

Benefits and Costs of a Family-Focused Methadone Treatment and Drug Abuse Prevention Program: Preliminary Findings

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INTRODUCTION

Benefit-cost analysis is a widely applied, but often controversial and misunderstood, tool of program evaluation. It was initially used to assess the economic soundness of infrastructure projects such as locks, dams, and highways. Analysts now routinely apply it in evaluations of environmental and occupational safety and health regulations (Cropper and Oates 1992; Viscusi 1985); health and mental health interventions (Keeler and Cretin 1987; Weisbrod 1981); and a wide variety of human resources programs, including ones for alcoholism treatment (Rundell et al. 1991; Saxe et al. 1983), education (Berrueta-Clement et al. 1984), family planning services (Levey et al. 1988), job training (Kemper et al. 1983; Long et al. 1981), vocational rehabilitation (Lewis et al. 1992), and welfare-to-work programs (Gueron and Pauly 1991).

Benefit-cost analysis has been recommended for drug abuse program assessment (Des Jarlais et al. 1981; Hubbard and French 1991; Maynard and Powell 1985) and can be readily adapted for analyzing such programs. It has been applied infrequently, however. Anglin and colleagues (1989), Hannan (1975), Hollister and colleagues (1984), and Harwood and colleagues (1988) are among the few examples of such applications.

The fundamental idea of benefit-cost analysis is straightforward: to comprehensively identify and measure the benefits and costs of a program, including benefits and costs that arise in the longer term

after treatment ends as well as those that occur during treatment. If benefits exceed costs, the program improves economic efficiency—the value of the output exceeds the cost of producing it. “Net social benefits” are positive, so the program makes society better off. If costs exceed benefits, society would be better off using the program’s funds to support other interventions that do pass a benefit-cost test. If none of the existing interventions pass benefit-cost tests, research to develop better interventions is necessary.

One may view benefit-cost analysis as a way to calculate the “social profit” from an activity. In a sense, it is the public sector analog to private sector decisions about where to invest resources, but more complex because all benefits and costs to all members of the society are considered, not just financial ones affecting one enterprise.

Benefit-cost analysis can help society wisely allocate the scarce resources it makes available for drug abuse prevention and treatment programs. It provides a method for informing decisionmakers about which programs hold the most promise for preventing substance use and the large costs associated with it, and which ones fall short. Choices among competing uses of funds must always be made, and the final choices inherently embody judgments about relative benefits and costs. Benefit-cost analysis seeks to make the basis of such choices explicit so that difficult tradeoffs can be weighed with better information.

This chapter applies benefit-cost analysis to early results from a field experiment, Focus on Families, that is testing the effectiveness of a novel parent training program among parents receiving methadone treatment.¹ The results are preliminary in nature because economic benefits and costs are assessed at 4 months after treatment and only monetizeable benefits and costs are considered. Nonetheless, these analyses provide a valuable illustration of the application of benefit-cost analysis to prevention programs. The intervention’s main goals are to prevent relapse into drug use by methadone treatment parents and to lower the risk that the children of these parents will become substance users (Catalano et al., in press).

The chapter first summarizes the theoretical and empirical underpinnings of the Focus on Families program and the nature of the treatment it offers. It then considers how the program’s goals and anticipated effects translate into “benefits,” as understood in benefit-cost analysis. After the data and analytic methods are explained, preliminary benefit-cost findings based on 6-month followup data from Focus on Families are presented.

FOCUS ON FAMILIES: A RISK-FOCUSED APPROACH TO PREVENTION OF SUBSTANCE ABUSE AMONG DRUG-AFFECTED FAMILIES²

The traditional focus in drug abuse treatment has been on addict behavior, which often extends to the role of the family in influencing addiction (Stanton and Todd 1982; Surgeon General 1988). Little attention has been given to the role of recovering addicts serving as drug prevention agents for their own children. Yet these children are often at high risk for substance abuse given parental modeling, favorable parental attitudes toward drug use, and poor parenting practices. In addition to placing children at high risk for drug abuse, these conditions also place them at risk for other problem behaviors such as school dropout, delinquency, and teenage pregnancy (Dryfoos 1990; Slavin 1991).

