation of individual policy responses at the community level.

We hope that the procedure we have used to apply cost-benefit analysis to a domestic violence shelter can serve as a model for evaluating other social services. We also hope that our results will assist domestic violence policy advocates and decision makers in understanding the significant value of even small domestic violence shelters, even if shelters are used only as places of temporary refuge by battered women and their children.

NOTES

1. For a full discussion of feminist concerns about the assumptions underlying economic analyses, see Harding's (1987) edited volume *Feminism and Methodology*.

2. The benefit-cost ratio is useful for expressing the economic efficiency of a given program. However, in choosing among alternative programs, net benefit is typically the preferred measure.

For a discussion of potential problems with using benefit-cost ratios, see Boardman, Greenburg, Vining, and Weimer (1996).

3. Salaries plus employee-related expenses. Employee-related expenses include FICA, state unemployment insurance, workman's compensation, and health and life insurance.

4. The Kingman Aid to Abused Persons (KAAP) average salary for contract year 1998-1999 is \$18,640.

5. The value of a full-time shelter attendant was based on an average of current KAAP shelter attendants' salaries plus the employee-related expenses.

6. Battered women are sometimes depicted as weak or irrational for "not leaving." We want to make clear that we view battered women as ordinary people caught in extraordinary circumstances and that, contrary to the myth, many of them do leave, often several times before they are able to finally end the violent relationship. Ending a violent relationship is difficult for battered women for a variety of reasons, including limited financial and other resources as well as separation violence.

7. An injury to a battered woman produces a social cost whether or not the injury is professionally treated. That cost is borne by the woman and, if she receives health care, by the health care system.

8. A "bed night" is one person using a bed for one night. Because KAAP has 20 beds, there can be up to 20 bed nights each day.

9. However, for some battered women, attempts to secure child support may increase the violence and abuse they suffer.

10. See the caveat in note 2.

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