Research has identified risk factors predicting teenage drug abuse (Hawkins et al. 1992, 1995; Jessor 1976; Newcomb et al. 1987; Simcha-Fagan et al. 1986). Family risk factors include family history of addiction; family management problems including conflict, lack of monitoring, inconsistent or harsh discipline, and lack of clear rules and expectations; parental drug use; and positive parent and sibling attitudes toward use. School risk factors include low commitment to school, academic failure, and early and persistent antisocial behavior. Peer and individual risk factors include biological and genetic predispositions, alienation or rebelliousness, friends who use drugs, favorable attitudes toward drug use, and early first drug use. Many of these risk factors are present in the lives of children whose parents are in methadone treatment.

Research has also identified environmental and situational predictors of posttreatment relapse among substance abusers (Surgeon General 1988). Relapse factors include family conflict, lack of family support, drug use among other family members, lack of involvement in nondrug leisure activities, association with substance-abusing peers, skill deficits, high life stress, and lack of needed services. Such relapse factors often characterize the lives of parents in drug treatment.

Protective factors may buffer the effect of exposure to risk. Three broad categories of protective factors against risk in children have been identified: (a) individual characteristics including resilient temperament, positive social orientation, and intelligence (Radke-Yarrow and Sherman 1990); (b) family or external social supports

characterized by warm, supportive relationships or bonding (Catalano and Hawkins 1996); and (c) healthy beliefs and clear standards that promote prosocial behavior (Garmezy 1985; Werner 1989). Protective factors are hypothesized to operate indirectly through interaction with risk factors and to mediate or moderate the risk exposure (Hawkins et al. 1992; Rutter 1985).

The evidence shows that children of parents in methadone treatment are exposed to multiple risk factors for teenage drug abuse and are likely to have fewer protective factors in their lives. Their parents' lives are characterized by continued use or high risk for relapse. A risk-focused approach seeks to prevent drug abuse by eliminating, reducing, or moderating risk factors for drug abuse while enhancing protective factors. This is the fundamental premise of Focus on Families (Catalano et al., in press).

Focus on Families is a 5-year field experiment funded by the National Institute on Drug Abuse (NIDA). Its central goals are to reduce the risk of posttreatment relapse among methadone-treated parents and to reduce the risk of drug abuse by children of methadone-treated parents. Achieving these main goals is expected to lead to other long-range beneficial outcomes for client families such as less involvement in crime and improved performance in the labor market.

Focus on Families served parents enrolled in two methadone programs in Seattle, Washington, who had children between the ages of 3 and 14 years living with them at least 50 percent of the time. They also had to have completed at least 90 days of methadone treatment before beginning the program. Parents voluntarily agreed to participate and accept random assignment to experimental or control conditions. Parents and children received a pretreatment baseline interview; only the parents received a posttest interview after the parent training sessions (approximately 4 months after baseline). Parents and children were interviewed 6 months following posttest. Interviews at 12 and 24 months posttest will be administered.

Members of the control group received standard methadone treatment only. Those in the experimental group received the same methadone treatment plus two novel components—parent and child skill training and case management.

Parents received intensive training in relapse prevention and coping, appropriate child developmental expectations, communication, anger control, family involvement, and use of appropriate rewards and disciplinary consequences for children's behavior. Parents also

learned how to support their children's academic progress and how to teach them drug refusal and problemsolving skills. Parents had the opportunity to attend 33 training sessions, totaling 53 hours, while children could attend 12 sessions.³ Case managers worked with families in their homes to help them maintain the skills they learned, to generalize these skills to their natural environment, and to help parents obtain other needed social services. Case managers worked with the children to encourage involvement in prosocial opportunities outside the family structure. Case management services began about 1 month before the initial training session to engage families into the project. Home-based case management was completed 4 months after the end of the training sessions.

The parent training and case management activities were based on the social development model (Catalano and Hawkins 1996). They sought to create conditions for bonding within the family and to prosocial others outside the family by enhancing opportunities and skills and recognition for social involvement, and encouraging families to set clear family policies on drug use. In doing so, Focus on Families addressed the following risk factors for teen drug abuse: family management problems, parental drug use and positive attitudes toward use, family history of addiction, early antisocial behavior, early first use, academic failure, low commitment to school, and friends who use drugs. It also addressed several risk factors for relapse by parents: drug use in the family, peer drug use, family conflict, lack of involvement in nondrug-use leisure activities, isolation, and little family support for abstinence.

BENEFITS AND COSTS OF FOCUS ON FAMILIES

Focus on Families creates benefits when it produces results with a positive value to either the participants in the treatment program or to other members of society. For example, if the program reduces parental drug use and parents are able to earn more as a result, the increase in earnings is a benefit since it reflects the value of the extra economic production. Similarly, less drug use may reduce the costs of crime and illness that otherwise would have occurred. Focus on Families creates costs when it uses resources that could have been used for some other worthwhile purpose. The value of the labor of the professionals who provide the parent training and case management activities is a cost.

The effects of Focus on Families' innovative program components—the parent training and case management

activities—are determined by comparing outcomes for experimental and control groups. Thus, the difference in costs between the experimental and control treatments will be compared to the difference in benefits to determine if Focus on Families yields a net benefit relative to conventional interventions.

This chapter analyzes benefits and costs of Focus on Families from the social perspective. Benefits and costs from the perspectives of participants (including family members who may also benefit from the program) and nonparticipants (often labeled “taxpayers”) will be analyzed in later work. A simple example can illustrate the difference among these perspectives. An increase in gross earnings is a social benefit because it measures the value of extra production for the whole economy. The participant benefit is his or her gain in after-tax income. Nonparticipants gain from the taxes paid on the higher earnings because, other things equal, their taxes can be lowered.

Benefits

Figure 1 displays a comprehensive list of potential benefits organized into three categories. The categories derive from the conceptual model that underlies Focus on Families. Focus on Families’ treatment directly seeks to reduce factors that predict greater risk of relapse among parents and greater risk of initiating substance use among children, and to enhance those factors associated with lower risks of these behaviors. For example, successful training for relapse prevention among parents is likely to decrease stress, social isolation, the number of drug-using social network members, and the frequency of drug use, and to increase relapse-coping skills and the number of nondrug-using network members. Among the changes anticipated from successful training for preventing drug abuse by children are decreases in favorable attitudes toward drugs; involvement of children in parents’ drug use, family conflict, and antisocial behavior; and increases in family management skills, family bonding, social skills to refuse drugs, and positive school performance (Fraser et al. 1988; Hawkins et al. 1992). If such changes in risk and protective factors occur, one can consider them to be benefits in themselves since they are likely to be valued by clients, whether or not they have a significant effect on drug use.

Risk and protective factors
<u>For parents on methadone maintenance</u>

Improved relapse coping and drug refusal skills.
 Less drug use among family members.
 Increased family support for being drug free.
 Reduced family conflict and stress.
 Increased skills to interact with school personnel.
 Fewer drug-using and more prosocial network members.
 Less social isolation.

For children of opiate users

Less favorable attitudes towards drugs.
 Decreased involvement in parental drug use.
 Improved family management.
 Improved family communication and bonding.
 Less family conflict.
 Less antisocial behavior.
 Fewer drug-using and more prosocial network members.
 Improved drug refusal and other skills.
 Stronger bonding to school; positive school performance.

Substance use

Relapse prevention.
 Decreased drug use.
 Prevention or reduction of use.

Other outcomes

Higher earnings.
 Reduced healthcare costs.
 Reduced morbidity and mortality.
 Reduced domestic violence.
 Better mental health.
 Reduced use of social services.
 Less crime (reduced costs to criminal justice system, reduced costs of victimization).
 Reduced use of income support programs.
 Variety of better social outcomes, including improved education, reduced delinquency, etc.

FIGURE 1. *Potential benefits of Focus on Families for parents on methadone maintenance and their children.*

The key desired outcomes of Focus on Families are a lower rate of relapse among parents, less drug use should relapse occur, and less drug use by the children. Such outcomes form a second category of benefits.

Less drug use by parents and children, in turn, is likely to lead to other outcomes that improve the quality of participant families' lives. It is also possible that changes in risk and protective factors might directly

lead to changes in these outcomes. These outcomes form the third category of benefits. Among the major favorable long-term outcomes expected to flow from less drug use are higher earnings; less crime and the costs associated with it; fewer accidents, medical emergencies, illnesses, fatal overdoses or other deaths; fewer incidents of domestic violence; and improved mental health. Less use of other government, nonprofit, or for-profit agency social services by users and their family members and, hence, lower service costs may result from reduced drug use. If avoiding drug use leads some parents to obtain more or better education or job training than they would otherwise, the higher expected future earnings that result would be an additional benefit. If less drug use reduces reliance on income support programs, savings in administrative costs would be a benefit.⁴ These kinds of benefits are among those that typically receive attention in benefit-cost analyses.

Because children of drug users are more likely to become users themselves (Hawkins et al. 1992), intergenerational benefits would exist if the program curbs parental drug use. Benefits of reduced substance use among the children would be similar to those for the parents. Less parental drug use may also foster other prosocial outcomes for children such as better school performance.

Figure 1 also implies the time sequencing of potential benefits. The Focus on Families program is expected to affect risk and protective factors immediately. Changes in such factors are expected to lead to less drug use for parents and children. These changes in turn are expected to bring about economic benefits.

Costs

Because both treatment and control families received basic methadone treatment services, the additional costs of the special training sessions and associated aftercare and home-based services received by the treatment group measure the incremental direct costs of Focus on Families. Some of the sessions were conducted during working hours. Thus, there were also costs for forgone earnings (or for the value of forgone leisure for participants who altered their schedules to attend sessions), although these extra costs were not borne directly by the Focus on Families program. Costs of conducting the research on Focus on Families are not counted, since they would not be part of a permanent program.

DATA AND METHODS

Sample

There were 144 parents who were recruited from two methadone clinics and who accepted random assignment to experimental and control conditions. Blocking criteria were applied before random assignment. Blocking criteria were the ages of the participants' children, race, and age at first drug use. Because of anticipated attrition from the program, a higher proportion of eligible participants was assigned to the experimental (N = 82) than to the control (N = 62) condition. Nine participants (4 experimentals and 5 controls) were unavailable at 6-month followup, leaving 135 (94 percent) interviewed respondents (78 experimentals and 57 controls).

Participants were recruited in cohorts of approximately 20 individuals. Seven cohorts comprised the Focus on Families sample. Because subjects participated in the intervention at different times, the 6-month followup periods occurred between May 1991 and January 1994.

Table 1 provides descriptive information on the sample of 135 participants. The mean year of birth for participants is 1956. The majority of the sample is female (69 percent) and Caucasian (71 percent).

Measuring Benefits

This preliminary analysis focuses on measuring the monetary value of changes in several of the outcomes identified in the bottom section of figure 1. Changes in these outcomes may plausibly be attributed to the change in drug use, to the changes in risk and protective factors, or to both kinds of changes produced by the intervention.

Earnings are measured by asking subjects about their total before-tax earnings over the 6-month followup period. Earnings are deflated to fall 1993 (the midpoint of the last followup period) dollars.

TABLE 1. *Descriptive information on Focus on Families participants.*

Demographics	Mean		SD	
Year of birth	1956		5.74	
Male	0.26		0.44	
Nonwhite	0.24		0.43	
Experimental	0.58		0.50	
Outcomes	6-month mean	SD	Baseline mean	SD
Earnings	\$1,955	\$4,991	\$1,505 (N = 134)	\$4,420
Work accidents	0.017 (N = 119)	0.129	0.067	.283
Home accidents	0.089	0.334	0.126	.413
Vehicle accidents	0.126	0.395	0.141	.521
Nights in hospital	3.52	12.2	4.25	13.1
Subject hits ^a	0.111	0.315	0.156	.364
Partner hits ^a	0.104	0.306	0.178	.384
Self-help meetings	19.7 (N = 134)	39.0	12.8	27.2
	Outpatient			
counseling visits	1.77	5.05	2.66 (N = 133)	12.0
	Inpatient treatment			
days	0.874	5.12	3.96	16.1
	Visits to private			
practitioner	1.33	3.82	2.84	12.68
	Drug use led			
to police trouble	0.119 (N = 134)	0.325	0.403 (N = 134)	.492

KEY: N = 135 unless otherwise noted. a = Variable is dummy coded no = 0 and yes = 1.

Experimental and control subjects' responses to questions about the number of serious work, home, and vehicle accidents over the 6-month followup period showed whether Focus on Families affected these outcomes.⁵ If there is a significant change, the monetary value of this benefit can be estimated by multiplying the average reduction in the quantity of each type of accident by the estimated average savings of avoiding such an accident. The magnitude of cost savings would then be extrapolated beyond the 6-month period because it is likely to persist. The same approach is followed to determine whether the program affected nights of hospitalization by participant and family members, spouse or partner abuse, and use of publicly and

privately provided social services not delivered as part of Focus on Families.⁶ For the last outcome the analysis distinguishes among days of inpatient treatment, visits for outpatient counseling at community agencies, visits to private practitioners, and number of self-help group meetings attended. The indicator for analyzing whether Focus on Families reduced criminal involvement and its associated costs was a question about whether drug or alcohol use led to trouble with the police during the 6-month followup period.

In principle, the contingent valuation method can be used to assess the monetary value of changes in risk and protective factors and in drug use identified in the top two sections of figure 1. One can ask client families what they would be willing to pay to have reduced levels of family stress, better relapse-coping skills, better school performance, less drug use, and other improvements in family functioning and social well-being. Similarly, nonparticipants can be asked how much they would be willing to pay for improving the social and psychological well-being of at-risk families and reducing the level of current and future drug use among such families, and for reductions in the psychological and social costs of crime and victimization.⁷ However, the Focus on Families data from this study are not suitable for implementing a contingent valuation analysis.

Table 1 lists means and standard deviations for all outcomes for the entire sample at both 6-month followup and baseline periods. Every outcome showed improvement between the baseline and 6-month followup period. Mean real earnings rose. Accidents, nights of hospitalization, and incidents of spouse or partner abuse all declined. Subjects reported less use of publicly and privately provided social services and less trouble with the police due to drug or alcohol use. They reported greater use of self-help groups, a change that may be considered beneficial.

These observed changes over time may have occurred for at least three reasons. Families recruited from the methadone maintenance programs may well have been at or close to a nadir in terms of the quality of their lives when they agreed to participate in the study. As time passed, they may have shown improvement on these indicators whether or not they received any services simply because they “had no place to go but up.” Second, the standard methadone treatment that both controls and experimentals received may have worked well on average and led to improvements in these indicators. (All subjects had received a minimum of 13 months of methadone treatment at 6 months postbaseline.) Neither of these reasons implies that Focus on Families was effective. Third, Focus on Families’ additional services

may have led to improvements in these indicators for the experimental group and, consequently, raised the overall means at the 6-month period. The second and third reasons are not mutually exclusive.

Statistical Methods

Multivariate regression techniques were used to examine whether Focus on Families had a significant effect on benefit variables identified in the bottom section of figure 1. Three regression specifications were run for each benefit measure. The first included the treatment variable coded as a dummy variable (control = 0, treatment = 1) as the only independent variable. The second specification included the dummy treatment variable and the corresponding baseline variable as covariate. The third included the treatment dummy, baseline covariate, and three demographic covariates: year of birth, gender, and race. Gender and race were dummy coded with female and Caucasian given 0s and male and nonwhite given 1s. Logistic regression was used for the dichotomous dependent variables.

RESULTS

Costs

Table 2 displays the per family incremental costs of providing Focus on Families' training and case management services. Almost 80 percent of program costs were for professional staff who provided the services. Staff included the project director, who co-led the training sessions and provided clinical supervision; case managers; training group leader; and child care providers. Clerical support staff accounted for a minor share of the costs. Staff costs, including both wages and fringes, averaged \$2,733 per client. Operating costs included office rent for professional staff and for holding the training sessions, telephone, staff travel, photocopies, other consumable supplies, depreciation on equipment used in training sessions, participant incentives for attending sessions, and other minor financial assistance to participants. Operating costs equaled 19.9 percent of total costs. The value of donated goods and services that helped provide incentives for family participation formed a third, minor category of costs. These included such items as tickets to major league baseball games and local department store gift

certificates. The average cost of delivering Focus on Families was \$3,444 per client family.

TABLE 2. *Focus on Families cost per client family.*

Amount	Total	
Professional and support staff		
Project director	\$ 542	
Case managers	1,998	
Training group leaders	117	
Child care providers	51	
Clerical support	<u>25</u>	
Total staff costs		\$2,733
Operating costs		
Office rent	\$ 144	
Telephone and travel	292	
Photocopying, other consumable supplies, depreciation	35	
Participant incentives and assistance	<u>213</u>	
Total operating costs		684
Value of donated goods and services		<u>27</u>
Total cost per client family		<u><u>\$3,444</u></u>

Data on participants' travel and time costs of attending sessions are not available. A conservative estimate of these costs is about \$180, or approximately 5 percent of direct program costs.⁸

These costs must be put in the context of the dysfunction of the population. These subjects are not drawn from the general population of most prevention programs. They experience multiple problems and face multiple risks. The families are characterized by the social isolation and multiple entrapments of extreme poverty, poor living conditions, and parents with low status occupations (Kumpfer and DeMarsh 1986). Families characterized by addiction often share other mental disorders, including depression, emotional problems, relationship problems, violence, and criminal activity (Finkelstein 1990; Kolar et al. 1994).

Benefits

Table 3 displays the coefficients on the treatment dummy variable for the three regression specifications.⁹ Nearly every coefficient is statistically insignificant. The six that pass a 10 percent significance test suggest that the experimentals did slightly worse than the controls. There is no evidence that Focus on Families led to beneficial changes in any of the outcomes focused upon in this study and shown in the bottom portion of figure 1.

Row 1 shows that one cannot reject the hypothesis that real earnings of experimentals and controls were the same during the followup period. Results were similar when a regression omitted the extreme outliers. A logit regression with the outcome indicating whether the subject had any earnings (row 2) also showed no significant difference.

Eight of the nine coefficients in rows 3 to 5 show no significant effect of Focus on Families on work, home, or vehicle accidents. One coefficient suggests experimentals had more home accidents. Row 6 shows no effect of the intervention on nights of hospitalization. Rows 7 and 8 show no effect on the likelihood that either the subject hits or is hit by his or her spouse/partner.

Findings on use of social services are mixed. The professional staff of Focus on Families encouraged experimentals to get better connected to their local social service providers. Rows 9 and 12 show no evidence that Focus on Families affected attendance at self-help meetings or the number of visits to private practitioners. However, rows 10 and 11 show a trend difference implying that the encouragement succeeded. Experimentals obtained about 1.5 more outpatient and inpatient treatments over the 6-month period. This greater use of services appropriately counts as an additional cost of Focus on Families. If the services are effective, in the long run experimentals should exhibit reduced rates of relapse and child drug use, more favorable outcomes on other variables (e.g., higher earnings), and ultimately use fewer social services. More intense use of social services in the first 6 months of followup can be viewed as an investment that may potentially yield

TABLE 3. Coefficients on treatment dummy variable for 6-month outcomes.

Outcome	Regression Specification					
	Treatment dummy only		Treatment dummy with baseline covariate		Treatment dummy with baseline and demographic covariates	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Earnings	-389.0	872.0	-641.0 (N = 134)	857.0	-932.0 (N = 134)	873.0
Employed*	0.249	0.369	0.062	0.400	-0.079	0.418
Work accidents	0.052 (N = 134)	0.037	0.029 (N = 134)	0.024	0.030 (N = 134)	0.025
Home accidents	0.093	0.058	0.097*	0.059	0.084	0.060
Vehicle accidents	0.005	0.069	0.003	0.069	-0.003	0.071
Nights in hospital	-0.105	2.13	-0.164	2.15	0.077	2.22
Subject hits*	0.103	0.559	0.050	0.564	0.362	0.607
Partner hits*	-0.029	0.571	-0.039	0.585	0.229	0.625
Self-help meetings attended	0.333	6.82	-0.336 (N = 134)	6.90	1.43 (N = 134)	6.91
Outpatient counseling visits	1.55*	0.873	1.57* (N = 134)	0.891	1.51* (N = 133)	0.901
Inpatient treatment days	1.51*	0.885	1.59*	0.904	1.46	0.931
Private practitioner visits	0.030	0.667	0.015	0.669	0.038	0.682
Drug use led to police trouble	-0.629 (N = 134)	0.538	-0.675 (N = 134)	0.558	-0.640 (N = 134)	0.582

KEY: N = 135 unless otherwise noted. * = alpha \leq 0.10, a = variable dummy coded no = 0 and yes = 1.

benefits over a longer period. When 12- and 24-month followup data become available, this possibility can be investigated.

The final row in table 3 indicates that the program had an insignificant effect on the likelihood that clients would report trouble with the police because of drug or alcohol use.¹⁰

DISCUSSION AND CONCLUSION

Taken at face value, the preliminary findings for the monetizeable variables in the bottom of figure 1 provide little indication that the risk-focused approach to prevention of substance abuse among drug-affected families embodied in Focus on Families will pass a benefit-cost test. The experimental treatment cost more than \$3,400 per client family in direct agency costs. If client costs are counted, the total exceeds \$3,600. Based on data for these monetizeable variables covering the first 6 months, there was no statistical evidence of positive benefits for a wide range of outcomes and some evidence that the program increased social service costs.

This conclusion may be premature for several reasons, however. The hypothesized relationship between the intervention and outcomes examined here is expected to be subject to some indefinite time lag. As discussed earlier, the intervention is expected to affect risk and protective factors immediately; these changes are expected to affect parent and child drug use, and these cumulative changes are expected to affect the outcomes reported in this chapter. The measurement point examined in this chapter is 6 months after completion of the training and 2 months after completion of case management services. Parents in the experimental condition showed significant improvement in relapse prevention and coping skills and reduced frequency of opiate use immediately posttraining. Because the client families for Focus on Families were highly dysfunctional, these improvements in risk and protective factors at posttreatment may not translate rapidly into better functioning in behaviors such as work, health care, accident prevention, or criminal involvement. It may take more than 6 months for families to break out of their dysfunctional patterns of behavior. If so, the 12- or 24-month followup data may show monetary benefits that had not yet emerged in the 6-month followup period.

An important goal of Focus on Families was to prevent children of drug-abusing parents from initiating drug use and to help them succeed at school and in other prosocial activities. Data on children's

outcomes are not yet available and may indicate other benefits when analyzed. Finally, outcomes in risk and protective factors and parents' and children's drug use have not yet been examined at 6 months. This chapter examined benefits only on easily monetized outcomes.

The improvements between baseline and 6-month followup shown in table 1 for both the experimental and control groups are consistent with the hypothesis that the standard methadone treatment received by all subjects worked well and may pass a benefit-cost test. The data do not permit a test of this hypothesis, however. If this is the case, the results in table 3 nonetheless still would suggest that the additional experimental services had little effect.

Alternatively, the families targeted by interventions such as Focus on Families may be so dysfunctional that the services are insufficient to effect significant lasting changes in the outcomes examined here. If so, one may speculate that a yet more intensive treatment regimen might yield benefits worth its cost by pushing families below a critical level of dysfunctional behavior. Whether such nonlinear responses to risk-focused drug abuse prevention services exist is an open question.

Despite the disappointing preliminary findings of this benefit-cost analysis, the authors think the method deserves to be part of evaluations of drug abuse prevention programs. To facilitate use of this method in future evaluations of prevention programs, researchers need to expand data collection beyond indicators of drug use to a broader set of outcomes, the etiologies of which are linked to changes in drug use (e.g., earnings, healthcare costs, use of social services). Researchers should also track the full economic costs of providing an intervention, which may extend beyond the direct, budgeted costs of delivering an intervention. Two such costs are the value of donated goods and services and the implicit costs to program clients.

Like any evaluation tool, benefit-cost analysis has limitations both in principle and in practice. Yet choices among competing uses of scarce resources must always be made. Benefit-cost analysis provides better information that can help society weigh these difficult tradeoffs more effectively.

NOTES

1. See Plotnick (1994) for discussion of the case for using benefit-cost analysis in evaluations of drug abuse prevention programs and an

exposition of the fundamentals of the method. For more complete discussions of benefit-cost analysis, see Gramlich (1990) or Zerbe and Dively (1994).

2. This section is adapted from Catalano and colleagues (in press), which may be consulted for more detailed discussion.
3. On average, parents attended about half the sessions.
4. The analysis ignores changes in taxes or income support benefits since these are not social benefits or costs.
5. "Serious" means an accident requiring medical attention or costing more than \$50 in repairs.
6. Spouse/partner abuse was assessed with two dummy variables. Participants were asked to respond to the question, "During the past 6 months, has your spouse/partner slapped, hit, or shoved you?" Participants were also asked whether they had slapped, hit, or shoved their spouses/partners in the past 6 months (no = 0 and yes = 1).
7. The contingent valuation method was developed to help measure the benefits of environmental amenities for which well-organized markets do not exist. See Zerbe and Dively (1994, pp. 409-410) for a brief introduction. Though the method remains controversial, it would appear to be applicable to social services such as Focus on Families.
8. On average, participants attended 16 sessions. Most took 1.5 hours; the initial session lasted 5 hours. Assuming a mean of 28 hours in sessions and a conservative value of time of \$4 per hour, the implicit cost of attendance is \$112. Assuming a round trip of 10 miles to attend a session and travel time of 20 minutes per trip adds further implicit time costs of \$21. Out-of-pocket travel costs are estimated at \$46 (160 miles, with the cost of a mile set at \$.285 based on Federal tax rules). This totals \$179.
9. Complete regression results for the baseline and demographic covariates and the constant term are available upon request.
10. The analysis does not consider changes in use of income transfer benefits. Given the insignificant effects on earnings, a significant effect on transfer benefits would appear unlikely.

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